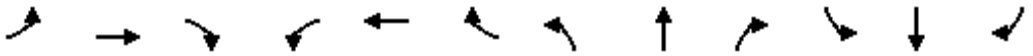
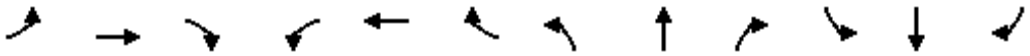


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	49	133	51	35	81	46	303	31	60	338	7
Future Volume (vph)	6	49	133	51	35	81	46	303	31	60	338	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	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			0.92			0.99			1.00	
Frt		0.905			0.935			0.989			0.998	
Flt Protected		0.998			0.985			0.994			0.993	
Satd. Flow (prot)	0	1522	0	0	1342	0	0	1477	0	0	1652	0
Flt Permitted		0.991			0.857			0.910			0.890	
Satd. Flow (perm)	0	1512	0	0	1168	0	0	1352	0	0	1481	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	59	41	94	51	337	34	65	367	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	211	0	0	194	0	0	422	0	0	440	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
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	

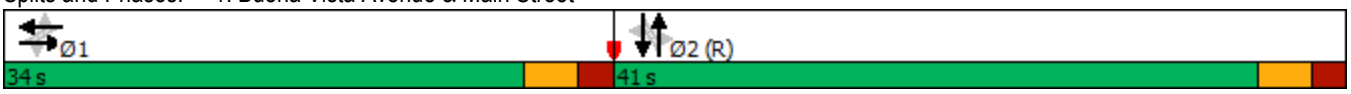


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Detector Phase	1	1		1	1		2	2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		32.0	32.0		32.0	32.0	
Total Split (s)	34.0	34.0		34.0	34.0		41.0	41.0		41.0	41.0	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	29.0	29.0		29.0	29.0		36.0	36.0		36.0	36.0	
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	
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		C-Max	C-Max		C-Max	C-Max	
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)		29.0			29.0			36.0			36.0	
Actuated g/C Ratio		0.39			0.39			0.48			0.48	
v/c Ratio		0.36			0.43			0.65			0.62	
Control Delay		18.7			20.7			12.2			19.2	
Queue Delay		0.0			0.0			0.0			0.3	
Total Delay		18.7			20.7			12.3			19.5	
LOS		B			C			B			B	
Approach Delay		18.7			20.7			12.3			19.5	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)		68			65			36			144	
Queue Length 95th (ft)		120			114			52			238	
Internal Link Dist (ft)		33			169			220			154	
Turn Bay Length (ft)												
Base Capacity (vph)		584			451			648			710	
Starvation Cap Reductn		0			0			4			0	
Spillback Cap Reductn		0			0			0			44	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.36			0.43			0.66			0.66	

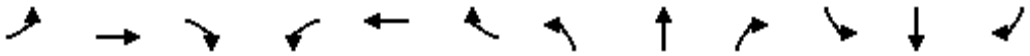
Intersection Summary	
Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green	
Natural Cycle: 70	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 17.1	Intersection LOS: B
Intersection Capacity Utilization 76.6%	ICU Level of Service D
Analysis Period (min) 15	

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	43	8	29	7	20	7	357	45	53	467	2
Future Volume (vph)	3	43	8	29	7	20	7	357	45	53	467	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	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
Ped Bike Factor					0.95			1.00			1.00	
Frt		0.979			0.951			0.985				
Flt Protected		0.997			0.975			0.999			0.995	
Satd. Flow (prot)	0	1818	0	0	1574	0	0	1507	0	0	2022	0
Flt Permitted		0.968			0.975			0.989			0.918	
Satd. Flow (perm)	0	1765	0	0	1494	0	0	1492	0	0	1862	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			25			9				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		117			240			235			300	
Travel Time (s)		2.7			5.5			5.3			6.8	
Confl. Peds. (#/hr)				48					4	20		
Peak Hour Factor	0.92	0.92	0.92	0.81	0.92	0.81	0.92	0.93	0.93	0.83	0.83	0.92
Heavy Vehicles (%)	2%	2%	2%	9%	2%	9%	2%	23%	23%	6%	6%	2%
Parking (#/hr)				10				5				
Adj. Flow (vph)	3	47	9	36	8	25	8	384	48	64	563	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	69	0	0	440	0	0	629	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)		30			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.04	1.04	1.04	0.85	1.01	0.85	0.85	0.85	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	Perm	NA		Split	NA		Perm	NA		Perm	NA	

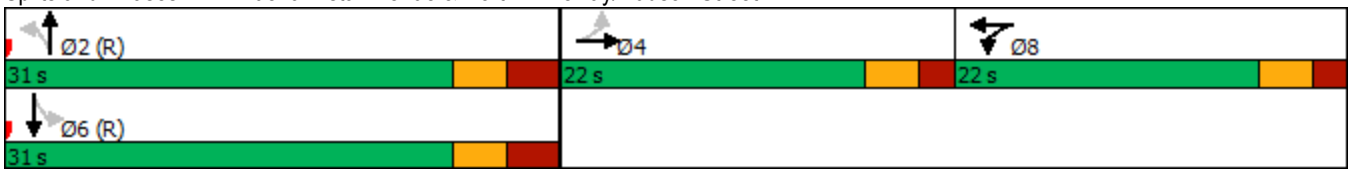


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		25.0	25.0		25.0	25.0	
Total Split (s)	22.0	22.0		22.0	22.0		31.0	31.0		31.0	31.0	
Total Split (%)	29.3%	29.3%		29.3%	29.3%		41.3%	41.3%		41.3%	41.3%	
Maximum Green (s)	17.0	17.0		17.0	17.0		25.0	25.0		25.0	25.0	
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		3.0	3.0		3.0	3.0	
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												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		7.6			7.8			51.2			51.2	
Actuated g/C Ratio		0.10			0.10			0.68			0.68	
v/c Ratio		0.32			0.37			0.43			0.49	
Control Delay		31.3			27.3			10.6			8.8	
Queue Delay		0.0			0.0			0.0			0.3	
Total Delay		31.3			27.3			10.6			9.1	
LOS		C			C			B			A	
Approach Delay		31.3			27.3			10.6			9.1	
Approach LOS		C			C			B			A	
Queue Length 50th (ft)		22			19			106			130	
Queue Length 95th (ft)		54			54			221			169	
Internal Link Dist (ft)		37			160			155			220	
Turn Bay Length (ft)												
Base Capacity (vph)		407			376			1021			1271	
Starvation Cap Reductn		0			0			0			206	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.14			0.18			0.43			0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 12 (16%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 11.8		Intersection LOS: B	
Intersection Capacity Utilization 73.6%		ICU Level of Service D	

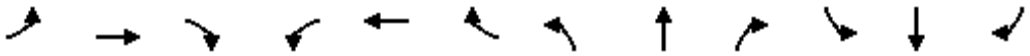
Analysis Period (min) 15

Splits and Phases: 2: Buena Vista Avenue & North Driveway/Hudson Street



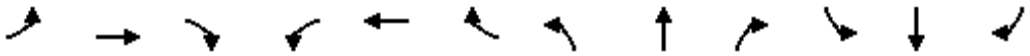
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	104	273	144	194	412	179
Future Volume (vph)	104	273	144	194	412	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	9	9	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.922			
Flt Protected	0.950					0.966
Satd. Flow (prot)	1891	1692	1277	0	0	1841
Flt Permitted	0.950					0.966
Satd. Flow (perm)	1891	1692	1277	0	0	1841
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	317	169	228	502	218
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	317	397	0	0	720
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 67.8%		ICU Level of Service C	
Analysis Period (min) 15			



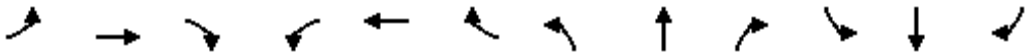
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	113	27	27	139	0	18	0	32	4	0	10
Future Volume (vph)	0	113	27	27	139	0	18	0	32	4	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	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		0.974						0.865			0.901	
Flt Protected					0.992		0.950				0.987	
Satd. Flow (prot)	0	1602	0	0	1647	0	1770	0	0	0	1657	0
Flt Permitted					0.992		0.950				0.987	
Satd. Flow (perm)	0	1602	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	127	30	31	162	0	20	0	35	4	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	157	0	0	193	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		

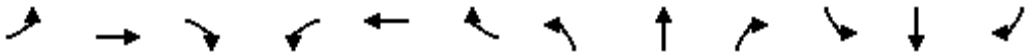


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	140	0	0	0	0	24	49	58	22	0	32
Future Volume (vph)	1	140	0	0	0	0	24	49	58	22	0	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	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								0.940			0.919	
Flt Protected								0.991			0.980	
Satd. Flow (prot)	0	1422	0	0	0	0	0	1581	0	0	1607	0
Flt Permitted								0.991			0.980	
Satd. Flow (perm)	0	1422	0	0	0	0	0	1581	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	171	0	0	0	0	28	57	67	27	0	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	172	0	0	0	0	0	152	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 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)	17	245	45	59	163	84	23	240	62	113	250	14
Future Volume (vph)	17	245	45	59	163	84	23	240	62	113	250	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			0.949			0.974			0.992	
Flt Protected		0.997		0.950				0.996		0.950		
Satd. Flow (prot)	0	1354	0	1518	1741	0	0	1589	0	1562	1752	0
Flt Permitted		0.977		0.477				0.961		0.318		
Satd. Flow (perm)	0	1326	0	762	1741	0	0	1534	0	523	1752	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			27			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	64	177	91	27	279	72	123	272	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	333	0	64	268	0	0	378	0	123	287	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)		41.7		41.7	41.7			31.3		48.3	48.3	
Actuated g/C Ratio		0.42		0.42	0.42			0.31		0.48	0.48	
v/c Ratio		0.60		0.20	0.36			0.77		0.33	0.34	
Control Delay		29.2		26.6	23.8			40.6		15.9	16.2	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		29.2		26.6	23.8			40.6		15.9	16.2	
LOS		C		C	C			D		B	B	
Approach Delay		29.2			24.3			40.6			16.1	
Approach LOS		C			C			D			B	
Queue Length 50th (ft)		150		22	82			216		44	112	
Queue Length 95th (ft)		#313		m41	m151			263		63	137	
Internal Link Dist (ft)		159			592			1287			198	
Turn Bay Length (ft)				60						100		
Base Capacity (vph)		557		317	741			652		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		0.60		0.20	0.36			0.58		0.33	0.28	

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: 0.77	
Intersection Signal Delay: 27.3	Intersection LOS: C

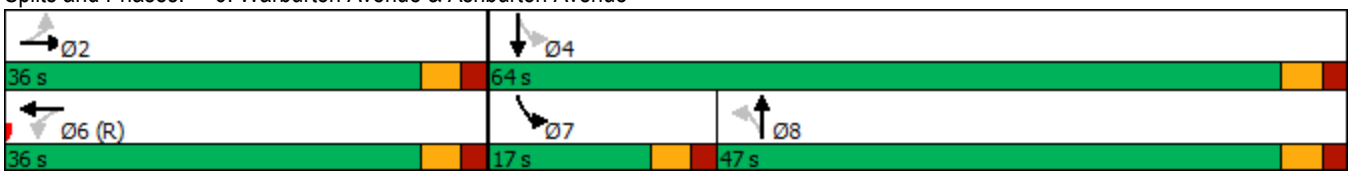
Intersection Capacity Utilization 74.0% ICU Level of Service D

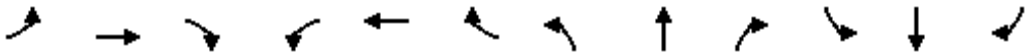
Analysis Period (min) 15

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

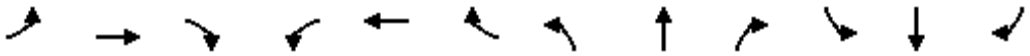
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Warburton Avenue & Ashburton Avenue





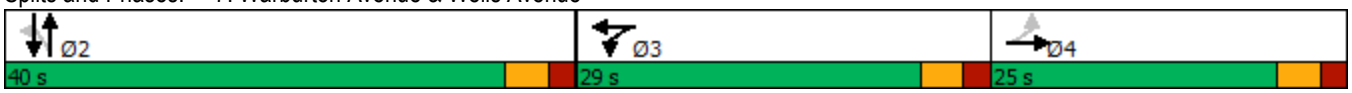
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	10	334	50	113	31	272	0	0	399	7
Future Volume (vph)	2	0	10	334	50	113	31	272	0	0	399	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	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				0.925				
Satd. Flow (perm)	0	1475	0	1600	1502	0	0	1562	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	367	55	124	36	316	0	0	469	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	367	179	0	0	352	0	0	477	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		23.9	23.9			34.7			34.7	
Actuated g/C Ratio		0.10		0.32	0.32			0.47			0.47	
v/c Ratio		0.07		0.72	0.37			0.48			0.61	
Control Delay		0.6		34.5	24.9			18.9			21.4	
Queue Delay		0.0		0.0	0.0			0.4			0.0	
Total Delay		0.6		34.5	24.9			19.3			21.4	
LOS		A		C	C			B			C	
Approach Delay		0.6			31.3			19.3			21.4	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)		0		126	54			87			127	
Queue Length 95th (ft)		0		#372	153			241			332	
Internal Link Dist (ft)		1			34			302			1287	
Turn Bay Length (ft)												
Base Capacity (vph)		461		523	491			744			804	
Starvation Cap Reductn		0		0	0			103			0	
Spillback Cap Reductn		0		0	0			0			0	
Storage Cap Reductn		0		0	0			0			0	
Reduced v/c Ratio		0.03		0.70	0.36			0.55			0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 94			
Actuated Cycle Length: 74.6			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 24.5		Intersection LOS: C	
Intersection Capacity Utilization 73.7%		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: 7: Warburton Avenue & Wells Avenue



Lane Group	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Lane Configurations												
Traffic Volume (vph)	1	82	291	168	17	633	4	89	8	12	38	21
Future Volume (vph)	1	82	291	168	17	633	4	89	8	12	38	21
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	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	1.00
Ped Bike Factor			0.96			0.99				0.93		
Frt			0.945			0.983				0.899		
Flt Protected		0.950				0.999				0.987		
Satd. Flow (prot)	0	1583	1289	0	0	1797	0	0	0	1407	0	0
Flt Permitted		0.294				0.982				0.987		
Satd. Flow (perm)	0	490	1289	0	0	1767	0	0	0	1407	0	0
Right Turn on Red				Yes				Yes				Yes
Satd. Flow (RTOR)			36			8				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			67				23	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.93	0.93	0.93	0.93	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	14%	14%	14%	14%	10%	10%	10%	10%	11%	11%	11%	11%
Bus Blockages (#/hr)	0	0	0	0	0	13	0	0	0	0	0	0
Parking (#/hr)			10							5		
Adj. Flow (vph)	1	95	338	195	18	681	4	96	10	15	47	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	533	0	0	799	0	0	0	98	0	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	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	0.85	1.00	1.00	1.01	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	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	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
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	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL2	NEL	NER	NER2
Turn Type	Perm	Perm	NA		Perm	NA			Perm	Prot		
Protected Phases			3			3				1		
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		
Minimum Split (s)	13.0	13.0	13.0		13.0	13.0			13.0	13.0		
Total Split (s)	41.0	41.0	41.0		41.0	41.0			23.0	23.0		
Total Split (%)	45.1%	45.1%	45.1%		45.1%	45.1%			25.3%	25.3%		
Maximum Green (s)	33.0	33.0	33.0		33.0	33.0			15.0	15.0		
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0			4.0	4.0		
All-Red Time (s)	4.0	4.0	4.0		4.0	4.0			4.0	4.0		
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	Max		
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
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		0.41	0.83			0.93				0.26		
Control Delay		21.9	30.2			37.8				11.2		
Queue Delay		0.0	0.0			31.6				0.0		
Total Delay		21.9	30.2			69.4				11.2		
LOS		C	C			E				B		
Approach Delay			28.9			69.4				11.2		
Approach LOS			C			E				B		
Queue Length 50th (ft)		21	145			251				4		
Queue Length 95th (ft)		93	#497			#803				40		
Internal Link Dist (ft)			351			302				94		
Turn Bay Length (ft)												
Base Capacity (vph)		237	644			860				376		
Starvation Cap Reductn		0	0			110				0		
Spillback Cap Reductn		0	0			0				0		
Storage Cap Reductn		0	0			0				0		
Reduced v/c Ratio		0.41	0.83			1.07				0.26		

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: 0.93			
Intersection Signal Delay: 49.0		Intersection LOS: D	
Intersection Capacity Utilization 73.2%		ICU Level of Service D	

Lane Group	Ø9
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	27.0
Total Split (s)	27.0
Total Split (%)	30%
Maximum Green (s)	25.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	10.0
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	

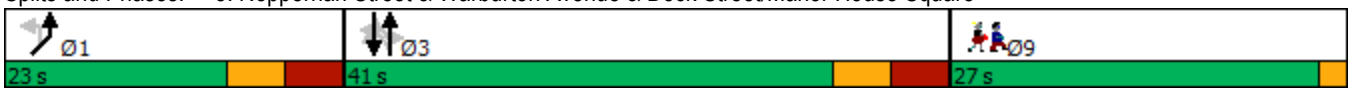
Intersection Summary

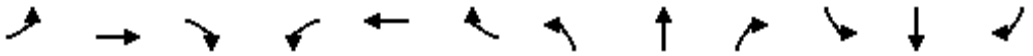
Analysis Period (min) 15

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

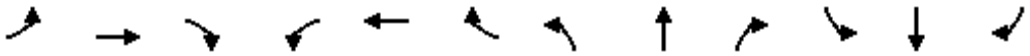
Queue shown is maximum after two cycles.

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)	51	0	98	76	66	84	32	407	0	0	586	68
Future Volume (vph)	51	0	98	76	66	84	32	407	0	0	586	68
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		0.97			0.96						0.99	
Frt		0.911			0.916						0.984	
Flt Protected		0.983		0.950			0.950					
Satd. Flow (prot)	0	1366	0	1622	1357	0	1438	3033	0	0	2928	0
Flt Permitted		0.835		0.616			0.300					
Satd. Flow (perm)	0	1160	0	1052	1357	0	454	3033	0	0	2928	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		102			67						14	
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)	63	0	121	88	77	98	36	457	0	0	610	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	184	0	88	175	0	36	457	0	0	681	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	

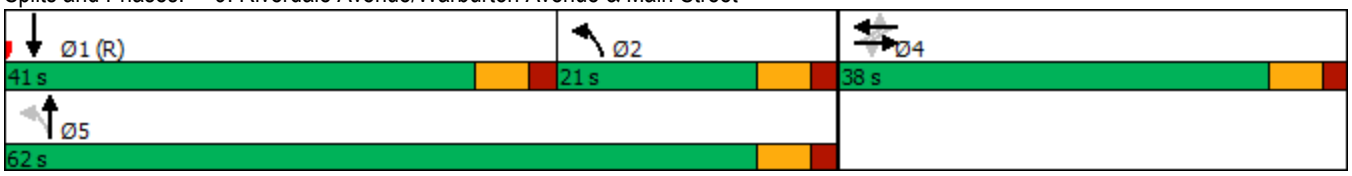


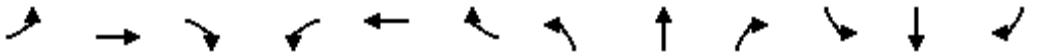
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA			NA	
Protected Phases		4			4		2	5			1	
Permitted Phases	4			4			5					
Detector 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		0.43		0.27	0.38		0.09	0.26			0.64	
Control Delay		16.0		28.8	19.0		11.1	11.4			29.4	
Queue Delay		0.0		0.0	0.0		0.0	0.7			0.0	
Total Delay		16.0		28.8	19.0		11.1	12.1			29.4	
LOS		B		C	B		B	B			C	
Approach Delay		16.0			22.3			12.0			29.4	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)		39		42	51		9	72			183	
Queue Length 95th (ft)		82		80	103		23	100			247	
Internal Link Dist (ft)		446			417			245			351	
Turn Bay Length (ft)							75					
Base Capacity (vph)		440		336	479		406	1728			1063	
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		0.42		0.26	0.37		0.09	0.55			0.64	

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	

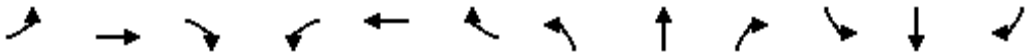
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 95.0%	ICU Level of Service F
Analysis Period (min) 15	

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	149	55	0	0	0	0	423	118	151	609	0
Future Volume (vph)	16	149	55	0	0	0	0	423	118	151	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		0.97						0.99				
Frt		0.966						0.967				
Flt Protected		0.996								0.950		
Satd. Flow (prot)	0	1437	0	0	0	0	0	2828	0	1438	2825	0
Flt Permitted		0.996								0.381		
Satd. Flow (perm)	0	1437	0	0	0	0	0	2828	0	577	2825	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16						41				
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	177	65	0	0	0	0	455	127	162	655	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	261	0	0	0	0	0	582	0	162	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	

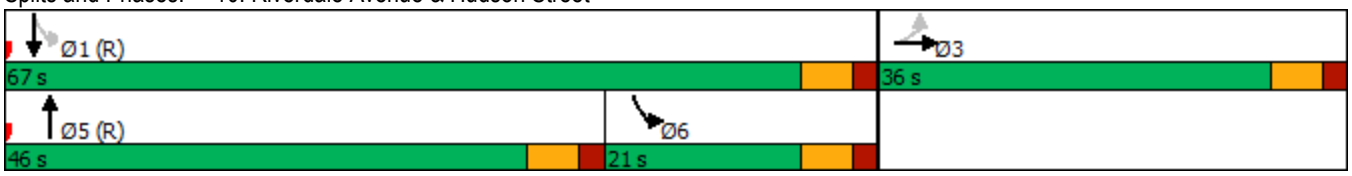


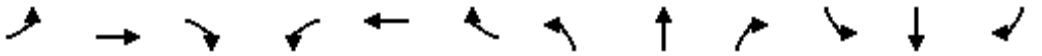
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		3						5		6	1	
Permitted Phases	3									1		
Detector Phase	3	3						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)		25.7						44.3		65.3	65.3	
Actuated g/C Ratio		0.25						0.43		0.63	0.63	
v/c Ratio		0.71						0.47		0.33	0.37	
Control Delay		43.9						21.3		13.0	10.0	
Queue Delay		0.0						0.0		0.0	1.2	
Total Delay		43.9						21.3		13.0	11.2	
LOS		D						C		B	B	
Approach Delay		43.9						21.3			11.6	
Approach LOS		D						C			B	
Queue Length 50th (ft)		151						125		38	93	
Queue Length 95th (ft)		206						194		78	150	
Internal Link Dist (ft)		458			299			445			245	
Turn Bay Length (ft)										125		
Base Capacity (vph)		429						1239		491	1791	
Starvation Cap Reductn		0						0		0	862	
Spillback Cap Reductn		0						0		0	0	
Storage Cap Reductn		0						0		0	0	
Reduced v/c Ratio		0.61						0.47		0.33	0.71	

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	

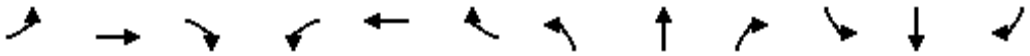
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 20.1	Intersection LOS: C
Intersection Capacity Utilization 63.5%	ICU Level of Service B
Analysis Period (min) 15	

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	427	97	488	535	154	111	374	421	155	432	31
Future Volume (vph)	13	427	97	488	535	154	111	374	421	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		0.973				0.850		0.921				0.850
Flt Protected		0.999		0.950			0.950			0.950		
Satd. Flow (prot)	0	3510	0	1671	1792	1292	1560	2643	0	1392	3202	1220
Flt Permitted		0.829		0.296			0.217			0.254		
Satd. Flow (perm)	0	2913	0	521	1792	1130	356	2643	0	372	3202	1144
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		24				89						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	497	113	508	557	160	123	416	468	172	480	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	625	0	508	557	160	123	884	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		0.70		1.51	0.70	0.24	0.57	1.31dr		0.84	0.50	0.08
Control Delay		37.8		260.5	10.4	1.3	46.3	108.4		75.6	33.9	0.3
Queue Delay		0.0		0.0	0.9	0.0	0.0	0.6		98.3	0.0	0.0
Total Delay		37.8		260.5	11.3	1.3	46.3	109.0		173.9	33.9	0.3
LOS		D		F	B	A	D	F		F	C	A
Approach Delay		37.8			113.3			101.4			67.3	
Approach LOS		D			F			F			E	
Queue Length 50th (ft)		197		~381	53	3	82	~390		97	146	0
Queue Length 95th (ft)		248		#670	80	m6	m100	m#448		#216	198	0
Internal Link Dist (ft)		431			323			964			445	
Turn Bay Length (ft)				160			100			155		
Base Capacity (vph)		890		336	798	662	216	792		204	960	447
Starvation Cap Reductn		0		0	75	0	0	0		0	0	0
Spillback Cap Reductn		4		0	0	0	0	75		167	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.71		1.51	0.77	0.24	0.57	1.23		4.65	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: 130	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.51	
Intersection Signal Delay: 87.7	Intersection LOS: F
Intersection Capacity Utilization 111.7%	ICU Level of Service H
Analysis Period (min) 15	

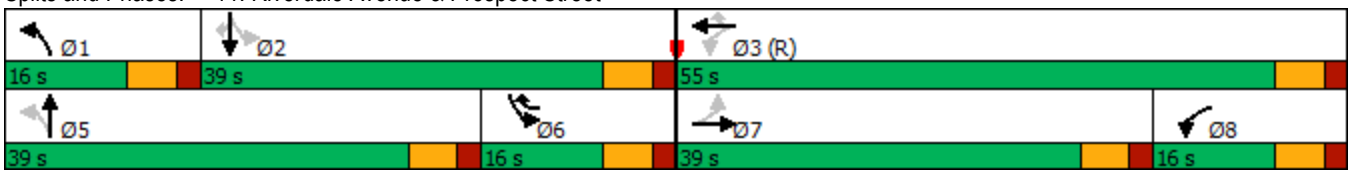
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

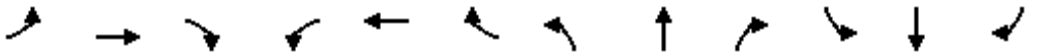
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

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

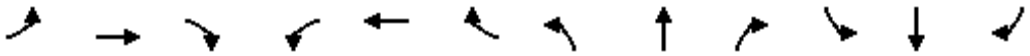
Splits and Phases: 11: Riverdale Avenue & Prospect Street





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	724	136	114	839	64
Future Volume (vph)	147	58	33	38	17	35	20	724	136	114	839	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			20			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		236			1171			291			1044	
Travel Time (s)		5.4			26.6			6.6			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	787	148	127	932	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	259	0	0	97	0	22	935	0	127	1003	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	0.93		0.66	0.78	
Control Delay		28.6			19.2		22.7	53.0		46.3	31.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		28.6			19.2		22.7	53.0		46.3	31.1	
LOS		C			B		C	D		D	C	
Approach Delay		28.6			19.2			52.3			32.8	
Approach LOS		C			B			D			C	
Queue Length 50th (ft)		117			29		9	330		54	368	
Queue Length 95th (ft)		#294			89		23	#460		m66	m282	
Internal Link Dist (ft)		156			1091			211			964	
Turn Bay Length (ft)							165			125		
Base Capacity (vph)		597			594		204	1002		205	1283	
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	0.93		0.62	0.78	

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: 0.93	
Intersection Signal Delay: 39.5	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

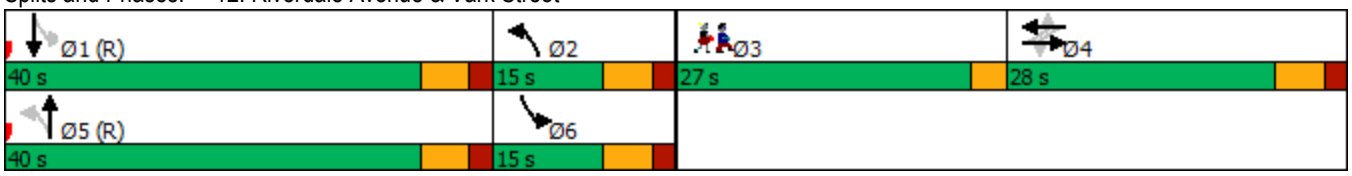
Intersection Capacity Utilization 65.5% ICU Level of Service C

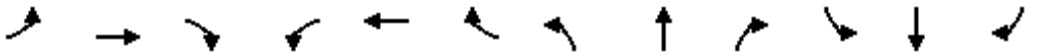
Analysis Period (min) 15

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

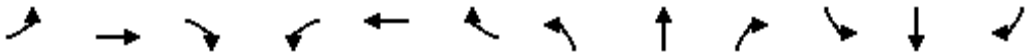
m Volume for 95th percentile queue is metered by upstream signal.

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	370	4	88	251	102	5	240	117	168	252	50
Future Volume (vph)	46	370	4	88	251	102	5	240	117	168	252	50
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			0.969			0.956			0.975	
Flt Protected		0.995			0.990			0.999		0.950		
Satd. Flow (prot)	0	1497	0	0	1784	0	0	1836	0	1560	1772	0
Flt Permitted		0.913			0.798			0.995		0.261		
Satd. Flow (perm)	0	1374	0	0	1438	0	0	1828	0	429	1772	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			18						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	402	4	96	273	111	5	261	127	183	274	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	456	0	0	480	0	0	393	0	183	328	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												



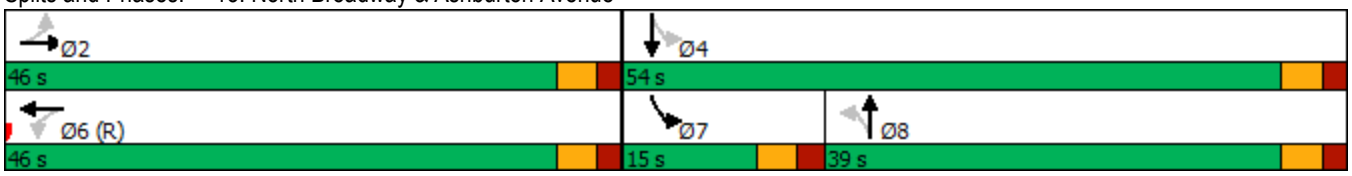
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	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)		46.0			46.0			29.0		44.0	44.0	
Actuated g/C Ratio		0.46			0.46			0.29		0.44	0.44	
v/c Ratio		0.72			0.72			0.74		0.61	0.42	
Control Delay		25.3			22.7			41.2		26.4	19.8	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		25.3			22.7			41.2		26.4	19.8	
LOS		C			C			D		C	B	
Approach Delay		25.3			22.7			41.2			22.2	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)		152			132			233		75	138	
Queue Length 95th (ft)		#415			#414			311		109	185	
Internal Link Dist (ft)		592			128			1647			236	
Turn Bay Length (ft)										80		
Base Capacity (vph)		632			670			621		302	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		0.72			0.72			0.63		0.61	0.37	

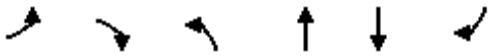
Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 97 (97%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	

Intersection Signal Delay: 27.1	Intersection LOS: C
Intersection Capacity Utilization 89.3%	ICU Level of Service E
Analysis Period (min) 15	

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

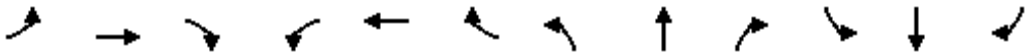
Splits and Phases: 13: North Broadway & Ashburton Avenue





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	223	0	0	428	0	0
Future Volume (vph)	223	0	0	428	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)	242	0	0	465	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	0	0	465	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	41.5%	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)	0	0	0	0	161	138	65	290	0	0	0	0
Future Volume (vph)	0	0	0	0	161	138	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)					62			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	187	160	71	315	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	347	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												

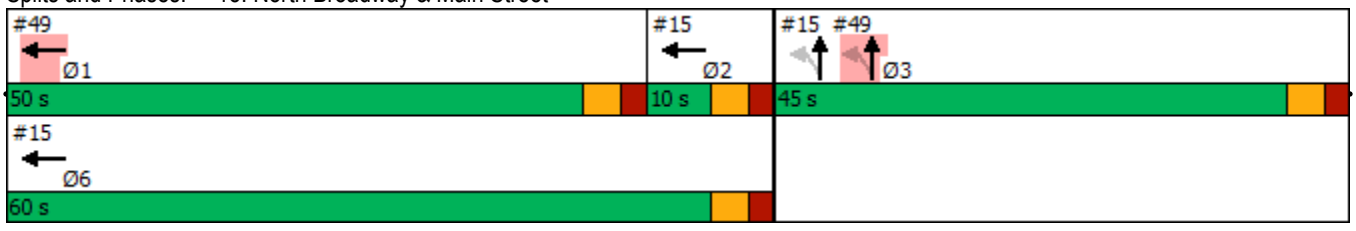
Lane Group	Ø1	Ø2	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link 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					0.33			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					0.33			0.46				

Intersection Summary

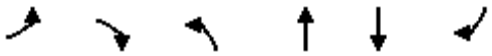
Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 105
Natural Cycle: 105
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 11.6 Intersection LOS: B
Intersection Capacity Utilization 44.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 15: North Broadway & Main Street



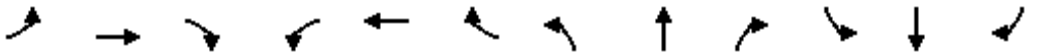
Lane Group	Ø1	Ø2	Ø6
Minimum Initial (s)	5.0	2.0	5.0
Minimum Split (s)	50.0	7.0	10.0
Total Split (s)	50.0	10.0	60.0
Total Split (%)	48%	10%	57%
Maximum Green (s)	45.0	5.0	55.0
Yellow Time (s)	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag 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

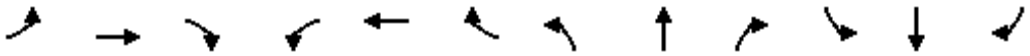


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	228	190	0	293	0	0
Future Volume (vph)	228	190	0	293	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	12	16	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.939					
Flt Protected	0.973					
Satd. Flow (prot)	1641	0	0	1727	0	0
Flt Permitted	0.973					
Satd. Flow (perm)	1641	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)	265	221	0	318	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	486	0	0	318	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	14			0	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	46.4%	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)	33	869	101	368	1048	104	100	156	171	91	70	29
Future Volume (vph)	33	869	101	368	1048	104	100	156	171	91	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		0.984				0.850		0.922			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	2961	0	1628	3256	1505	1532	1492	0	1612	1536	0
Flt Permitted	0.129			0.174			0.680			0.303		
Satd. Flow (perm)	209	2961	0	298	3256	1374	1096	1492	0	514	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	945	110	379	1080	107	119	186	204	111	85	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	1055	0	379	1080	107	119	390	0	111	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)	39.4	39.4		49.0	49.0	49.0	34.6	34.6		34.6	34.6	
Actuated g/C Ratio	0.36	0.36		0.45	0.45	0.45	0.31	0.31		0.31	0.31	
v/c Ratio	0.20	1.00		1.08	0.74	0.16	0.35	0.83		0.69	0.24	
Control Delay	25.3	52.9		84.8	12.6	1.3	32.4	51.7		57.0	24.6	
Queue Delay	0.0	36.7		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	25.3	89.6		84.8	12.6	1.3	32.4	51.7		57.0	24.6	
LOS	C	F		F	B	A	C	D		E	C	
Approach Delay		87.5			29.3			47.2			40.2	
Approach LOS		F			C			D			D	
Queue Length 50th (ft)	15	~381		~107	83	1	64	253		68	51	
Queue Length 95th (ft)	m18	m#445		m#398	m86	m2	107	#363		#133	88	
Internal Link Dist (ft)		323			758			1168			434	
Turn Bay Length (ft)	107			315			120			100		
Base Capacity (vph)	177	1060		350	1450	671	348	474		163	502	
Starvation Cap Reductn	0	151		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	1.16		1.08	0.74	0.16	0.34	0.82		0.68	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	

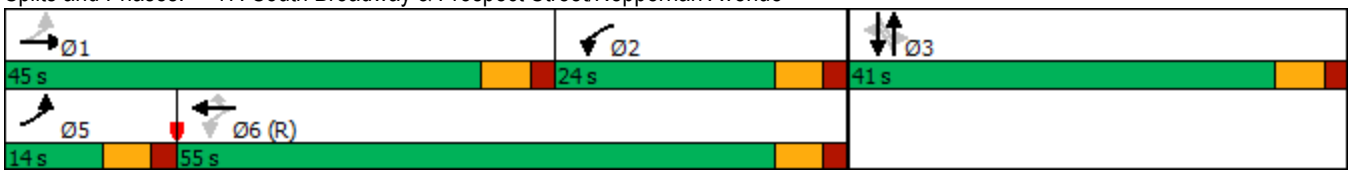
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 51.4	Intersection LOS: D
Intersection Capacity Utilization 103.4%	ICU Level of Service G
Analysis Period (min) 15	

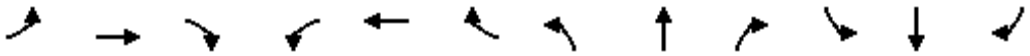
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

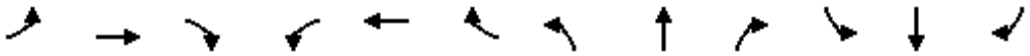
m Volume for 95th percentile queue is metered by upstream signal.

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





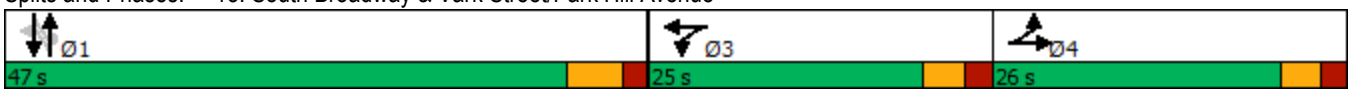
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	191	90	161	49	76	24	324	101	32	490	17
Future Volume (vph)	27	191	90	161	49	76	24	324	101	32	490	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (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			0.970			0.996	
Flt Protected		0.996			0.973			0.997			0.997	
Satd. Flow (prot)	0	2021	0	0	1864	0	0	1735	0	0	1782	0
Flt Permitted		0.996			0.973			0.948			0.951	
Satd. Flow (perm)	0	2021	0	0	1864	0	0	1650	0	0	1700	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			17			18			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	352	110	39	598	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	335	0	0	311	0	0	488	0	0	658	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	

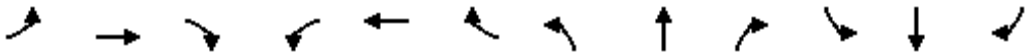


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.0	25.0		10.0	10.0		39.0	39.0		39.0	39.0	
Total Split (s)	26.0	26.0		25.0	25.0		47.0	47.0		47.0	47.0	
Total Split (%)	26.5%	26.5%		25.5%	25.5%		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			39.7			39.7	
Actuated g/C Ratio		0.21			0.21			0.41			0.41	
v/c Ratio		0.75			0.78			0.71			0.94	
Control Delay		45.6			49.3			29.2			50.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		45.6			49.3			29.2			50.1	
LOS		D			D			C			D	
Approach Delay		45.6			49.3			29.2			50.1	
Approach LOS		D			D			C			D	
Queue Length 50th (ft)		186			175			234			377	
Queue Length 95th (ft)		#305			#307			356			#513	
Internal Link Dist (ft)		1091			45			385			1168	
Turn Bay Length (ft)												
Base Capacity (vph)		456			400			713			725	
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			0.78			0.68			0.91	

Intersection Summary			
Area Type:	Other		
Cycle Length: 98			
Actuated Cycle Length: 96.3			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 43.5		Intersection LOS: D	
Intersection Capacity Utilization 83.8%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

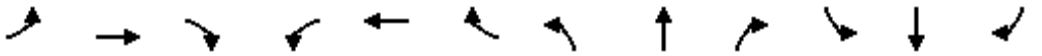
Splits and Phases: 18: South Broadway & Vark Street/Park Hill Avenue



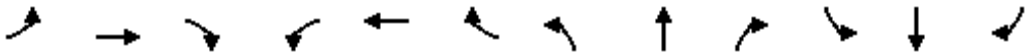


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	181	60	0	0	0	0	51	23	159	50	0
Future Volume (vph)	90	181	60	0	0	0	0	51	23	159	50	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	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		0.976						0.958				
Flt Protected		0.987									0.963	
Satd. Flow (prot)	0	2034	0	0	0	0	0	1785	0	0	1794	0
Flt Permitted		0.987									0.963	
Satd. Flow (perm)	0	2034	0	0	0	0	0	1785	0	0	1794	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		254			212			222			499	
Travel Time (s)		5.8			4.8			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)	98	197	65	0	0	0	0	55	25	173	54	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	360	0	0	0	0	0	80	0	0	227	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 42.9%		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)	25	1068	38	238	1434	281	17	121	371	0	0	0
Future Volume (vph)	25	1068	38	238	1434	281	17	121	371	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		0.902				
Flt Protected	0.950			0.950				0.998				
Satd. Flow (prot)	1651	4883	0	1770	5085	1419	0	1615	0	0	0	0
Flt Permitted	0.095			0.137				0.998				
Satd. Flow (perm)	165	4883	0	255	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)	27	1161	41	245	1478	290	18	132	403	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1202	0	245	1478	290	0	553	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	0.09	0.64		0.72	0.76	0.54		1.08				
Control Delay	6.6	14.6		47.0	15.3	16.0		99.2				
Queue Delay	0.0	0.0		0.0	0.9	0.8		0.0				
Total Delay	6.6	14.7		47.0	16.2	16.7		99.2				
LOS	A	B		D	B	B		F				
Approach Delay		14.5			20.0			99.2				
Approach LOS		B			C			F				
Queue Length 50th (ft)	4	128		128	87	47		~436				
Queue Length 95th (ft)	m4	m133		m161	147	m83		#648				
Internal Link Dist (ft)		758			298			644			331	
Turn Bay Length (ft)	360			165								
Base Capacity (vph)	288	1867		338	1941	541		513				
Starvation Cap Reductn	0	0		0	209	78		0				
Spillback Cap Reductn	0	38		0	0	0		0				
Storage Cap Reductn	0	0		0	0	0		0				
Reduced v/c Ratio	0.09	0.66		0.72	0.85	0.63		1.08				

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: 1.08	

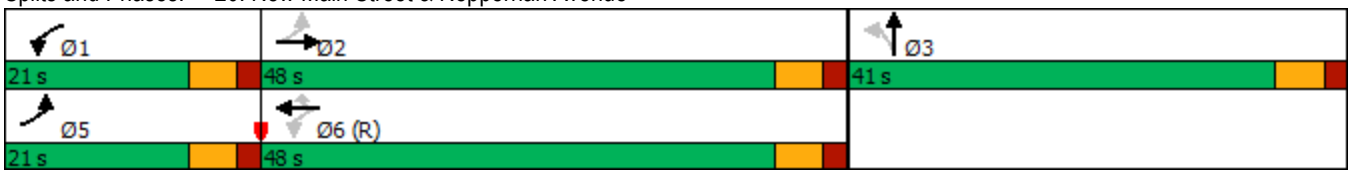
Intersection Signal Delay: 29.8	Intersection LOS: C
Intersection Capacity Utilization 79.8%	ICU Level of Service D
Analysis Period (min) 15	

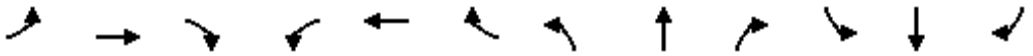
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

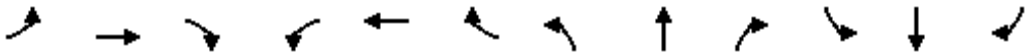
m Volume for 95th percentile queue is metered by upstream signal.

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)	85	458	116	199	380	123	72	196	108	0	0	0
Future Volume (vph)	85	458	116	199	380	123	72	196	108	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		0.963				0.850			
Flt Protected	0.950			0.950				0.987				
Satd. Flow (prot)	1533	1574	1676	1604	1684	0	0	1621	1312	0	0	0
Flt Permitted	0.274			0.317				0.987				
Satd. Flow (perm)	442	1574	1676	535	1684	0	0	1621	1312	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84		22				99			
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)	92	498	126	216	413	134	78	213	117	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	498	126	216	547	0	0	291	117	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)	60.4	46.0	46.0	60.4	46.0			24.6	24.6			
Actuated g/C Ratio	0.60	0.46	0.46	0.60	0.46			0.25	0.25			
v/c Ratio	0.22	0.69	0.15	0.45	0.70			0.73	0.30			
Control Delay	7.1	22.4	6.3	8.2	10.8			46.2	10.3			
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0			
Total Delay	7.1	22.4	6.3	8.2	10.8			46.2	10.3			
LOS	A	C	A	A	B			D	B			
Approach Delay		17.6			10.1			35.9				
Approach LOS		B			B			D				
Queue Length 50th (ft)	15	172	11	16	60			175	9			
Queue Length 95th (ft)	m34	307	m37	m33	m97			258	52			
Internal Link Dist (ft)		356			1981			469			89	
Turn Bay Length (ft)	75		100	70					100			
Base Capacity (vph)	424	724	816	477	786			437	426			
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	0.22	0.69	0.15	0.45	0.70			0.67	0.27			

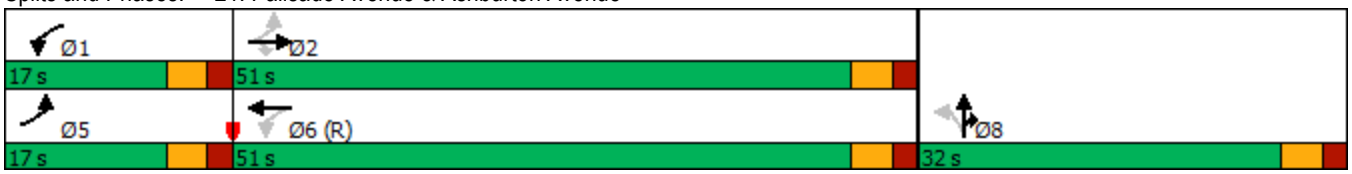
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 94 (94%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 18.5		Intersection LOS: B	

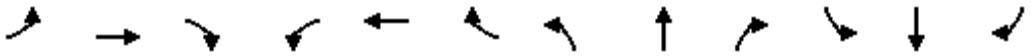
Intersection Capacity Utilization 61.9% ICU Level of Service B

Analysis Period (min) 15

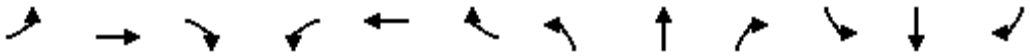
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 21: Palisade Avenue & Ashburton Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	225	66	0	0	0	0	270	191	145	185	0
Future Volume (vph)	70	225	66	0	0	0	0	270	191	145	185	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		0.975						0.944				
Flt Protected		0.990									0.978	
Satd. Flow (prot)	0	1783	0	0	0	0	0	1993	0	0	2056	0
Flt Permitted		0.990									0.475	
Satd. Flow (perm)	0	1783	0	0	0	0	0	1993	0	0	999	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18						64				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		331			728			251			1216	
Travel Time (s)		7.5			16.5			5.7			27.6	
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)	76	245	72	0	0	0	0	293	208	158	201	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	393	0	0	0	0	0	501	0	0	359	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)		-10			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		

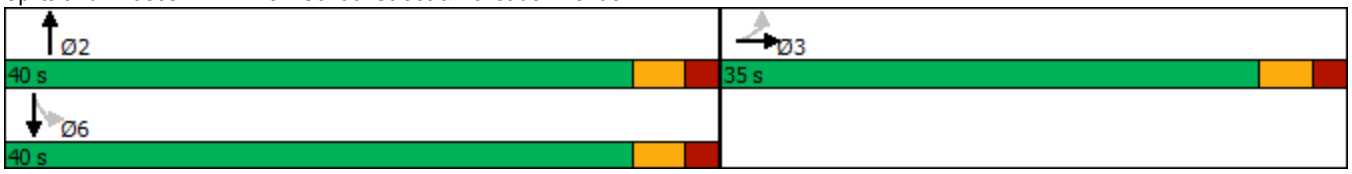


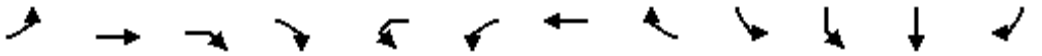
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3						2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	34.0	34.0						39.0		10.0	10.0	
Total Split (s)	35.0	35.0						40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%						53.3%		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		0.55						0.51			0.76	
Control Delay		20.3						13.9			29.2	
Queue Delay		0.0						0.0			0.0	
Total Delay		20.3						13.9			29.2	
LOS		C						B			C	
Approach Delay		20.3						13.9			29.2	
Approach LOS		C						B			C	
Queue Length 50th (ft)		129						130			129	
Queue Length 95th (ft)		212						211			#274	
Internal Link Dist (ft)		251			648			171			1136	
Turn Bay Length (ft)												
Base Capacity (vph)		733						976			472	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.54						0.51			0.76	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 74			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			

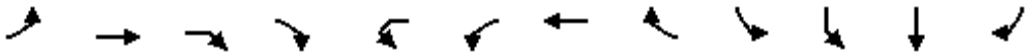
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 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)	123	1260	45	11	22	25	1755	299	146	41	6	198
Future Volume (vph)	123	1260	45	11	22	25	1755	299	146	41	6	198
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			0.932	
Flt Protected	0.950					0.950					0.977	
Satd. Flow (prot)	1711	5055	0	0	0	1753	5212	1569	0	0	1922	0
Flt Permitted	0.091					0.091					0.977	
Satd. Flow (perm)	164	5055	0	0	0	168	5212	1569	0	0	1922	0
Right Turn on Red				Yes				Yes				Yes
Satd. Flow (RTOR)		1						279			49	
Link Speed (mph)		30					30				30	
Link Distance (ft)		378					492				339	
Travel Time (s)		8.6					11.2				7.7	
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)	134	1370	49	12	23	26	1809	308	159	45	7	215
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	1431	0	0	0	49	1809	308	0	0	426	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	



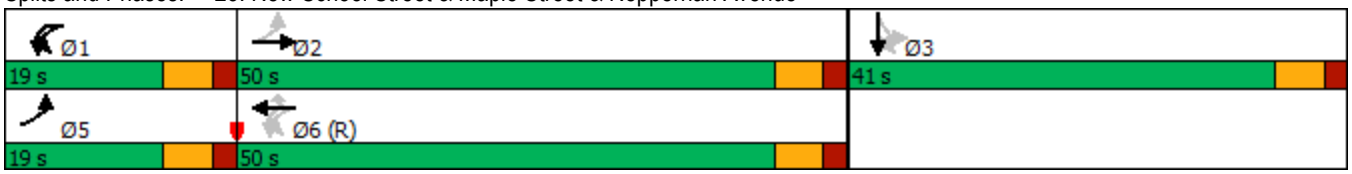
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Protected Phases	5	2			1	1	6				3	
Permitted Phases	2				6	6		6	3	3		
Detector Phase	5	2			1	1	6	6	3	3	3	
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	46.0			11.0	11.0	46.0	46.0	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)	57.8	44.0				57.8	44.0	44.0			34.2	
Actuated g/C Ratio	0.53	0.40				0.53	0.40	0.40			0.31	
v/c Ratio	0.48	0.71				0.17	0.87	0.39			0.68	
Control Delay	34.0	18.1				11.8	35.9	5.2			35.3	
Queue Delay	0.0	0.3				0.0	0.0	0.0			0.0	
Total Delay	34.0	18.3				11.8	35.9	5.2			35.3	
LOS	C	B				B	D	A			D	
Approach Delay		19.7					31.0				35.3	
Approach LOS		B					C				D	
Queue Length 50th (ft)	60	141				14	423	12			233	
Queue Length 95th (ft)	m102	m152				31	490	68			341	
Internal Link Dist (ft)		298					412				259	
Turn Bay Length (ft)	100					210						
Base Capacity (vph)	280	2022				287	2084	795			644	
Starvation Cap Reductn	0	142				0	0	0			0	
Spillback Cap Reductn	0	0				0	3	0			0	
Storage Cap Reductn	0	0				0	0	0			0	
Reduced v/c Ratio	0.48	0.76				0.17	0.87	0.39			0.66	

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: 27.2		Intersection LOS: C	
Intersection Capacity Utilization 78.5%		ICU Level of Service D	

Analysis Period (min) 15

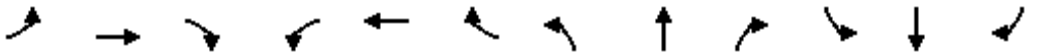
m Volume for 95th percentile queue is metered by upstream signal.

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

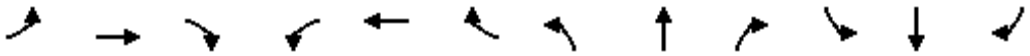


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1406	0	0	2040	61	161
Future Volume (vph)	1406	0	0	2040	61	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15
Grade (%)	5%			-5%	0%	
Storage Length (ft)		0	120		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt					0.902	
Flt Protected					0.986	
Satd. Flow (prot)	4752	0	1909	5535	1822	0
Flt Permitted					0.986	
Satd. Flow (perm)	4752	0	1909	5535	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	0.92	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)	1528	0	0	2103	66	175
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1528	0	0	2103	241	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 59.4%		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)	107	514	45	71	426	70	76	574	115	120	324	115
Future Volume (vph)	107	514	45	71	426	70	76	574	115	120	324	115
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			0.975				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1504	1640	1346	1546	1650	0	1546	3337	0	1518	3252	1406
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1504	1640	1346	1546	1650	0	1546	3337	0	1518	3252	1406
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		8			24				125
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)	116	559	49	77	463	76	83	624	125	130	352	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	559	49	77	539	0	83	749	0	130	352	125
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)	9.7	33.5	48.5	8.9	30.3		9.0	31.0		5.0	29.4	45.2
Actuated g/C Ratio	0.10	0.34	0.48	0.09	0.30		0.09	0.31		0.05	0.29	0.45
v/c Ratio	0.79	1.02	0.07	0.56	1.07		0.60	0.71		1.73	0.37	0.18
Control Delay	89.0	64.6	0.7	59.2	94.4		61.4	34.0		410.1	30.6	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	89.0	64.6	0.7	59.2	94.4		61.4	34.0		410.1	30.6	4.0
LOS	F	E	A	E	F		E	C		F	C	A
Approach Delay		64.2			90.0			36.7			106.4	
Approach LOS		E			F			D			F	
Queue Length 50th (ft)	67	~419	1	47	~382		51	214		~123	97	0
Queue Length 95th (ft)	m#134	#626	m2	96	#589		#102	283		#242	141	34
Internal Link Dist (ft)		1981			310			1193			132	
Turn Bay Length (ft)	150		80	120			185			120		
Base Capacity (vph)	150	549	715	154	504		154	1051		75	957	707
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	0.77	1.02	0.07	0.50	1.07		0.54	0.71		1.73	0.37	0.18

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: 70.9		Intersection LOS: E	
Intersection Capacity Utilization 78.8%		ICU Level of Service D	

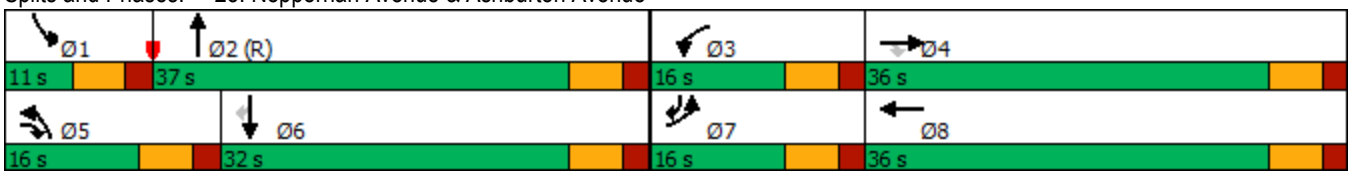
Analysis Period (min) 15

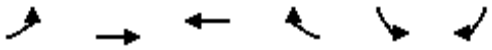
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

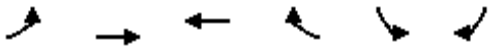
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 25: Nepperhan Avenue & Ashburton Avenue





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	709	440	0	56	31
Future Volume (vph)	0	709	440	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	771	478	0	61	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	771	478	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						

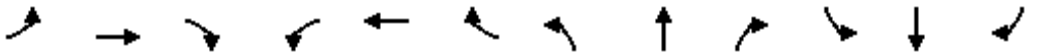


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		2	6		3	
Switch Phase						
Minimum Initial (s)		5.0	5.0		5.0	
Minimum Split (s)		10.0	10.0		35.0	
Total Split (s)		35.0	35.0		35.0	
Total Split (%)		33.3%	33.3%		33.3%	
Maximum Green (s)		30.0	30.0		30.0	
Yellow Time (s)		3.0	3.0		3.0	
All-Red Time (s)		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		0.66	0.39		0.34	
Control Delay		28.4	23.5		27.7	
Queue Delay		0.0	0.0		0.0	
Total Delay		28.4	23.5		27.7	
LOS		C	C		C	
Approach Delay		28.4	23.5		27.7	
Approach LOS		C	C		C	
Queue Length 50th (ft)		175	95		34	
Queue Length 95th (ft)		#334	190		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		0.66	0.39		0.13	

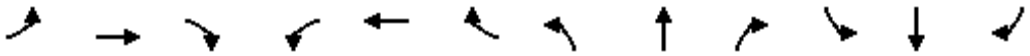
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 85			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 26.6		Intersection LOS: C	
Intersection Capacity Utilization 32.9%		ICU Level of Service A	
Analysis Period (min) 15			

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

Splits and Phases: 26: Nepperhan Avenue & Copcutt Lane



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	395	148	18	428	0	133	0	1408	159	122	1594	0
Future Volume (vph)	395	148	18	428	0	133	0	1408	159	122	1594	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			0.968			0.985				
Flt Protected	0.950				0.963					0.950		
Satd. Flow (prot)	1454	1770	0	0	1722	0	0	4884	0	1711	5085	0
Flt Permitted	0.665				0.618					0.083		
Satd. Flow (perm)	1018	1770	0	0	1105	0	0	4884	0	149	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			89			20				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		728			401			401			720	
Travel Time (s)		16.5			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)	429	161	20	465	0	145	0	1530	173	126	1643	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	429	181	0	0	610	0	0	1703	0	126	1643	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			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	1.33	0.32			1.48			0.91		0.42	0.56	
Control Delay	200.1	29.4			255.5			40.1		19.1	15.8	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	200.1	29.4			255.5			40.1		19.1	15.8	
LOS	F	C			F			D		B	B	
Approach Delay		149.4			255.5			40.1			16.0	
Approach LOS		F			F			D			B	
Queue Length 50th (ft)	~393	93			~554			406		39	253	
Queue Length 95th (ft)	#589	154			#776			#479		91	296	
Internal Link Dist (ft)		648			321			321			640	
Turn Bay Length (ft)										140		
Base Capacity (vph)	323	567			412			1877		298	2912	
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	1.33	0.32			1.48			0.91		0.42	0.56	

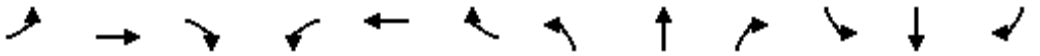
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.48			
Intersection Signal Delay: 73.2		Intersection LOS: E	
Intersection Capacity Utilization 111.2%		ICU Level of Service H	

Analysis Period (min) 15

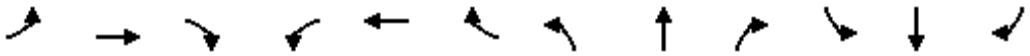
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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	1107	29	83	1147	62	33	311	230	50	266	65
Future Volume (vph)	91	1107	29	83	1147	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		0.996			0.992			0.946			0.977	
Flt Protected	0.950			0.950				0.997			0.994	
Satd. Flow (prot)	1652	3643	0	1652	3541	0	0	1874	0	0	1532	0
Flt Permitted	0.117			0.133				0.901			0.554	
Satd. Flow (perm)	203	3643	0	231	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	1203	32	86	1182	64	36	338	250	54	289	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	1235	0	86	1246	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	0.44	0.65		0.37	0.70			1.33			1.84	
Control Delay	14.9	21.8		18.0	38.5			196.7			421.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	14.9	21.8		18.0	38.5			196.7			421.6	
LOS	B	C		B	D			F			F	
Approach Delay		21.3			37.1			196.7			421.6	
Approach LOS		C			D			F			F	
Queue Length 50th (ft)	26	333		44	418			~561			~444	
Queue Length 95th (ft)	47	426		m65	490			#785			#637	
Internal Link Dist (ft)		1351			1029			289			192	
Turn Bay Length (ft)	105			130								
Base Capacity (vph)	252	1908		265	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	0.39	0.65		0.32	0.70			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: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.84	
Intersection Signal Delay: 101.3	Intersection LOS: F

Intersection Capacity Utilization 90.2% ICU Level of Service E

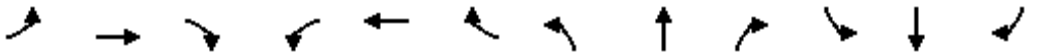
Analysis Period (min) 15

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

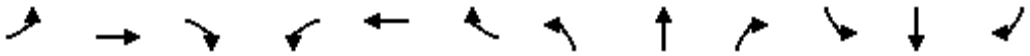
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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	1375	5	93	1274	17	18	58	266	0	0	0
Future Volume (vph)	7	1375	5	93	1274	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	0.206			0.070				0.997				
Satd. Flow (perm)	358	3418	0	122	3447	0	0	1828	0	0	0	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)					2							
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	1495	5	96	1313	18	20	63	289	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	1500	0	96	1331	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	0.05	0.95		0.33	0.59			0.86				
Control Delay	10.6	34.2		30.6	6.1			60.8				
Queue Delay	0.0	0.0		0.0	0.2			0.0				
Total Delay	10.6	34.2		30.6	6.3			60.8				
LOS	B	C		C	A			E				
Approach Delay		34.1			7.9			60.8				
Approach LOS		C			A			E				
Queue Length 50th (ft)	2	585		28	83			253				
Queue Length 95th (ft)	m2	m620		m45	m81			#417				
Internal Link Dist (ft)		1029			290			330			84	
Turn Bay Length (ft)	85			85								
Base Capacity (vph)	165	1584		288	2256			432				
Starvation Cap Reductn	0	0		0	249			0				
Spillback Cap Reductn	0	0		0	0			0				
Storage Cap Reductn	0	0		0	0			0				
Reduced v/c Ratio	0.05	0.95		0.33	0.66			0.86				

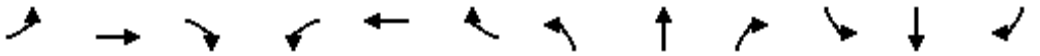
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 103 (94%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 25.8		Intersection LOS: C	
Intersection Capacity Utilization 78.8%		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.

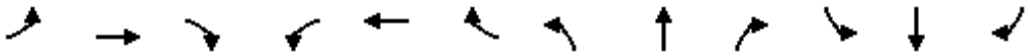
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 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	1619	22	4	1348	586	15	0	6	892	0	21
Future Volume (vph)	0	1619	22	4	1348	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					0.876		0.950			0.950	0.954	
Satd. Flow (perm)	0	3332	0	0	3100	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	1760	24	4	1390	604	16	0	7	970	0	23
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	0	1784	0	0	1394	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		0.97			0.81	0.41	0.20	0.04		1.12	0.97	
Control Delay		19.1			31.1	0.6	56.6	0.0		116.8	64.1	
Queue Delay		0.0			0.1	0.0	0.0	0.0		0.0	0.0	
Total Delay		19.1			31.1	0.6	56.6	0.0		116.8	64.1	
LOS		B			C	A	E	A		F	E	
Approach Delay		19.1			21.9			39.4			90.4	
Approach LOS		B			C			D			F	
Queue Length 50th (ft)		198			401	0	11	0		~424	298	
Queue Length 95th (ft)		m#248			491	m0	35	0		#640	#527	
Internal Link Dist (ft)		290			245			49			297	
Turn Bay Length (ft)						250						
Base Capacity (vph)		1848			1719	1462	80	169		443	515	
Starvation Cap Reductn		0			13	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		0.97			0.82	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: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 35.1		Intersection LOS: D	
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

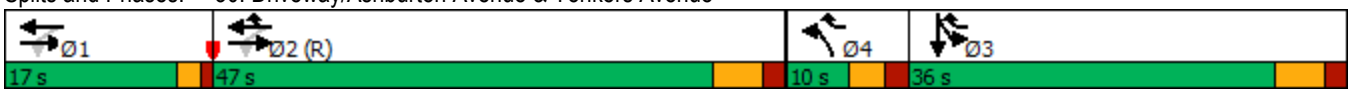
Analysis Period (min) 15

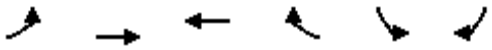
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

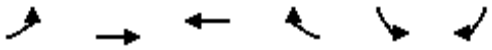
m Volume for 95th percentile queue is metered by upstream signal.

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





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	528	1461	1310	222	78	367
Future Volume (vph)	528	1461	1310	222	78	367
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	0.070				0.950	
Satd. Flow (perm)	133	3539	3421	1561	2046	1561
Right Turn on Red				No		Yes
Satd. Flow (RTOR)						22
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)	574	1588	1351	229	85	399
Shared Lane Traffic (%)						
Lane Group Flow (vph)	574	1588	1351	229	85	399
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



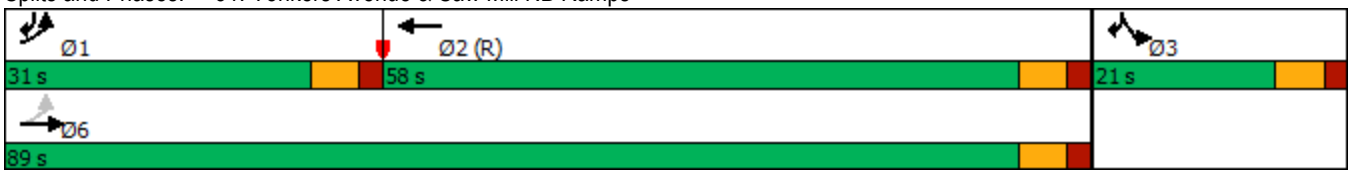
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Protected Phases	1	6	2		3	1 3
Permitted Phases	6			Free		
Detector Phase	1	6	2		3	1 3
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	
Minimum Split (s)	11.0	16.0	16.0		11.0	
Total Split (s)	31.0	89.0	58.0		21.0	
Total Split (%)	28.2%	80.9%	52.7%		19.1%	
Maximum 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	1.20	0.59	0.84	0.15	0.30	0.60
Control Delay	126.6	4.5	42.7	0.2	46.2	28.0
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	126.6	5.0	42.7	0.2	46.2	28.0
LOS	F	A	D	A	D	C
Approach Delay		37.2	36.5		31.2	
Approach LOS		D	D		C	
Queue Length 50th (ft)	~437	203	523	0	55	203
Queue Length 95th (ft)	m#447	m200	183	0	104	307
Internal Link Dist (ft)		319	667		146	
Turn Bay Length (ft)	180					
Base Capacity (vph)	480	2670	1617	1561	279	665
Starvation Cap Reductn	0	534	0	0	0	0
Spillback Cap Reductn	0	16	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.20	0.74	0.84	0.15	0.30	0.60

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: 1.20			
Intersection Signal Delay: 36.3		Intersection LOS: D	
Intersection Capacity Utilization 84.8%		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: 31: Yonkers Avenue & Saw Mill NB Ramps

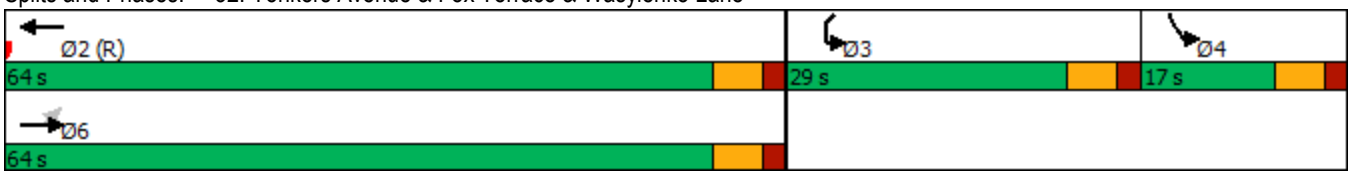


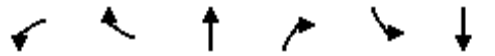
Lane Group	EBL	EBT	WBT	WBR	WBR2	SBL	SBR	SWL	SWR
Lane Configurations									
Traffic Volume (vph)	6	1533	1530	19	4	0	1	2	1
Future Volume (vph)	6	1533	1530	19	4	0	1	2	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	14	13	13	12	16	16	11	11
Lane Util. Factor	0.95	0.95	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)						321			
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	1666	1577	20	4	0	1	2	1
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	1673	1601	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		0.52	0.48			0.00		0.02	
Control Delay		3.5	7.5			0.0		42.0	
Queue Delay		0.0	0.0			0.0		0.0	
Total Delay		3.5	7.5			0.0		42.0	
LOS		A	A			A		D	
Approach Delay		3.5	7.5					42.0	
Approach LOS		A	A					D	
Queue Length 50th (ft)		2	8			0		2	
Queue Length 95th (ft)		491	486			0		10	
Internal Link Dist (ft)		667	1400			149		184	
Turn Bay Length (ft)									
Base Capacity (vph)		3204	3355			471		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		0.52	0.48			0.00		0.01	

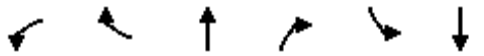
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 13 (12%), Referenced to phase 2:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 5.5		Intersection LOS: A	
Intersection Capacity Utilization 69.9%		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)	214	473	1080	115	357	1178
Future Volume (vph)	214	473	1080	115	357	1178
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	0.921	0.850		0.850		
Flt Protected	0.977				0.950	
Satd. Flow (prot)	3252	1424	3539	1583	1593	3367
Flt Permitted	0.977				0.093	
Satd. Flow (perm)	3252	1424	3539	1583	156	3367
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	257	257		55		
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	514	1113	119	388	1280
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	490	257	1113	119	388	1280
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	0.43	0.79	0.18	1.28	0.63
Control Delay	15.8	6.2	27.4	6.1	181.7	18.3
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.9
Total Delay	15.8	6.2	27.6	6.1	181.7	19.1
LOS	B	A	C	A	F	B
Approach Delay	12.5		25.5			57.0
Approach LOS	B		C			E
Queue Length 50th (ft)	64	0	381	8	~296	257
Queue Length 95th (ft)	111	65	m453	m23	#504	341
Internal Link Dist (ft)	440		483			1400
Turn Bay Length (ft)				100	180	
Base Capacity (vph)	1155	607	1415	666	302	2020
Starvation Cap Reductn	0	0	27	0	0	0
Spillback Cap Reductn	31	0	0	0	0	418
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.42	0.80	0.18	1.28	0.80

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: 1.28			
Intersection Signal Delay: 37.2		Intersection LOS: D	
Intersection Capacity Utilization 75.7%		ICU Level of Service D	

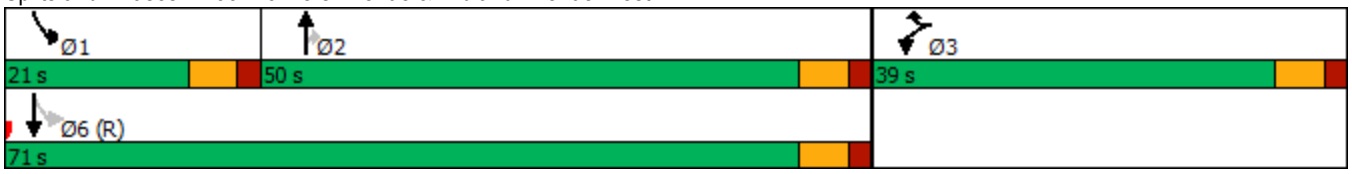
Analysis Period (min) 15

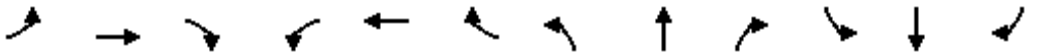
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

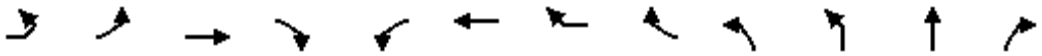
Splits and Phases: 33: Yonkers Avenue & Midland Avenue West





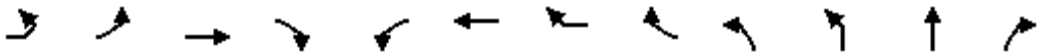
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑							↱
Traffic Volume (vph)	0	1989	528	0	1677	0	0	0	0	0	0	261
Future Volume (vph)	0	1989	528	0	1677	0	0	0	0	0	0	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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	2162	574	0	1729	0	0	0	0	0	0	284
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2162	574	0	1729	0	0	0	0	0	0	284
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 69.2%		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	223	18	81	1	21	7	34	6	68	938	4
Future Volume (vph)	126	223	18	81	1	21	7	34	6	68	938	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	242	20	88	1	23	8	37	6	70	967	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	379	108	0	0	69	0	0	0	76	971	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			11					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	893	186	296
Future Volume (vph)	17	893	186	296
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		0.947		
Flt Protected	0.950			
Satd. Flow (prot)	1770	3352	0	0
Flt Permitted	0.295			
Satd. Flow (perm)	550	3352	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	971	202	322
Shared Lane Traffic (%)				
Lane Group Flow (vph)	18	1495	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		0.96	0.19			0.12				0.25	0.46	
Control Delay		75.6	9.3			15.4				12.2	13.9	
Queue Delay		0.0	0.0			0.0				0.0	0.0	
Total Delay		75.6	9.3			15.4				12.2	13.9	
LOS		E	A			B				B	B	
Approach Delay			60.9			15.4					13.8	
Approach LOS			E			B					B	
Queue Length 50th (ft)		262	10			16				22	193	
Queue Length 95th (ft)		#453	50			49				43	241	
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	71	
Storage Cap Reductn		0	0			0				0	0	
Reduced v/c Ratio		0.96	0.19			0.12				0.25	0.47	

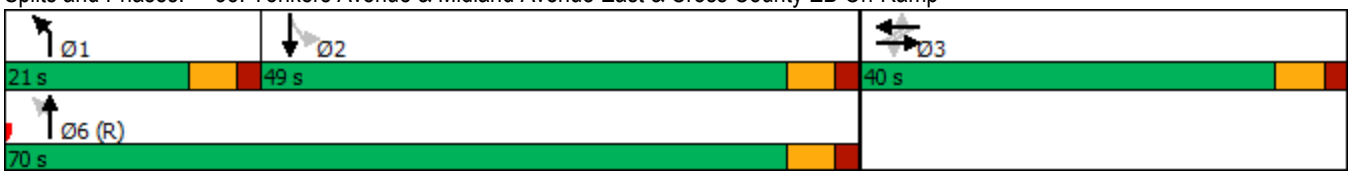
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 57.0		Intersection LOS: E	
Intersection Capacity Utilization 85.3%		ICU Level of Service E	
Analysis Period (min) 15			

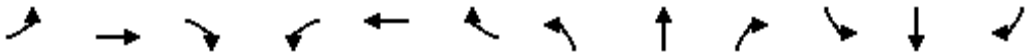
Lane Group	SBL	SBT	SBR	SBR2
Permitted Phases	2			
Detector Phase	2	2		
Switch Phase				
Minimum Initial (s)	5.0	5.0		
Minimum Split (s)	48.0	48.0		
Total Split (s)	49.0	49.0		
Total Split (%)	44.5%	44.5%		
Maximum Green (s)	43.0	43.0		
Yellow Time (s)	4.0	4.0		
All-Red Time (s)	2.0	2.0		
Lost Time Adjust (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	1.12		
Control Delay	16.6	88.5		
Queue Delay	0.0	0.0		
Total Delay	16.6	88.5		
LOS	B	F		
Approach Delay		87.7		
Approach LOS		F		
Queue Length 50th (ft)	5	~631		
Queue Length 95th (ft)	m10	#763		
Internal Link Dist (ft)		483		
Turn Bay Length (ft)	150			
Base Capacity (vph)	215	1332		
Starvation Cap Reductn	0	0		
Spillback Cap Reductn	0	0		
Storage Cap Reductn	0	0		
Reduced v/c Ratio	0.08	1.12		

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



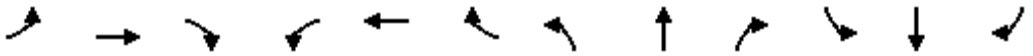


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	499	68	119	377	128	0	0	0	0	0	0
Future Volume (vph)	39	499	68	119	377	128	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	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		0.983			0.962							
Flt Protected		0.997		0.950								
Satd. Flow (prot)	0	3931	0	2006	2031	0	0	0	0	0	0	0
Flt Permitted		0.997		0.950								
Satd. Flow (perm)	0	3931	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	580	79	138	438	149	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	704	0	138	587	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 51.4%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	584	71	56	396	45	75
Future Volume (vph)	584	71	56	396	45	75
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	0.985				0.915	
Flt Protected				0.994	0.982	
Satd. Flow (prot)	1552	0	0	1975	1513	0
Flt Permitted				0.994	0.982	
Satd. Flow (perm)	1552	0	0	1975	1513	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)	635	77	61	430	49	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	712	0	0	491	131	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	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

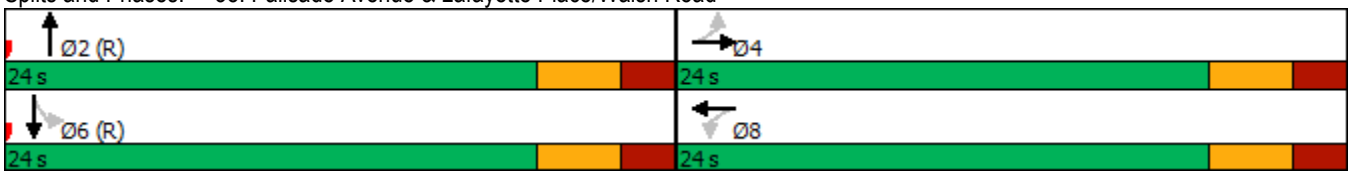


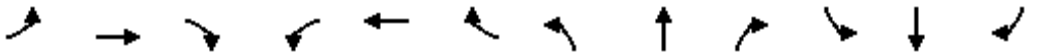
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	8	19	24	0	39	0	308	32	28	287	0
Future Volume (vph)	29	8	19	24	0	39	0	308	32	28	287	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	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			0.987				
Flt Protected		0.975			0.981						0.996	
Satd. Flow (prot)	0	1668	0	0	1732	0	0	1816	0	0	1832	0
Flt Permitted		0.869			0.906						0.947	
Satd. Flow (perm)	0	1486	0	0	1599	0	0	1816	0	0	1742	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			45			13				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		226			227			1216			549	
Travel Time (s)		5.1			5.2			27.6			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	335	35	30	312	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	68	0	0	370	0	0	342	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			0.51			0.50	
Control Delay		7.4			5.4			13.6			14.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.4			5.4			13.6			14.0	

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			13.6			14.0	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		7			4			71			68	
Queue Length 95th (ft)		24			21			133			127	
Internal Link Dist (ft)		146			147			1136			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			0.51			0.50	

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: 0.51			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 51.4%		ICU Level of Service A	
Analysis Period (min) 15			

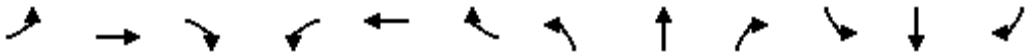
Splits and Phases: 38: Palisade Avenue & Lafayette Place/Walsh Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	299	165	0	166	0	0	0	0
Future Volume (vph)	0	0	0	0	299	165	0	166	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					0.952							
Flt Protected												
Satd. Flow (prot)	0	0	0	0	2010	0	0	1664	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	2010	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	348	192	0	180	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	540	0	0	180	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				

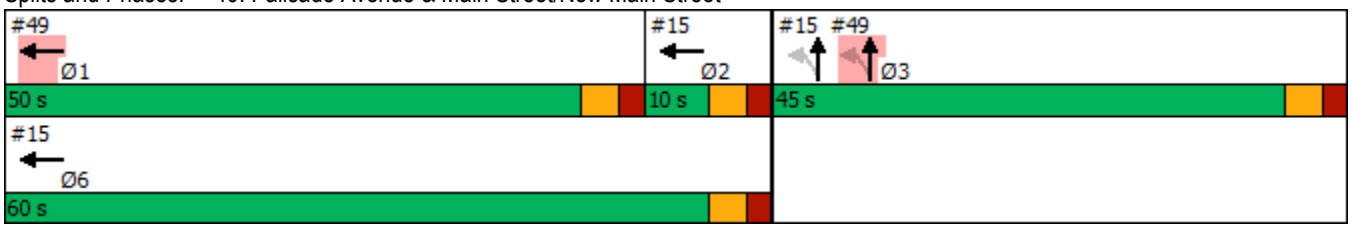
Lane Group	Ø2	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
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					0.63			0.28				
Control Delay					27.5			24.1				
Queue Delay					0.0			0.0				
Total Delay					27.5			24.1				
LOS					C			C				
Approach Delay					27.5			24.1				
Approach LOS					C			C				
Queue Length 50th (ft)					277			83				
Queue Length 95th (ft)					366			137				
Internal Link Dist (ft)		1			350			132			174	
Turn Bay Length (ft)												
Base Capacity (vph)					861			633				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.63			0.28				

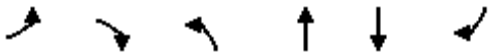
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Natural Cycle: 105			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 26.6		Intersection LOS: C	
Intersection Capacity Utilization 42.9%		ICU Level of Service A	
Analysis Period (min) 15			

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



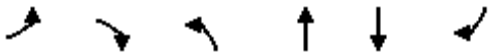
Lane Group	Ø2	Ø6
Switch Phase		
Minimum Initial (s)	2.0	5.0
Minimum Split (s)	7.0	10.0
Total Split (s)	10.0	60.0
Total Split (%)	10%	57%
Maximum Green (s)	5.0	55.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle 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)	25	94	46	95	115	12
Future Volume (vph)	25	94	46	95	115	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893				0.987	
Flt Protected	0.990			0.984		
Satd. Flow (prot)	1647	0	0	1833	1839	0
Flt Permitted	0.990			0.984		
Satd. Flow (perm)	1647	0	0	1833	1839	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)	27	102	50	103	125	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	129	0	0	153	138	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 31.5%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	18	92	26	391	499	5
Future Volume (vph)	18	92	26	391	499	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.887				0.999	
Flt Protected	0.992			0.997		
Satd. Flow (prot)	1639	0	0	1857	1861	0
Flt Permitted	0.992			0.997		
Satd. Flow (perm)	1639	0	0	1857	1861	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)	20	100	28	425	542	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	0	453	547	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 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	354	9	0	0	0	7
Future Volume (vph)	354	9	0	0	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.865
Flt Protected						
Satd. Flow (prot)	1857	0	0	0	0	1611
Flt Permitted						
Satd. Flow (perm)	1857	0	0	0	0	1611
Link Speed (mph)	30			30	30	
Link Distance (ft)	212			331	247	
Travel Time (s)	4.8			7.5	5.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	385	10	0	0	0	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	395	0	0	0	0	8
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

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	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	113	27	27	139	0	18	0	32	4	0	10
Future Vol, veh/h	0	113	27	27	139	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	127	30	31	162	0	20	0	35	4	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	157	0	0	372	-	142	384	381	162
Stage 1	-	-	-	-	-	-	142	-	-	224	224	-
Stage 2	-	-	-	-	-	-	230	-	-	160	157	-
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	-	-	1393	-	0	585	0	906	574	552	883
Stage 1	0	-	-	-	-	0	861	0	-	779	718	-
Stage 2	0	-	-	-	-	0	773	0	-	842	768	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1393	-	-	567	-	906	542	539	883
Mov Cap-2 Maneuver	-	-	-	-	-	-	567	-	-	542	539	-
Stage 1	-	-	-	-	-	-	861	-	-	779	701	-
Stage 2	-	-	-	-	-	-	745	-	-	810	768	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.2	10.2	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	746	-	-	1393	-	748
HCM Lane V/C Ratio	0.073	-	-	0.023	-	0.02
HCM Control Delay (s)	10.2	-	-	7.6	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	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	140	0	0	0	0	24	49	58	22	0	32
Future Vol, veh/h	1	140	0	0	0	0	24	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	171	0	0	0	0	28	57	67	27	0	40

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	-	232	173	185	249	173	39
Stage 1	-	-	-	173	173	-	0	0	-
Stage 2	-	-	-	59	0	-	249	173	-
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	704	704	835	688	706	1010
Stage 1	-	-	0	808	739	-	-	-	-
Stage 2	-	-	0	-	-	-	738	741	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	653	704	835	593	706	976
Mov Cap-2 Maneuver	-	-	-	653	704	-	593	706	-
Stage 1	-	-	-	808	739	-	-	-	-
Stage 2	-	-	-	-	-	-	626	741	-

Approach	EB	NB	SB
HCM Control Delay, s		11.1	10.1
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	SBLn1
Capacity (veh/h)	745	-	-	773
HCM Lane V/C Ratio	0.204	-	-	0.086
HCM Control Delay (s)	11.1	-	-	10.1
HCM Lane LOS	B	-	-	B
HCM 95th %tile Q(veh)	0.8	-	-	0.3

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	223	0	0	428	0	0
Future Vol, veh/h	223	0	0	428	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	242	0	0	465	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	465	-	-	0
Stage 1	0	-	-	-
Stage 2	465	-	-	-
Critical Hdwy	6.42	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	-	-
Pot Cap-1 Maneuver	556	0	0	-
Stage 1	-	0	0	-
Stage 2	632	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	556	-	-	-
Mov Cap-2 Maneuver	556	-	-	-
Stage 1	-	-	-	-
Stage 2	632	-	-	-

Approach	EB	NB
HCM Control Delay, s	16.4	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	EBLn1
Capacity (veh/h)	-	556
HCM Lane V/C Ratio	-	0.436
HCM Control Delay (s)	-	16.4
HCM Lane LOS	-	C
HCM 95th %tile Q(veh)	-	2.2

Intersection	
Int Delay, s/veh	25.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1406	0	0	2040	61	161
Future Vol, veh/h	1406	0	0	2040	61	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	1528	0	0	2103	66	175

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1528	0	2369	764
Stage 1	-	-	-	-	1528	-
Stage 2	-	-	-	-	841	-
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	-	-	216	-	~ 59	297
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	347	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	216	-	~ 59	297
Mov Cap-2 Maneuver	-	-	-	-	~ 59	-
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	347	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	$ 403.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	141	-	-	216	-
HCM Lane V/C Ratio	1.711	-	-	-	-
HCM Control Delay (s)	$ 403.4	-	-	0	-
HCM Lane LOS	F	-	-	A	-
HCM 95th %tile Q(veh)	17.7	-	-	0	-

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

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑							↱
Traffic Vol, veh/h	0	1989	528	0	1677	0	0	0	0	0	0	261
Future Vol, veh/h	0	1989	528	0	1677	0	0	0	0	0	0	261
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	2162	574	0	1729	0	0	0	0	0	0	284

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	-	-	0			-	-	865
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	301
Stage 1	0	-	-	0	-	0			0	0	-
Stage 2	0	-	-	0	-	0			0	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	-	-	-			-	0	301
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	76.4
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	-	301
HCM Lane V/C Ratio	-	-	-	0.943
HCM Control Delay (s)	-	-	-	76.4
HCM Lane LOS	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	9.3

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	584	71	56	396	45	75
Future Vol, veh/h	584	71	56	396	45	75
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	635	77	61	430	49	82

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	712	0	1226	674
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	552	-
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	-	-	888	-	197	455
Stage 1	-	-	-	-	506	-
Stage 2	-	-	-	-	577	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	888	-	179	455
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	506	-
Stage 2	-	-	-	-	525	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	27.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	288	-	-	888	-
HCM Lane V/C Ratio	0.453	-	-	0.069	-
HCM Control Delay (s)	27.4	-	-	9.4	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	2.2	-	-	0.2	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	94	46	95	115	12
Future Vol, veh/h	25	94	46	95	115	12
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	27	102	50	103	125	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	335	132	138	0	-	0
Stage 1	132	-	-	-	-	-
Stage 2	203	-	-	-	-	-
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	660	917	1446	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	636	917	1446	-	-	-
Mov Cap-2 Maneuver	636	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	831	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1446	-	839	-	-
HCM Lane V/C Ratio	0.035	-	0.154	-	-
HCM Control Delay (s)	7.6	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	92	26	391	499	5
Future Vol, veh/h	18	92	26	391	499	5
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	20	100	28	425	542	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1026	545	547	0	-	0
Stage 1	545	-	-	-	-	-
Stage 2	481	-	-	-	-	-
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	260	538	1022	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	251	538	1022	-	-	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	560	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1022	-	453	-	-
HCM Lane V/C Ratio	0.028	-	0.264	-	-
HCM Control Delay (s)	8.6	0	15.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	354	9	0	0	0	7
Future Vol, veh/h	354	9	0	0	0	7
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	-	-	16983	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	385	10	0	0	0	8

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	390
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.22
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.318
Pot Cap-1 Maneuver	-	-		0	658
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	658
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	10.5
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	658	-	-
HCM Lane V/C Ratio	0.012	-	-
HCM Control Delay (s)	10.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Intersection Delay, s/veh	82.3
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	104	273	144	194	412	179
Future Vol, veh/h	104	273	144	194	412	179
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	317	169	228	502	218
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	17.7	21.6	155
HCM LOS	C	C	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	70%
Vol Thru, %	43%	0%	0%	30%
Vol Right, %	57%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	338	104	273	591
LT Vol	0	104	0	412
Through Vol	144	0	0	179
RT Vol	194	0	273	0
Lane Flow Rate	398	121	317	721
Geometry Grp	2	7	7	2
Degree of Util (X)	0.669	0.261	0.579	1.268
Departure Headway (Hd)	6.479	8.324	7.088	6.335
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	561	434	511	577
Service Time	4.479	6.024	4.788	4.376
HCM Lane V/C Ratio	0.709	0.279	0.62	1.25
HCM Control Delay	21.6	13.9	19.1	155
HCM Lane LOS	C	B	C	F
HCM 95th-tile Q	5	1	3.6	28.4

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	228	190	0	293	0	0
Future Vol, veh/h	228	190	0	293	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	265	221	0	318	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	16.1	12.7
HCM LOS	C	B

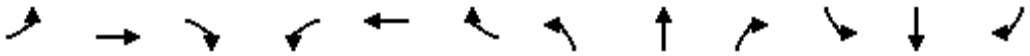
Lane	NBLn1	EBLn1
Vol Left, %	0%	55%
Vol Thru, %	100%	0%
Vol Right, %	0%	45%
Sign Control	Stop	Stop
Traffic Vol by Lane	293	418
LT Vol	0	228
Through Vol	293	0
RT Vol	0	190
Lane Flow Rate	318	486
Geometry Grp	1	1
Degree of Util (X)	0.459	0.644
Departure Headway (Hd)	5.192	4.767
Convergence, Y/N	Yes	Yes
Cap	688	753
Service Time	3.269	2.826
HCM Lane V/C Ratio	0.462	0.645
HCM Control Delay	12.7	16.1
HCM Lane LOS	B	C
HCM 95th-tile Q	2.4	4.7

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	181	60	0	0	0	0	51	23	159	50	0
Future Vol, veh/h	90	181	60	0	0	0	0	51	23	159	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	98	197	65	0	0	0	0	55	25	173	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	11.7	8.6	10.5
HCM LOS	B	A	B

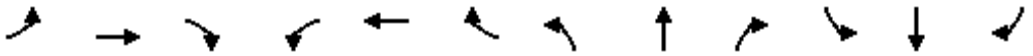
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	27%	76%
Vol Thru, %	69%	55%	24%
Vol Right, %	31%	18%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	74	331	209
LT Vol	0	90	159
Through Vol	51	181	50
RT Vol	23	60	0
Lane Flow Rate	80	360	227
Geometry Grp	1	1	1
Degree of Util (X)	0.11	0.464	0.319
Departure Headway (Hd)	4.922	4.647	5.06
Convergence, Y/N	Yes	Yes	Yes
Cap	723	774	707
Service Time	2.989	2.693	3.117
HCM Lane V/C Ratio	0.111	0.465	0.321
HCM Control Delay	8.6	11.7	10.5
HCM Lane LOS	A	B	B
HCM 95th-tile Q	0.4	2.5	1.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	499	68	119	377	128	0	0	0	0	0	0
Future Volume (Veh/h)	39	499	68	119	377	128	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	580	79	138	438	149	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	368	0	0	369	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	368	0	0	369	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 %	86	35	93	47	51	86	100			100		
cM capacity (veh/h)	312	896	1085	262	896	1085	1623			1623		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	335	369	138	587
Volume Left	45	0	138	0
Volume Right	0	79	0	149
cSH	716	931	262	937
Volume to Capacity	0.47	0.40	0.53	0.63
Queue Length 95th (ft)	63	48	71	114
Control Delay (s)	14.4	11.4	33.1	15.0
Lane LOS	B	B	D	C
Approach Delay (s)	12.8		18.5	
Approach LOS	B		C	

Intersection Summary				
Average Delay	15.7			
Intersection Capacity Utilization	51.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	185	168	63	89	165	53	296	32	69	498	10
Future Volume (vph)	14	185	168	63	89	165	53	296	32	69	498	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		0.95			0.93			0.99			1.00	
Frt		0.938			0.930			0.989			0.998	
Flt Protected		0.998			0.990			0.993			0.994	
Satd. Flow (prot)	0	1599	0	0	1389	0	0	1482	0	0	1668	0
Flt Permitted		0.982			0.835			0.858			0.904	
Satd. Flow (perm)	0	1574	0	0	1171	0	0	1281	0	0	1517	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	68	97	179	63	352	38	78	566	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	426	0	0	344	0	0	453	0	0	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			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
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	

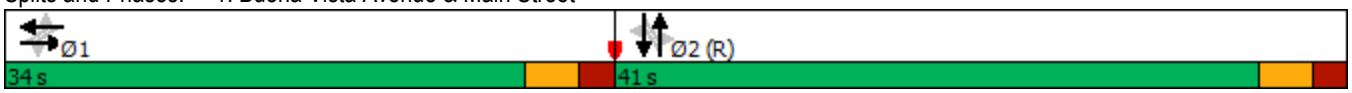
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Detector Phase	1	1		1	1		2	2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		32.0	32.0		32.0	32.0	
Total Split (s)	34.0	34.0		34.0	34.0		41.0	41.0		41.0	41.0	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	29.0	29.0		29.0	29.0		36.0	36.0		36.0	36.0	
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	
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		C-Max	C-Max		C-Max	C-Max	
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)		29.0			29.0			36.0			36.0	
Actuated g/C Ratio		0.39			0.39			0.48			0.48	
v/c Ratio		0.70			0.76			0.74			0.90	
Control Delay		26.8			33.4			15.5			36.3	
Queue Delay		0.9			2.1			0.0			11.3	
Total Delay		27.7			35.5			15.6			47.6	
LOS		C			D			B			D	
Approach Delay		27.7			35.5			15.6			47.6	
Approach LOS		C			D			B			D	
Queue Length 50th (ft)		162			135			31			265	
Queue Length 95th (ft)		247			#270			65			#463	
Internal Link Dist (ft)		33			169			220			154	
Turn Bay Length (ft)												
Base Capacity (vph)		608			452			614			728	
Starvation Cap Reductn		0			0			2			0	
Spillback Cap Reductn		48			36			0			67	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.76			0.83			0.74			0.99	

Intersection Summary	
Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green	
Natural Cycle: 75	

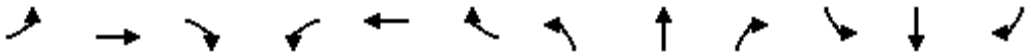
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 33.1	Intersection LOS: C
Intersection Capacity Utilization 95.4%	ICU Level of Service F
Analysis Period (min) 15	

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

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	32	6	46	25	11	25	368	40	115	605	9
Future Volume (vph)	2	32	6	46	25	11	25	368	40	115	605	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	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
Ped Bike Factor					0.95			1.00			1.00	
Frt		0.979			0.982			0.987			0.998	
Flt Protected		0.998			0.972			0.997			0.992	
Satd. Flow (prot)	0	1820	0	0	1707	0	0	1590	0	0	1993	0
Flt Permitted		0.977			0.972			0.941			0.843	
Satd. Flow (perm)	0	1782	0	0	1629	0	0	1500	0	0	1690	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			10			7			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		129			240			235			300	
Travel Time (s)		2.9			5.5			5.3			6.8	
Confl. Peds. (#/hr)				39					9	23		
Peak Hour Factor	0.92	0.92	0.92	0.91	0.92	0.91	0.92	0.82	0.82	0.87	0.87	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	2%	3%	2%	17%	17%	7%	7%	2%
Parking (#/hr)				10				5				
Adj. Flow (vph)	2	35	7	51	27	12	27	449	49	132	695	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	90	0	0	525	0	0	837	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)		30			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.04	1.04	1.04	0.85	1.01	0.85	0.85	0.85	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	Perm	NA		Split	NA		Perm	NA		Perm	NA	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		25.0	25.0		25.0	25.0	
Total Split (s)	22.0	22.0		22.0	22.0		31.0	31.0		31.0	31.0	
Total Split (%)	29.3%	29.3%		29.3%	29.3%		41.3%	41.3%		41.3%	41.3%	
Maximum Green (s)	17.0	17.0		17.0	17.0		25.0	25.0		25.0	25.0	
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		3.0	3.0		3.0	3.0	
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												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		7.1			8.9			50.5			50.5	
Actuated g/C Ratio		0.09			0.12			0.67			0.67	
v/c Ratio		0.25			0.42			0.52			0.73	
Control Delay		30.6			32.8			12.5			13.7	
Queue Delay		0.0			0.0			0.0			1.1	
Total Delay		30.6			32.8			12.5			14.8	
LOS		C			C			B			B	
Approach Delay		30.6			32.8			12.5			14.8	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)		16			35			142			162	
Queue Length 95th (ft)		44			73			247			m#522	
Internal Link Dist (ft)		49			160			155			220	
Turn Bay Length (ft)												
Base Capacity (vph)		409			394			1013			1139	
Starvation Cap Reductn		0			0			0			122	
Spillback Cap Reductn		0			0			10			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.11			0.23			0.52			0.82	

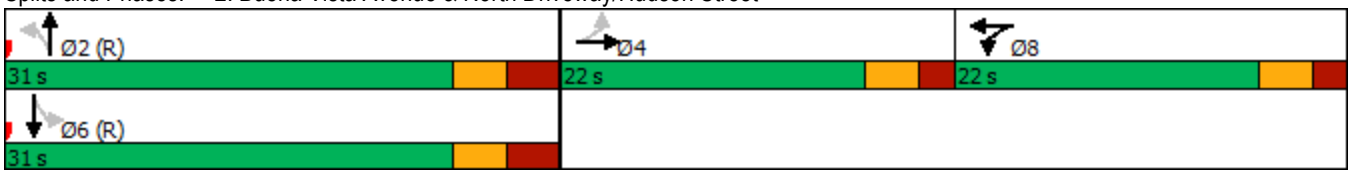
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 12 (16%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 87.4%		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.

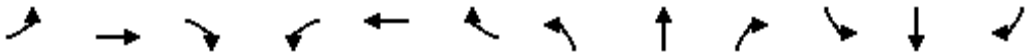
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Buena Vista Avenue & North Driveway/Hudson Street



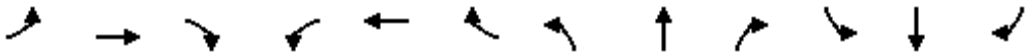
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	128	334	185	229	560	146
Future Volume (vph)	128	334	185	229	560	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	9	9	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.925			
Flt Protected	0.950					0.962
Satd. Flow (prot)	1742	1558	1225	0	0	1954
Flt Permitted	0.950					0.962
Satd. Flow (perm)	1742	1558	1225	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	412	226	279	644	168
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	412	505	0	0	812
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 80.1%		ICU Level of Service D	
Analysis Period (min) 15			



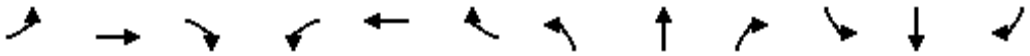
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	204	82	0	217	0	93	0	0	14	0	7
Future Volume (vph)	0	204	82	0	217	0	93	0	0	14	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	15	15	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	237	95	0	236	0	101	0	0	15	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	332	0	0	236	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 29.4%		ICU Level of Service A	
Analysis Period (min) 15			

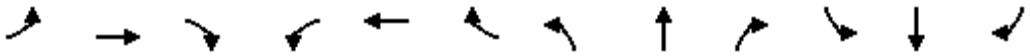


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	183	0	0	0	0	49	89	87	49	0	33
Future Volume (vph)	4	183	0	0	0	0	49	89	87	49	0	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	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								0.948			0.945	
Flt Protected		0.999						0.989			0.971	
Satd. Flow (prot)	0	1460	0	0	0	0	0	1651	0	0	1766	0
Flt Permitted		0.999						0.989			0.971	
Satd. Flow (perm)	0	1460	0	0	0	0	0	1651	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	215	0	0	0	0	59	107	105	54	0	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	220	0	0	0	0	0	271	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 33.3%		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)	19	259	27	57	326	54	32	269	93	110	273	26
Future Volume (vph)	19	259	27	57	326	54	32	269	93	110	273	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			0.979			0.968			0.987	
Flt Protected		0.997		0.950				0.996		0.950		
Satd. Flow (prot)	0	1377	0	1547	1831	0	0	1593	0	1577	1760	0
Flt Permitted		0.961		0.451				0.948		0.295		
Satd. Flow (perm)	0	1327	0	734	1831	0	0	1517	0	490	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			9			19			8	
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	62	354	59	39	328	113	120	297	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	332	0	62	413	0	0	480	0	120	325	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)		37.2		37.2	37.2			35.8		52.8	52.8	
Actuated g/C Ratio		0.37		0.37	0.37			0.36		0.53	0.53	
v/c Ratio		0.67		0.23	0.60			0.86		0.31	0.35	
Control Delay		35.9		31.4	32.7			44.6		13.1	13.7	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		35.9		31.4	32.7			44.6		13.1	13.7	
LOS		D		C	C			D		B	B	
Approach Delay		35.9			32.6			44.6			13.5	
Approach LOS		D			C			D			B	
Queue Length 50th (ft)		176		25	168			265		36	108	
Queue Length 95th (ft)		#337		m33	m195			319		57	145	
Internal Link Dist (ft)		159			592			1287			198	
Turn Bay Length (ft)				60						100		
Base Capacity (vph)		496		273	686			648		389	1041	
Starvation Cap Reductn		0		0	0			0		0	0	
Spillback Cap Reductn		0		0	0			0		0	0	
Storage Cap Reductn		0		0	0			0		0	0	
Reduced v/c Ratio		0.67		0.23	0.60			0.74		0.31	0.31	

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: 0.86	
Intersection Signal Delay: 31.7	Intersection LOS: C

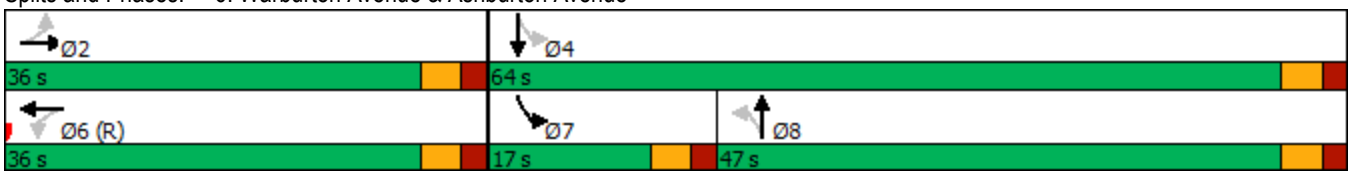
Intersection Capacity Utilization 81.1% ICU Level of Service D

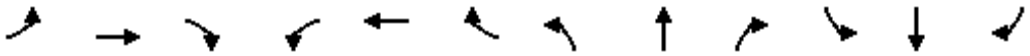
Analysis Period (min) 15

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

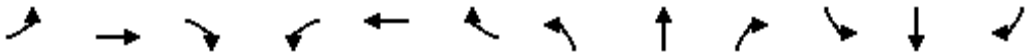
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Warburton Avenue & Ashburton Avenue





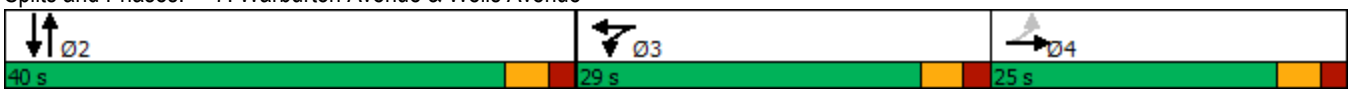
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	0	35	380	2	70	0	219	0	0	418	0
Future Volume (vph)	20	0	35	380	2	70	0	219	0	0	418	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	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	404	2	74	0	267	0	0	431	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	404	76	0	0	267	0	0	431	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		24.1	24.1			34.4			34.4	
Actuated g/C Ratio		0.08		0.31	0.31			0.45			0.45	
v/c Ratio		0.36		0.81	0.17			0.36			0.57	
Control Delay		12.6		40.8	22.2			16.8			20.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		12.6		40.8	22.2			16.8			20.7	
LOS		B		D	C			B			C	
Approach Delay		12.6			37.9			16.8			20.7	
Approach LOS		B			D			B			C	
Queue Length 50th (ft)		0		182	27			85			155	
Queue Length 95th (ft)		23		#357	63			134			261	
Internal Link Dist (ft)		1			34			302			1287	
Turn Bay Length (ft)												
Base Capacity (vph)		435		499	446			768			768	
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		0.81	0.17			0.35			0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 94			
Actuated Cycle Length: 77.3			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 26.0		Intersection LOS: C	
Intersection Capacity Utilization 58.1%		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	SBR	SBR2	NEL2	NEL	NER	NER2	Ø9
Lane Configurations												
Traffic Volume (vph)	150	201	170	27	708	11	87	17	18	43	45	
Future Volume (vph)	150	201	170	27	708	11	87	17	18	43	45	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	16	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		0.91			0.98				0.80			
Frt		0.931			0.984				0.903			
Flt Protected	0.950				0.998				0.986			
Satd. Flow (prot)	1703	1288	0	0	1868	0	0	0	1309	0	0	
Flt Permitted	0.258				0.977				0.986			
Satd. Flow (perm)	462	1288	0	0	1829	0	0	0	1309	0	0	
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)		52			7				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				89		
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.81	0.81	0.81	0.81	
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	6%	2%	2%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	
Parking (#/hr)		10							5			
Adj. Flow (vph)	160	214	181	29	761	12	94	21	22	53	56	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	395	0	0	896	0	0	0	152	0	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	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	0.85	1.00	1.00	1.01	1.00	1.00	
Turning Speed (mph)	15		9	15		9	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	SBR	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	0.71	0.61			1.01				0.43			
Control Delay	39.1	18.8			53.2				17.6			
Queue Delay	0.0	0.0			33.5				0.0			
Total Delay	39.1	18.8			86.7				17.6			
LOS	D	B			F				B			
Approach Delay		24.6			86.7				17.6			
Approach LOS		C			F				B			
Queue Length 50th (ft)	43	83			303				21			
Queue Length 95th (ft)	#216	#332			#917				80			
Internal Link Dist (ft)		351			302				94			
Turn Bay Length (ft)												
Base Capacity (vph)	224	651			890				354			
Starvation Cap Reductn	0	0			116				0			
Spillback Cap Reductn	0	0			0				0			
Storage Cap Reductn	0	0			0				0			
Reduced v/c Ratio	0.71	0.61			1.16				0.43			

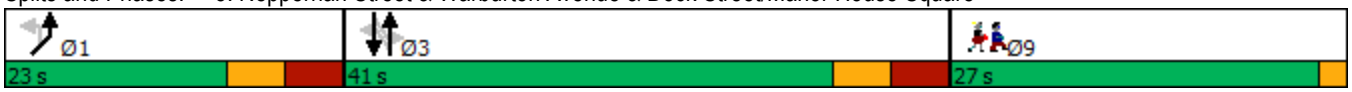
Intersection Summary			
Area Type:	Other		
Cycle Length: 91			
Actuated Cycle Length: 69.4			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 58.7		Intersection LOS: E	
Intersection Capacity Utilization 101.0%		ICU Level of Service G	

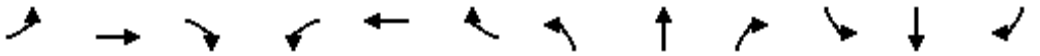
Analysis Period (min) 15

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

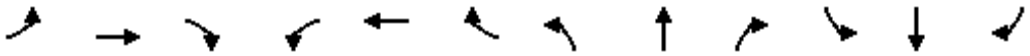
Queue shown is maximum after two cycles.

Splits and Phases: 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)	111	0	107	217	111	153	41	257	0	0	688	65
Future Volume (vph)	111	0	107	217	111	153	41	257	0	0	688	65
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			0.94						0.99	
Frt		0.934			0.913						0.987	
Flt Protected		0.975		0.950			0.950					
Satd. Flow (prot)	0	1374	0	1711	1393	0	1477	3141	0	0	3008	0
Flt Permitted		0.497		0.577			0.219					
Satd. Flow (perm)	0	700	0	1039	1393	0	340	3141	0	0	3008	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			73						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	6	0	0	0	0
Parking (#/hr)		10			10			5			10	
Adj. Flow (vph)	135	0	130	261	134	184	42	262	0	0	756	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	265	0	261	318	0	42	262	0	0	827	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	



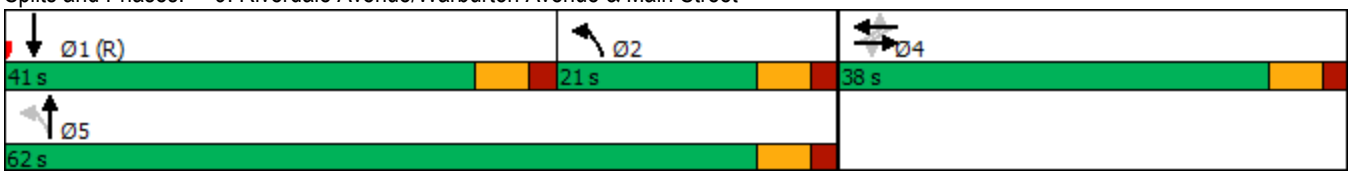
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA			NA	
Protected Phases		4			4		2	5			1	
Permitted Phases	4			4			5					
Detector 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)		31.8		31.8	31.8		56.2	56.2			35.2	
Actuated g/C Ratio		0.32		0.32	0.32		0.56	0.56			0.35	
v/c Ratio		0.92		0.79	0.65		0.12	0.15			0.78	
Control Delay		58.4		50.1	29.2		12.8	10.8			34.6	
Queue Delay		0.0		0.0	0.0		0.0	0.0			0.3	
Total Delay		58.4		50.1	29.2		12.8	10.8			34.9	
LOS		E		D	C		B	B			C	
Approach Delay		58.4			38.6			11.1			34.9	
Approach LOS		E			D			B			C	
Queue Length 50th (ft)		109		150	133		11	40			242	
Queue Length 95th (ft)		#227		#244	201		27	60			318	
Internal Link Dist (ft)		446			417			245			351	
Turn Bay Length (ft)							75					
Base Capacity (vph)		290		332	495		361	1764			1065	
Starvation Cap Reductn		0		0	0		0	0			32	
Spillback Cap Reductn		0		0	0		0	0			0	
Storage Cap Reductn		0		0	0		0	0			0	
Reduced v/c Ratio		0.91		0.79	0.64		0.12	0.15			0.80	

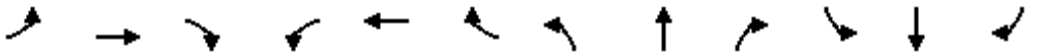
Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 1:SBT, Start of Green	
Natural Cycle: 90	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 35.5	Intersection LOS: D
Intersection Capacity Utilization 100.7%	ICU Level of Service G
Analysis Period (min) 15	

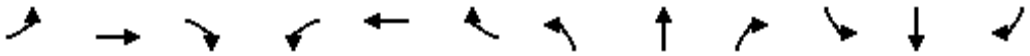
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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	206	84	0	0	0	0	269	242	308	704	0
Future Volume (vph)	29	206	84	0	0	0	0	269	242	308	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		0.94						0.84				
Frt		0.964						0.929				
Flt Protected		0.995								0.950		
Satd. Flow (prot)	0	1568	0	0	0	0	0	2428	0	1533	3087	0
Flt Permitted		0.995								0.400		
Satd. Flow (perm)	0	1568	0	0	0	0	0	2428	0	645	3087	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18						147				
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	242	99	0	0	0	0	286	257	331	757	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	375	0	0	0	0	0	543	0	331	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	



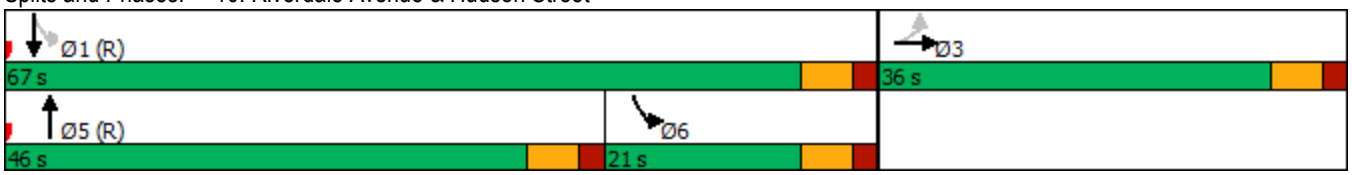
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		3						5		6	1	
Permitted Phases	3									1		
Detector Phase	3	3						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)		27.1						42.9		63.9	63.9	
Actuated g/C Ratio		0.26						0.42		0.62	0.62	
v/c Ratio		0.88						0.49		0.63	0.40	
Control Delay		57.2						18.1		23.6	11.1	
Queue Delay		0.0						0.0		4.0	1.3	
Total Delay		57.2						18.1		27.6	12.3	
LOS		E						B		C	B	
Approach Delay		57.2						18.1			17.0	
Approach LOS		E						B			B	
Queue Length 50th (ft)		219						101		104	130	
Queue Length 95th (ft)		#318						154		163	173	
Internal Link Dist (ft)		458			299			445			245	
Turn Bay Length (ft)										125		
Base Capacity (vph)		469						1097		529	1916	
Starvation Cap Reductn		0						0		125	886	
Spillback Cap Reductn		0						0		0	0	
Storage Cap Reductn		0						0		0	0	
Reduced v/c Ratio		0.80						0.49		0.82	0.73	

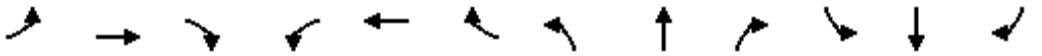
Intersection Summary	
Area Type:	Other
Cycle Length: 103	
Actuated Cycle Length: 103	
Offset: 0 (0%), Referenced to phase 1:SBTL and 5:NBT, Start of Green	
Natural Cycle: 80	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 24.8	Intersection LOS: C
Intersection Capacity Utilization 78.3%	ICU Level of Service D
Analysis Period (min) 15	

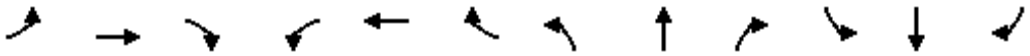
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 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	547	114	447	819	138	135	361	372	252	485	45
Future Volume (vph)	12	547	114	447	819	138	135	361	372	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		0.97				0.89		0.96				0.94
Frt		0.975				0.850		0.924				0.850
Flt Protected		0.999		0.950			0.950			0.950		
Satd. Flow (prot)	0	3707	0	1719	1845	1379	1685	2786	0	1574	3388	1531
Flt Permitted		0.681		0.221			0.182			0.330		
Satd. Flow (perm)	0	2527	0	400	1845	1234	323	2786	0	547	3388	1439
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		22				110						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	608	127	486	890	150	147	392	404	271	522	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	748	0	486	890	150	147	796	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		0.97		1.63	1.08	0.21	0.67	1.09dr		1.05	0.51	0.09
Control Delay		63.0		313.8	64.8	0.8	57.0	67.1		113.3	34.0	0.3
Queue Delay		1.0		0.0	6.5	0.0	0.0	43.6		55.9	0.0	0.0
Total Delay		64.0		313.8	71.3	0.8	57.0	110.7		169.2	34.0	0.3
LOS		E		F	E	A	E	F		F	C	A
Approach Delay		64.0			141.6			102.3			75.7	
Approach LOS		E			F			F			E	
Queue Length 50th (ft)		266		~469	~700	2	85	263		~173	160	0
Queue Length 95th (ft)		#397		m#568	m#873	m1	m#172	#433		#375	214	0
Internal Link Dist (ft)		431			323			964			445	
Turn Bay Length (ft)				160			100			155		
Base Capacity (vph)		773		298	821	726	220	835		257	1016	536
Starvation Cap Reductn		0		0	13	0	0	0		0	0	0
Spillback Cap Reductn		5		0	0	0	0	185		211	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.97		1.63	1.10	0.21	0.67	1.22		5.89	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: 1.63	
Intersection Signal Delay: 104.5	Intersection LOS: F
Intersection Capacity Utilization 132.1%	ICU Level of Service H
Analysis Period (min) 15	

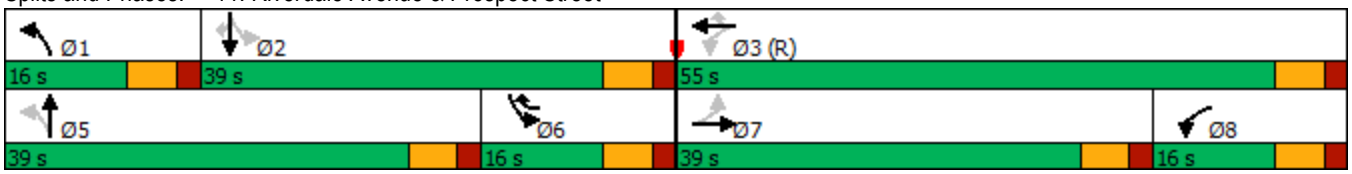
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

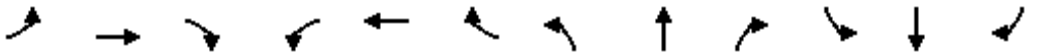
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

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

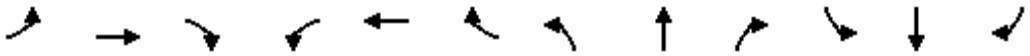
Splits and Phases: 11: Riverdale Avenue & Prospect Street





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	730	91	171	811	64
Future Volume (vph)	96	40	23	35	79	42	35	730	91	171	811	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			0.983			0.989	
Flt Protected		0.971			0.989		0.950			0.950		
Satd. Flow (prot)	0	1832	0	0	1759	0	1593	3242	0	1652	3346	0
Flt Permitted		0.636			0.894		0.213			0.237		
Satd. Flow (perm)	0	1200	0	0	1590	0	357	3242	0	412	3346	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			15			13			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		236			1171			338			1044	
Travel Time (s)		5.4			26.6			7.7			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	793	99	186	882	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	172	0	0	170	0	38	892	0	186	952	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		0.12	0.54		0.54	0.56	
Control Delay		55.9			42.0		12.8	21.2		19.8	14.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		55.9			42.0		12.8	21.2		19.8	14.2	
LOS		E			D		B	C		B	B	
Approach Delay		55.9			42.0			20.9			15.1	
Approach LOS		E			D			C			B	
Queue Length 50th (ft)		109			98		8	190		38	138	
Queue Length 95th (ft)		#207			169		33	378		m83	m201	
Internal Link Dist (ft)		156			1091			258			964	
Turn Bay Length (ft)							165			125		
Base Capacity (vph)		245			330		312	1662		345	1713	
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		0.12	0.54		0.54	0.56	

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: 22.1	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

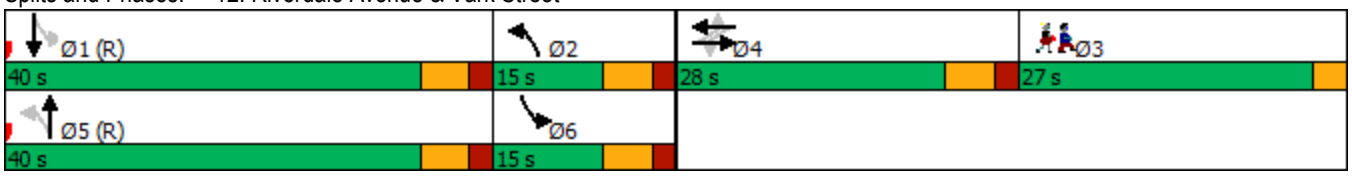
Intersection Capacity Utilization 67.8% ICU Level of Service C

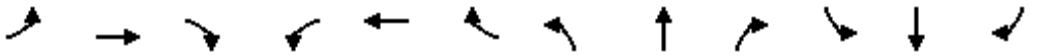
Analysis Period (min) 15

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

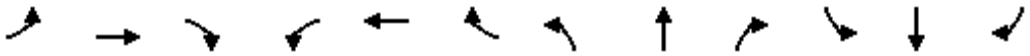
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 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	397	15	111	352	122	13	223	140	187	182	72
Future Volume (vph)	50	397	15	111	352	122	13	223	140	187	182	72
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			0.972			0.950			0.958	
Flt Protected		0.995			0.991			0.998		0.950		
Satd. Flow (prot)	0	1508	0	0	1859	0	0	1898	0	1620	1809	0
Flt Permitted		0.879			0.757			0.985		0.259		
Satd. Flow (perm)	0	1332	0	0	1420	0	0	1873	0	442	1809	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		2			16						28	
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	432	16	121	383	133	14	242	152	203	198	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	502	0	0	637	0	0	408	0	203	276	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												



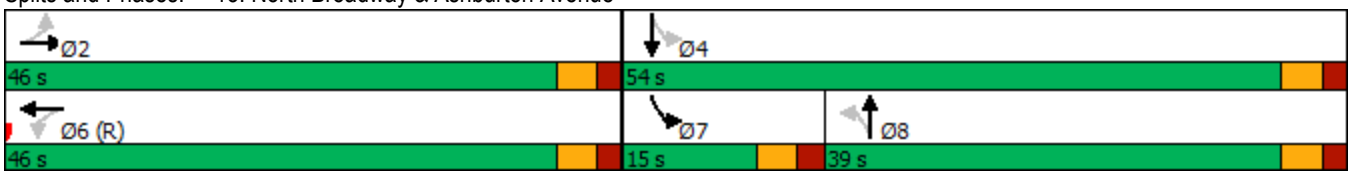
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	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)		45.8			45.8			29.2		44.2	44.2	
Actuated g/C Ratio		0.46			0.46			0.29		0.44	0.44	
v/c Ratio		0.82			0.97			0.75		0.65	0.34	
Control Delay		29.9			42.7			41.1		27.8	17.2	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		29.9			42.7			41.1		27.8	17.2	
LOS		C			D			D		C	B	
Approach Delay		29.9			42.7			41.1			21.7	
Approach LOS		C			D			D			C	
Queue Length 50th (ft)		169			143			243		84	104	
Queue Length 95th (ft)		#493			m#640			321		120	146	
Internal Link Dist (ft)		592			128			1647			236	
Turn Bay Length (ft)										80		
Base Capacity (vph)		611			658			636		313	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		0.82			0.97			0.64		0.65	0.31	

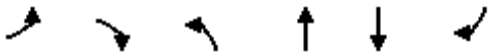
Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 97 (97%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.97	

Intersection Signal Delay: 34.2	Intersection LOS: C
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.

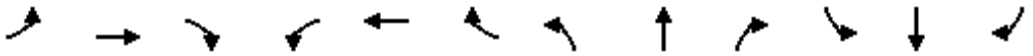
Splits and Phases: 13: North Broadway & Ashburton Avenue





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	240	0	0	395	0	0
Future Volume (vph)	240	0	0	395	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)	261	0	0	429	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	0	0	429	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	40.8%	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	368	113	113	282	0	0	0	0
Future Volume (vph)	0	0	0	0	368	113	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					0.968							
Flt Protected								0.986				
Satd. Flow (prot)	0	0	0	0	2044	0	0	2082	0	0	0	0
Flt Permitted								0.986				
Satd. Flow (perm)	0	0	0	0	2044	0	0	2082	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					22			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	443	136	123	307	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	579	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												

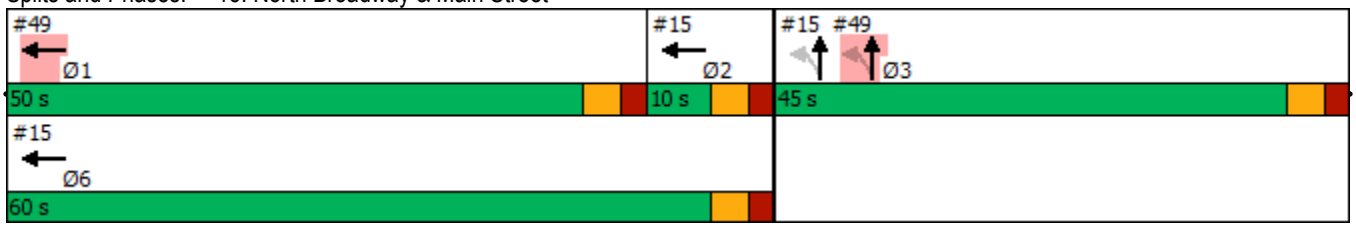
Lane Group	Ø1	Ø2	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link 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					0.54			0.51				
Control Delay					1.7			23.0				
Queue Delay					0.0			0.0				
Total Delay					1.7			23.0				
LOS					A			C				
Approach Delay					1.7			23.0				
Approach LOS					A			C				
Queue Length 50th (ft)					11			181				
Queue Length 95th (ft)					12			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					0.54			0.51				

Intersection Summary

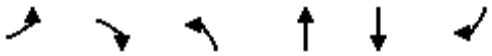
Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 105
Natural Cycle: 105
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 10.8 Intersection LOS: B
Intersection Capacity Utilization 55.7% ICU Level of Service B
Analysis Period (min) 15

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			

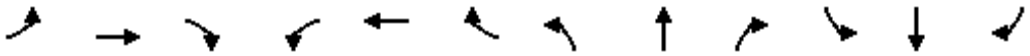
Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	389	357	0	500	0	0
Future Volume (vph)	389	357	0	500	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	0.935					
Flt Protected	0.975					
Satd. Flow (prot)	1697	0	0	1760	0	0
Flt Permitted	0.975					
Satd. Flow (perm)	1697	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)	401	368	0	575	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	769	0	0	575	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	14			0	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	76.4%	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)	36	1030	105	374	1213	253	119	211	288	215	70	72
Future Volume (vph)	36	1030	105	374	1213	253	119	211	288	215	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		0.913			0.924	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3434	0	1613	3226	1491	1574	1522	0	1687	1554	0
Flt Permitted	0.129			0.129			0.645			0.121		
Satd. Flow (perm)	238	3434	0	219	3226	1363	1069	1522	0	215	1554	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)						257					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	1157	118	394	1277	266	128	227	310	229	74	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	1275	0	394	1277	266	128	537	0	229	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	1.05		1.21	0.89	0.36	0.38	1.11		3.37	0.29	
Control Delay	26.3	65.8		138.6	19.6	1.6	33.1	110.5		1117.7	20.2	
Queue Delay	0.0	22.0		0.0	5.2	0.0	0.0	0.0		0.0	0.0	
Total Delay	26.3	87.8		138.6	24.8	1.6	33.1	110.5		1117.7	20.2	
LOS	C	F		F	C	A	C	F		F	C	
Approach Delay		85.9			44.8			95.6			681.6	
Approach LOS		F			D			F			F	
Queue Length 50th (ft)	17	~506		~284	123	2	70	~434		~245	52	
Queue Length 95th (ft)	m18	m#532		m#411	m#163	m5	126	#645		#402	105	
Internal Link Dist (ft)		323			758			1168			434	
Turn Bay Length (ft)	107			315			120			100		
Base Capacity (vph)	194	1217		325	1437	749	340	484		68	528	
Starvation Cap Reductn	0	296		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	119	0	0	0		0	1	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.21	1.38		1.21	0.97	0.36	0.38	1.11		3.37	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	

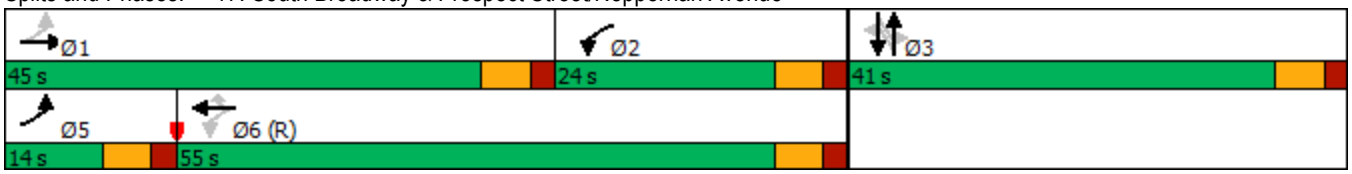
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 3.37	
Intersection Signal Delay: 121.5	Intersection LOS: F
Intersection Capacity Utilization 115.3%	ICU Level of Service H
Analysis Period (min) 15	

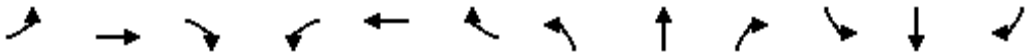
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

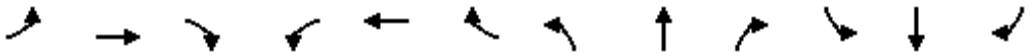
m Volume for 95th percentile queue is metered by upstream signal.

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	554	75	42	480	27
Future Volume (vph)	22	202	78	149	82	42	47	554	75	42	480	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			0.985			0.993	
Flt Protected		0.996			0.973			0.997			0.996	
Satd. Flow (prot)	0	2029	0	0	1893	0	0	1762	0	0	1775	0
Flt Permitted		0.996			0.973			0.908			0.871	
Satd. Flow (perm)	0	2029	0	0	1893	0	0	1605	0	0	1552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			8			8			3	
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	602	82	46	522	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	329	0	0	297	0	0	735	0	0	597	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	



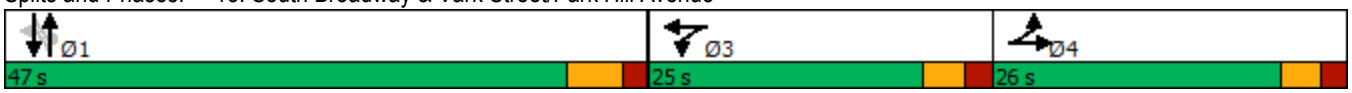
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	25.0	25.0		10.0	10.0		39.0	39.0		39.0	39.0	
Total Split (s)	26.0	26.0		25.0	25.0		47.0	47.0		47.0	47.0	
Total Split (%)	26.5%	26.5%		25.5%	25.5%		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			41.0			41.0	
Actuated g/C Ratio		0.21			0.21			0.42			0.42	
v/c Ratio		0.75			0.75			1.08			0.91	
Control Delay		46.2			49.0			87.5			47.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		46.2			49.0			87.5			47.3	
LOS		D			D			F			D	
Approach Delay		46.2			49.0			87.5			47.3	
Approach LOS		D			D			F			D	
Queue Length 50th (ft)		183			170			~511			338	
Queue Length 95th (ft)		#299			#291			#744			#565	
Internal Link Dist (ft)		1091			45			385			1168	
Turn Bay Length (ft)												
Base Capacity (vph)		449			394			680			654	
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			1.08			0.91	

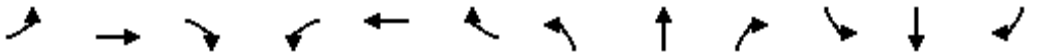
Intersection Summary			
Area Type:	Other		
Cycle Length: 98			
Actuated Cycle Length: 97.5			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 62.5		Intersection LOS: E	
Intersection Capacity Utilization 91.3%		ICU Level of Service F	
Analysis Period (min) 15			

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

Queue shown is maximum after two cycles.

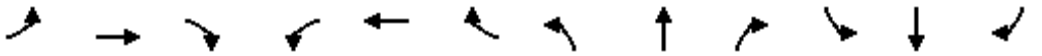
Splits and Phases: 18: South Broadway & Vark Street/Park Hill Avenue



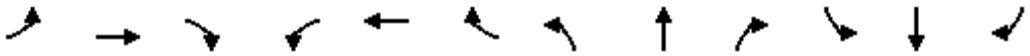


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	378	101	0	0	0	0	49	32	140	41	0
Future Volume (vph)	152	378	101	0	0	0	0	49	32	140	41	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	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		0.978						0.946				
Flt Protected		0.988									0.963	
Satd. Flow (prot)	0	2040	0	0	0	0	0	1762	0	0	1794	0
Flt Permitted		0.988									0.963	
Satd. Flow (perm)	0	2040	0	0	0	0	0	1762	0	0	1794	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		254			208			222			499	
Travel Time (s)		5.8			4.7			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)	165	411	110	0	0	0	0	53	35	152	45	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	686	0	0	0	0	0	88	0	0	197	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 57.7%		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)	50	1453	30	365	1508	310	64	193	304	0	0	0
Future Volume (vph)	50	1453	30	365	1508	310	64	193	304	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		0.927				
Flt Protected	0.950			0.950				0.994				
Satd. Flow (prot)	1651	4893	0	1770	5085	1520	0	1653	0	0	0	0
Flt Permitted	0.095			0.095				0.994				
Satd. Flow (perm)	165	4893	0	177	5085	1520	0	1653	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)	56	1633	34	384	1587	326	70	210	330	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	1667	0	384	1587	326	0	610	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	0.19	0.89		1.25	0.82	0.56		1.16				
Control Delay	9.6	17.7		161.7	18.9	18.5		127.5				
Queue Delay	0.0	1.4		0.0	2.8	1.2		0.0				
Total Delay	9.6	19.2		161.7	21.7	19.7		127.5				
LOS	A	B		F	C	B		F				
Approach Delay		18.9			44.9			127.5				
Approach LOS		B			D			F				
Queue Length 50th (ft)	7	225		~299	136	76		~511				
Queue Length 95th (ft)	m6	m178		m#345	m167	m94		#729				
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	104		0				
Spillback Cap Reductn	0	82		0	0	0		0				
Storage Cap Reductn	0	0		0	0	0		0				
Reduced v/c Ratio	0.19	0.93		1.25	0.94	0.68		1.16				

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: 1.25	

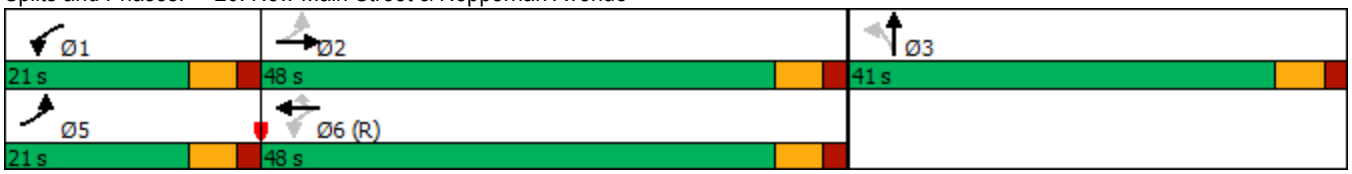
Intersection Signal Delay: 46.1	Intersection LOS: D
Intersection Capacity Utilization 96.3%	ICU Level of Service F
Analysis Period (min) 15	

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

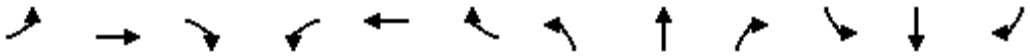
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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)	61	525	134	274	545	41	82	143	96	0	0	0
Future Volume (vph)	61	525	134	274	545	41	82	143	96	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				0.982				
Satd. Flow (prot)	1547	1609	1692	1620	1705	0	0	1658	1436	0	0	0
Flt Permitted	0.197			0.253				0.982				
Satd. Flow (perm)	321	1609	1692	431	1705	0	0	1658	1436	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		5				104			
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)	66	571	146	298	592	45	89	155	104	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	571	146	298	637	0	0	244	104	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)	61.2	46.0	46.0	61.2	46.0			23.8	23.8			
Actuated g/C Ratio	0.61	0.46	0.46	0.61	0.46			0.24	0.24			
v/c Ratio	0.17	0.77	0.18	0.67	0.81			0.62	0.25			
Control Delay	7.1	26.3	7.6	22.6	12.4			41.5	7.5			
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0	0.0			
Total Delay	7.1	26.3	7.6	22.6	12.4			41.5	7.5			
LOS	A	C	A	C	B			D	A			
Approach Delay		21.2			15.6			31.4				
Approach LOS		C			B			C				
Queue Length 50th (ft)	12	254	17	61	64			141	0			
Queue Length 95th (ft)	m21	m375	m41	m60	m72			213	40			
Internal Link Dist (ft)		356			1981			469			89	
Turn Bay Length (ft)	75		100	70					100			
Base Capacity (vph)	383	740	824	444	787			447	463			
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	0.17	0.77	0.18	0.67	0.81			0.55	0.22			

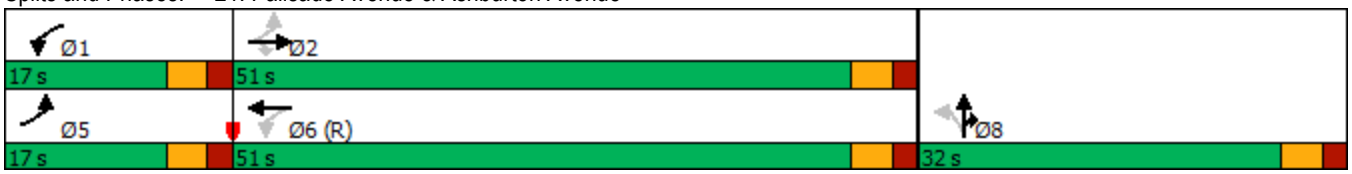
Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 94 (94%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 20.4	Intersection LOS: C

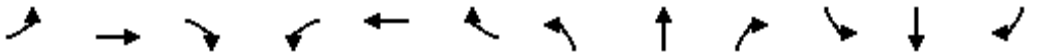
Intersection Capacity Utilization 67.4% ICU Level of Service C

Analysis Period (min) 15

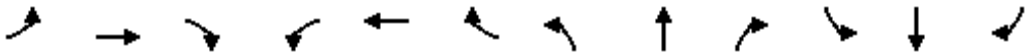
m Volume for 95th percentile queue is metered by upstream signal.

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)	150	301	84	0	0	0	0	166	152	93	362	0
Future Volume (vph)	150	301	84	0	0	0	0	166	152	93	362	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		0.979						0.935				
Flt Protected		0.986									0.990	
Satd. Flow (prot)	0	1783	0	0	0	0	0	1974	0	0	2073	0
Flt Permitted		0.986									0.842	
Satd. Flow (perm)	0	1783	0	0	0	0	0	1974	0	0	1763	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15						82				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		327			733			245			1224	
Travel Time (s)		7.4			16.7			5.6			27.8	
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
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	2	0
Parking (#/hr)		5										
Adj. Flow (vph)	163	327	91	0	0	0	0	180	165	101	393	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	581	0	0	0	0	0	345	0	0	494	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)		-10			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		

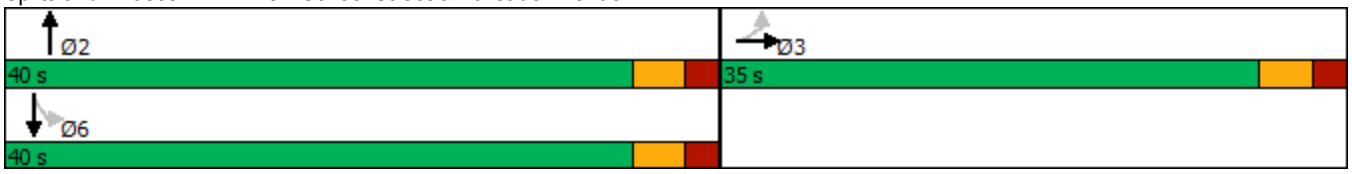


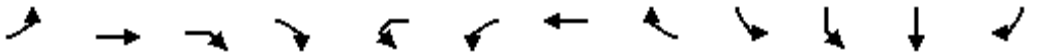
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3						2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	34.0	34.0						39.0		10.0	10.0	
Total Split (s)	35.0	35.0						40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%						53.3%		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)		29.6						35.0			35.0	
Actuated g/C Ratio		0.40						0.47			0.47	
v/c Ratio		0.81						0.36			0.60	
Control Delay		30.5						10.7			18.5	
Queue Delay		0.0						0.0			0.0	
Total Delay		30.5						10.7			18.5	
LOS		C						B			B	
Approach Delay		30.5						10.7			18.5	
Approach LOS		C						B			B	
Queue Length 50th (ft)		226						72			162	
Queue Length 95th (ft)		#400						128			256	
Internal Link Dist (ft)		247			653			165			1144	
Turn Bay Length (ft)												
Base Capacity (vph)		726						969			826	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.80						0.36			0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 74.6			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 21.5		Intersection LOS: C	
Intersection Capacity Utilization 84.0%		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: 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)	121	1548	81	7	58	41	1859	339	144	48	16	324
Future Volume (vph)	121	1548	81	7	58	41	1859	339	144	48	16	324
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			0.918	
Flt Protected	0.950					0.950					0.982	
Satd. Flow (prot)	1711	5045	0	0	0	1753	5212	1569	0	0	1903	0
Flt Permitted	0.091					0.091					0.982	
Satd. Flow (perm)	164	5045	0	0	0	168	5212	1569	0	0	1903	0
Right Turn on Red				Yes				Yes				Yes
Satd. Flow (RTOR)		1						299			75	
Link Speed (mph)		30					30				30	
Link Distance (ft)		378					492				339	
Travel Time (s)		8.6					11.2				7.7	
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)	136	1739	91	8	61	43	1957	357	157	52	17	352
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	1838	0	0	0	104	1957	357	0	0	578	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)	57.4	44.0				57.4	44.0	44.0			34.6	
Actuated g/C Ratio	0.52	0.40				0.52	0.40	0.40			0.31	
v/c Ratio	0.50	0.91				0.37	0.94	0.44			0.89	
Control Delay	35.7	18.2				17.3	41.9	6.4			48.6	
Queue Delay	0.0	2.9				0.0	1.2	0.0			0.0	
Total Delay	35.7	21.1				17.3	43.1	6.4			48.6	
LOS	D	C				B	D	A			D	
Approach Delay		22.1					36.6				48.6	
Approach LOS		C					D				D	
Queue Length 50th (ft)	63	136				31	478	25			342	
Queue Length 95th (ft)	m72	m162				70	#590	92			#546	
Internal Link Dist (ft)		298					412				259	
Turn Bay Length (ft)	100					210						
Base Capacity (vph)	273	2018				280	2084	807			656	
Starvation Cap Reductn	0	108				0	0	0			0	
Spillback Cap Reductn	0	0				0	39	0			0	
Storage Cap Reductn	0	0				0	0	0			0	
Reduced v/c Ratio	0.50	0.96				0.37	0.96	0.44			0.88	

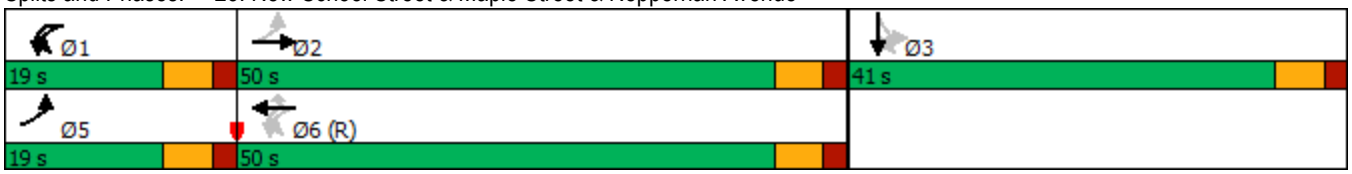
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 32.2		Intersection LOS: C	
Intersection Capacity Utilization 89.0%		ICU Level of Service E	

Analysis Period (min) 15

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

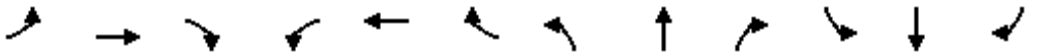
m Volume for 95th percentile queue is metered by upstream signal.

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

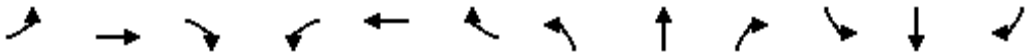


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1692	0	1	2214	83	137
Future Volume (vph)	1692	0	1	2214	83	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15
Grade (%)	5%			-5%	0%	
Storage Length (ft)		0	120		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt					0.916	
Flt Protected			0.950		0.982	
Satd. Flow (prot)	4752	0	1814	5673	1843	0
Flt Permitted			0.950		0.982	
Satd. Flow (perm)	4752	0	1814	5673	1843	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)	1901	0	1	2331	90	149
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1901	0	1	2331	239	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 62.5%		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)	122	522	35	116	564	76	71	370	80	135	362	148
Future Volume (vph)	122	522	35	116	564	76	71	370	80	135	362	148
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			0.973				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1620	1766	1449	1636	1751	0	1636	3524	0	1589	3406	1473
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1620	1766	1449	1636	1751	0	1636	3524	0	1589	3406	1473
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98		7			25				154
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)	133	567	38	126	613	83	77	402	87	147	393	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	567	38	126	696	0	77	489	0	147	393	161
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)	9.9	30.2	45.1	9.8	30.1		8.9	26.0		10.0	29.5	45.4
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	0.83	1.06	0.05	0.79	1.31		0.53	0.52		0.93	0.39	0.21
Control Delay	96.0	74.7	0.2	77.6	183.3		56.8	32.4		101.8	30.8	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	96.0	74.7	0.2	77.6	183.3		56.8	32.4		101.8	30.8	4.2
LOS	F	E	A	E	F		E	C		F	C	A
Approach Delay		74.7			167.1			35.7			39.6	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)	88	~402	0	80	~576		47	133		94	110	3
Queue Length 95th (ft)	m#139	#601	m1	#175	#799		95	184		#214	156	40
Internal Link Dist (ft)		1981			310			1193			132	
Turn Bay Length (ft)	150		80	120			185			120		
Base Capacity (vph)	162	533	722	163	532		163	934		158	1005	754
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	0.82	1.06	0.05	0.77	1.31		0.47	0.52		0.93	0.39	0.21

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: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.31			
Intersection Signal Delay: 85.1		Intersection LOS: F	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	

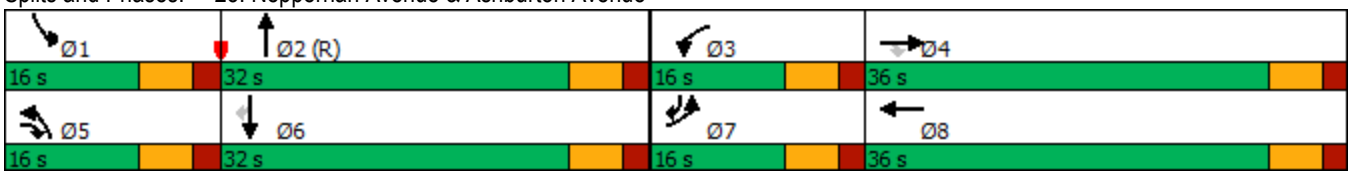
Analysis Period (min) 15

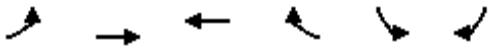
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

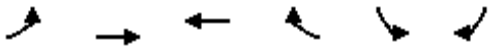
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 25: Nepperhan Avenue & Ashburton Avenue





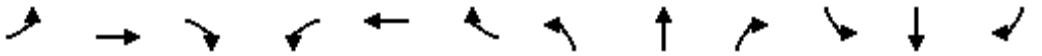
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	475	513	0	46	38
Future Volume (vph)	0	475	513	0	46	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	16
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt					0.939	
Flt Protected					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	516	558	0	50	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	516	558	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						



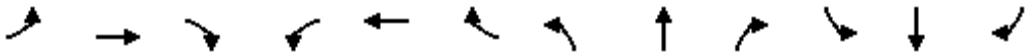
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase		2	6		3	
Switch Phase						
Minimum Initial (s)		5.0	5.0		5.0	
Minimum Split (s)		10.0	10.0		35.0	
Total Split (s)		35.0	35.0		35.0	
Total Split (%)		33.3%	33.3%		33.3%	
Maximum Green (s)		30.0	30.0		30.0	
Yellow Time (s)		3.0	3.0		3.0	
All-Red Time (s)		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		0.44	0.44		0.32	
Control Delay		24.0	24.0		23.6	
Queue Delay		0.0	0.0		0.0	
Total Delay		24.0	24.0		23.6	
LOS		C	C		C	
Approach Delay		24.0	24.0		23.6	
Approach LOS		C	C		C	
Queue Length 50th (ft)		104	113		26	
Queue Length 95th (ft)		208	223		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		0.44	0.44		0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 84.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 24.0		Intersection LOS: C	
Intersection Capacity Utilization 27.4%		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)	401	120	25	246	0	56	0	1707	122	123	1944	0
Future Volume (vph)	401	120	25	246	0	56	0	1707	122	123	1944	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		0.974			0.975			0.990				
Flt Protected	0.950				0.961					0.950		
Satd. Flow (prot)	1454	1754	0	0	1731	0	0	4909	0	1711	5085	0
Flt Permitted	0.656				0.641					0.083		
Satd. Flow (perm)	1004	1754	0	0	1154	0	0	4909	0	149	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			89			12				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		733			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)	436	130	27	267	0	61	0	1918	137	129	2046	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	436	157	0	0	328	0	0	2055	0	129	2046	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			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	1.37	0.28			0.77			1.09		0.43	0.70	
Control Delay	215.8	28.2			37.9			83.9		19.6	18.5	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	215.8	28.2			37.9			83.9		19.6	18.5	
LOS	F	C			D			F		B	B	
Approach Delay		166.2			37.9			83.9			18.5	
Approach LOS		F			D			F			B	
Queue Length 50th (ft)	~407	78			155			~600		40	357	
Queue Length 95th (ft)	#604	134			#299			#685		93	412	
Internal Link Dist (ft)		653			321			321			640	
Turn Bay Length (ft)										140		
Base Capacity (vph)	319	563			427			1881		298	2912	
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	1.37	0.28			0.77			1.09		0.43	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.37			
Intersection Signal Delay: 62.8		Intersection LOS: E	
Intersection Capacity Utilization 101.8%		ICU Level of Service G	

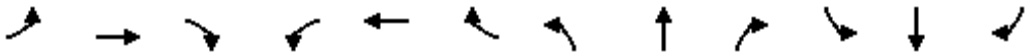
Analysis Period (min) 15

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

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

Splits and Phases: 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	1368	143	127	1383	32	41	97	110	29	137	92
Future Volume (vph)	178	1368	143	127	1383	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		0.986			0.997			0.940			0.952	
Flt Protected	0.950			0.950				0.992			0.994	
Satd. Flow (prot)	1652	3606	0	1652	3624	0	0	1853	0	0	1524	0
Flt Permitted	0.074			0.075				0.847			0.924	
Satd. Flow (perm)	129	3606	0	130	3624	0	0	1582	0	0	1417	0
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					3			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	1537	161	134	1456	34	45	105	120	32	149	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	1698	0	134	1490	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)	64.0	54.0		62.0	53.0			29.0			29.0	
Actuated g/C Ratio	0.58	0.49		0.56	0.48			0.26			0.26	
v/c Ratio	0.94	0.96		0.68	0.85			0.61			0.75	
Control Delay	76.1	41.5		30.8	43.4			37.4			51.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	76.1	41.5		30.8	43.4			37.4			51.5	
LOS	E	D		C	D			D			D	
Approach Delay		45.1			42.3			37.4			51.5	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	95	598		61	508			145			183	
Queue Length 95th (ft)	#234	#766		m99	567			237			#307	
Internal Link Dist (ft)		1349			1029			289			192	
Turn Bay Length (ft)	105			130								
Base Capacity (vph)	213	1770		212	1747			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	0.94	0.96		0.63	0.85			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: 0.96			
Intersection Signal Delay: 43.9		Intersection LOS: D	

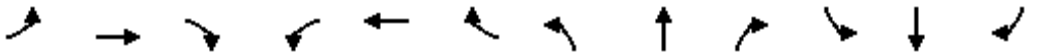
Intersection Capacity Utilization 85.8% ICU Level of Service E

Analysis Period (min) 15

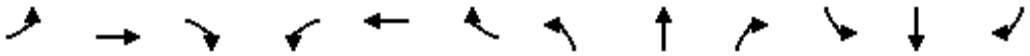
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Splits and Phases: 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	1413	54	122	1530	31	12	11	78	0	0	0
Future Volume (vph)	40	1413	54	122	1530	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			0.997			0.896				
Flt Protected	0.950			0.950				0.994				
Satd. Flow (prot)	1652	3401	0	1652	3507	0	0	1825	0	0	0	0
Flt Permitted	0.126			0.070				0.994				
Satd. Flow (perm)	219	3401	0	122	3507	0	0	1825	0	0	0	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		5			4							
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	1588	61	128	1611	33	13	12	85	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	1649	0	128	1644	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	0.45	1.04		0.44	0.72			0.26				
Control Delay	13.4	44.0		35.3	5.7			36.1				
Queue Delay	0.0	0.0		0.0	0.6			0.0				
Total Delay	13.4	44.0		35.3	6.2			36.1				
LOS	B	D		D	A			D				
Approach Delay		43.2			8.3			36.1				
Approach LOS		D			A			D				
Queue Length 50th (ft)	7	~687		53	96			63				
Queue Length 95th (ft)	m9	m#750		m53	m95			114				
Internal Link Dist (ft)		1029			290			330			84	
Turn Bay Length (ft)	85			85								
Base Capacity (vph)	101	1579		288	2296			431				
Starvation Cap Reductn	0	0		0	275			0				
Spillback Cap Reductn	0	0		0	0			0				
Storage Cap Reductn	0	0		0	0			0				
Reduced v/c Ratio	0.45	1.04		0.44	0.81			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: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 25.7		Intersection LOS: C	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	

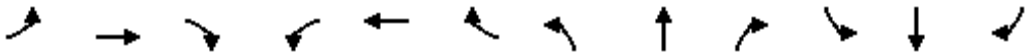
Analysis Period (min) 15

~ 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.

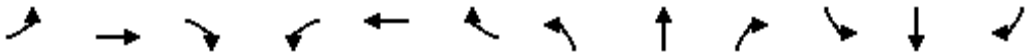
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 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	1447	44	8	1646	658	13	0	2	780	1	24
Future Volume (vph)	0	1447	44	8	1646	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		0.996				0.850		0.865			0.991	
Flt Protected							0.950			0.950	0.955	
Satd. Flow (prot)	0	3408	0	0	3539	1689	1770	0	0	1625	1600	0
Flt Permitted					0.881		0.950			0.950	0.955	
Satd. Flow (perm)	0	3408	0	0	3118	1689	1770	0	0	1625	1600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				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	1626	49	8	1733	693	14	0	2	848	1	26
Shared Lane Traffic (%)										48%		
Lane Group Flow (vph)	0	1675	0	0	1741	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		0.89			1.01	0.47	0.17	0.01		1.00	0.99	
Control Delay		12.3			50.7	0.7	55.7	0.0		82.6	81.4	
Queue Delay		0.6			1.6	0.2	0.0	0.0		0.0	0.0	
Total Delay		12.9			52.3	1.0	55.7	0.0		82.6	81.4	
LOS		B			D	A	E	A		F	F	
Approach Delay		12.9			37.7			48.7			82.0	
Approach LOS		B			D			D			F	
Queue Length 50th (ft)		142			~552	0	10	0		327	320	
Queue Length 95th (ft)		m134			m#795	m0	31	0		#548	#541	
Internal Link Dist (ft)		290			245			49			297	
Turn Bay Length (ft)						250						
Base Capacity (vph)		1891			1729	1480	80	169		443	438	
Starvation Cap Reductn		45			10	243	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		0.91			1.01	0.56	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: 1.01			
Intersection Signal Delay: 37.2		Intersection LOS: D	
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

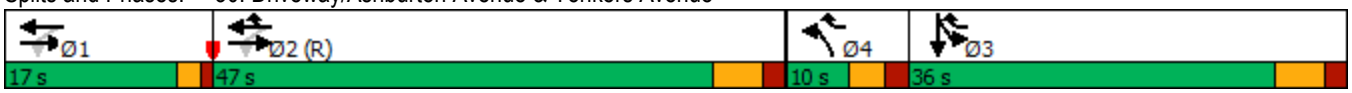
Analysis Period (min) 15

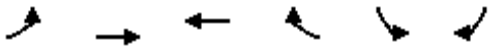
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

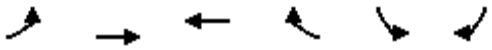
m Volume for 95th percentile queue is metered by upstream signal.

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





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	415	1380	1413	159	66	452
Future Volume (vph)	415	1380	1413	159	66	452
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)						15
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)	466	1551	1487	167	72	491
Shared Lane Traffic (%)						
Lane Group Flow (vph)	466	1551	1487	167	72	491
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



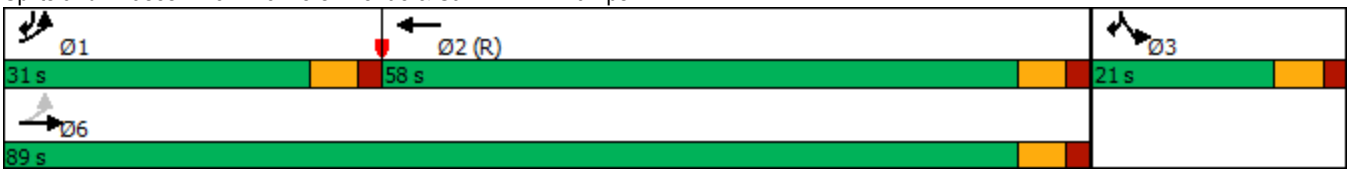
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Protected Phases	1	6	2		3	1 3
Permitted Phases	6			Free		
Detector Phase	1	6	2		3	1 3
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0		5.0	
Minimum Split (s)	11.0	16.0	16.0		11.0	
Total Split (s)	31.0	89.0	58.0		21.0	
Total Split (%)	28.2%	80.9%	52.7%		19.1%	
Maximum 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	0.97	0.58	0.92	0.11	0.26	0.74
Control Delay	55.5	4.9	48.7	0.1	45.3	34.4
Queue Delay	0.0	0.4	10.0	0.0	0.0	0.0
Total Delay	55.5	5.2	58.6	0.1	45.3	34.4
LOS	E	A	E	A	D	C
Approach Delay		16.9	52.7		35.8	
Approach LOS		B	D		D	
Queue Length 50th (ft)	271	203	583	0	46	279
Queue Length 95th (ft)	m#341	m228	#685	0	91	414
Internal Link Dist (ft)		319	667		146	
Turn Bay Length (ft)	180					
Base Capacity (vph)	479	2670	1617	1561	279	661
Starvation Cap Reductn	0	510	0	0	0	0
Spillback Cap Reductn	0	0	134	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.72	1.00	0.11	0.26	0.74

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: 0.97			
Intersection Signal Delay: 33.4		Intersection LOS: C	
Intersection Capacity Utilization 81.2%		ICU Level of Service D	
Analysis Period (min) 15			

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

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

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



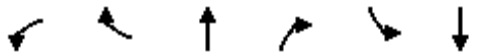
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	SWL	SWR
Lane Configurations								
Traffic Volume (vph)	4	1442	1561	7	0	1	11	10
Future Volume (vph)	4	1442	1561	7	0	1	11	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	14	13	13	16	16	11	11
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	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)					301			
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	1620	1643	7	0	1	12	11
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	1624	1650	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		0.50	0.50		0.00		0.22	
Control Delay		1.6	8.3		0.0		52.9	
Queue Delay		0.0	0.0		0.0		0.0	
Total Delay		1.6	8.3		0.0		52.9	
LOS		A	A		A		D	
Approach Delay		1.6	8.3				52.9	
Approach LOS		A	A				D	
Queue Length 50th (ft)		0	10		0		16	
Queue Length 95th (ft)		80	488		0		42	
Internal Link Dist (ft)		667	1396		149		231	
Turn Bay Length (ft)								
Base Capacity (vph)		3227	3304		453		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		0.50	0.50		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: 0.50			
Intersection Signal Delay: 5.3		Intersection LOS: A	
Intersection Capacity Utilization 66.7%		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	453	1115	152	304	1149
Future Volume (vph)	168	453	1115	152	304	1149
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	0.914	0.850		0.850		
Flt Protected	0.979				0.950	
Satd. Flow (prot)	3234	1424	3539	1583	1593	3394
Flt Permitted	0.979				0.080	
Satd. Flow (perm)	3234	1424	3539	1583	134	3394
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	246	246		71		
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	492	1174	160	342	1291
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	429	246	1174	160	342	1291
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	0.38	0.42	0.83	0.24	1.17	0.63
Control Delay	13.8	6.1	29.4	6.6	141.2	15.9
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.3
Total Delay	13.9	6.1	29.6	6.6	141.2	16.2
LOS	B	A	C	A	F	B
Approach Delay	11.0		26.8			42.4
Approach LOS	B		C			D
Queue Length 50th (ft)	50	0	408	15	~243	277
Queue Length 95th (ft)	92	64	495	m37	#432	237
Internal Link Dist (ft)	440		483			1396
Turn Bay Length (ft)				100	180	
Base Capacity (vph)	1142	599	1415	675	292	2036
Starvation Cap Reductn	0	0	20	0	0	0
Spillback Cap Reductn	17	0	0	0	0	247
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.41	0.84	0.24	1.17	0.72

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: 1.17			
Intersection Signal Delay: 30.9		Intersection LOS: C	
Intersection Capacity Utilization 72.2%		ICU Level of Service C	

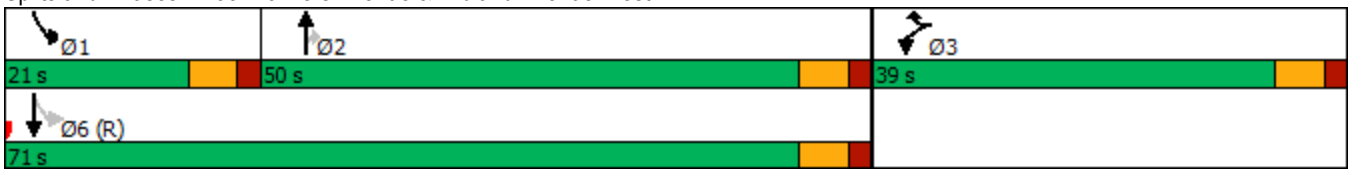
Analysis Period (min) 15

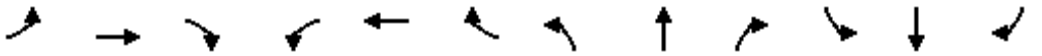
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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.

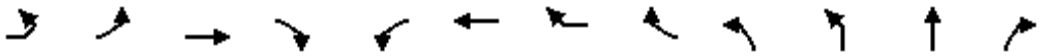
Splits and Phases: 33: Yonkers Avenue & Midland Avenue West





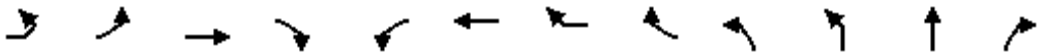
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1795	434	0	1865	0	0	0	0	0	0	447
Future Volume (vph)	0	1795	434	0	1865	0	0	0	0	0	0	447
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	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	2017	488	0	1963	0	0	0	0	0	0	486
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2017	488	0	1963	0	0	0	0	0	0	486
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 85.9%		ICU Level of Service E	
Analysis Period (min) 15			



Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	46	219	24	59	5	14	4	49	27	55	999	12
Future Volume (vph)	46	219	24	59	5	14	4	49	27	55	999	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	238	26	64	5	15	4	53	28	58	1052	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	288	90	0	0	77	0	0	0	86	1065	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	833	201	242
Future Volume (vph)	41	833	201	242
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	0.269			
Satd. Flow (perm)	501	3355	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	936	226	272
Shared Lane Traffic (%)				
Lane Group Flow (vph)	46	1434	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		0.70	0.16			0.14				0.28	0.50	
Control Delay		44.6	11.5			12.2				12.7	14.1	
Queue Delay		0.0	0.0			0.0				0.0	0.1	
Total Delay		44.6	11.5			12.2				12.7	14.2	
LOS		D	B			B				B	B	
Approach Delay			36.7			12.2					14.1	
Approach LOS			D			B					B	
Queue Length 50th (ft)		180	13			12				25	214	
Queue Length 95th (ft)		279	50			47				51	272	
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	136	
Storage Cap Reductn		0	0			0				0	0	
Reduced v/c Ratio		0.69	0.16			0.14				0.28	0.53	

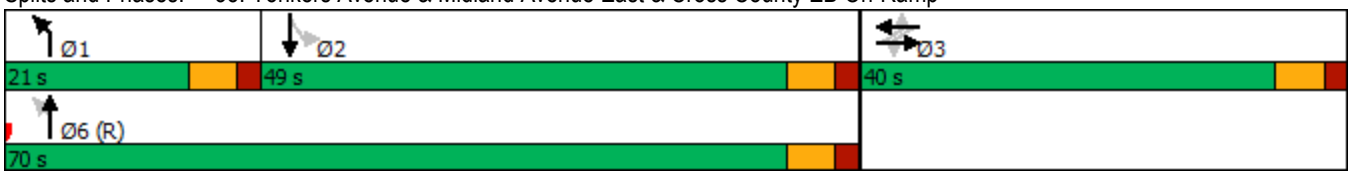
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 6:NBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 43.1		Intersection LOS: D	
Intersection Capacity Utilization 78.1%		ICU Level of Service D	
Analysis Period (min) 15			

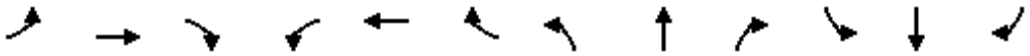
Lane Group	SBL	SBT	SBR	SBR2
Permitted Phases	2			
Detector Phase	2	2		
Switch Phase				
Minimum Initial (s)	5.0	5.0		
Minimum Split (s)	48.0	48.0		
Total Split (s)	49.0	49.0		
Total Split (%)	44.5%	44.5%		
Maximum Green (s)	43.0	43.0		
Yellow Time (s)	4.0	4.0		
All-Red Time (s)	2.0	2.0		
Lost Time Adjust (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	0.24	1.08		
Control Delay	18.0	70.6		
Queue Delay	0.0	0.0		
Total Delay	18.0	70.6		
LOS	B	E		
Approach Delay		69.0		
Approach LOS		E		
Queue Length 50th (ft)	13	~585		
Queue Length 95th (ft)	m26	#702		
Internal Link Dist (ft)		483		
Turn Bay Length (ft)	150			
Base Capacity (vph)	195	1329		
Starvation Cap Reductn	0	0		
Spillback Cap Reductn	0	0		
Storage Cap Reductn	0	0		
Reduced v/c Ratio	0.24	1.08		

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



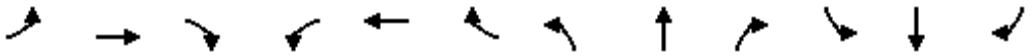


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	673	63	178	462	252	0	0	0	0	0	0
Future Volume (vph)	53	673	63	178	462	252	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	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		0.988			0.947							
Flt Protected		0.997		0.950								
Satd. Flow (prot)	0	3951	0	2006	1999	0	0	0	0	0	0	0
Flt Permitted		0.997		0.950								
Satd. Flow (perm)	0	3951	0	2006	1999	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	748	70	220	570	311	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	877	0	220	881	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 68.5%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	672	52	82	545	40	48
Future Volume (vph)	672	52	82	545	40	48
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	0.990				0.926	
Flt Protected				0.994	0.978	
Satd. Flow (prot)	1560	0	0	1975	1525	0
Flt Permitted				0.994	0.978	
Satd. Flow (perm)	1560	0	0	1975	1525	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)	730	57	89	592	43	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	787	0	0	681	95	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 86.9%		ICU Level of Service E	
Analysis Period (min) 15			

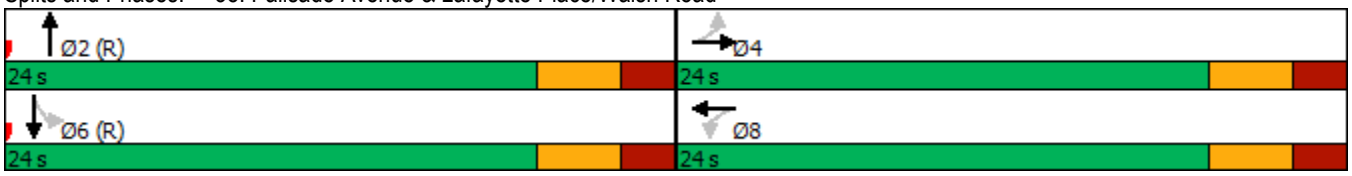


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	5	15	59	0	28	0	278	38	27	381	0
Future Volume (vph)	15	5	15	59	0	28	0	278	38	27	381	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	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			0.984				
Flt Protected		0.979			0.967						0.997	
Satd. Flow (prot)	0	1653	0	0	1781	0	0	1803	0	0	1827	0
Flt Permitted		0.901			0.818						0.962	
Satd. Flow (perm)	0	1522	0	0	1507	0	0	1803	0	0	1763	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			45			17				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		226			227			1224			549	
Travel Time (s)		5.1			5.2			27.8			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	302	41	29	414	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	0	0	94	0	0	343	0	0	443	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			0.47			0.64	
Control Delay		6.9			6.5			12.9			16.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.9			6.5			12.9			16.8	

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			12.9			16.8	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		3			8			64			95	
Queue Length 95th (ft)		16			29			120			173	
Internal Link Dist (ft)		146			147			1144			469	
Turn Bay Length (ft)												
Base Capacity (vph)		612			623			723			697	
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			0.47			0.64	

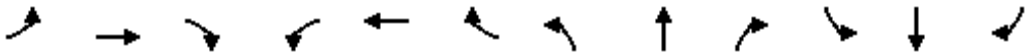
Intersection Summary			
Area Type:	Other		
Cycle Length: 48			
Actuated Cycle Length: 48			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 40			
Control Type: Pretimed			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 13.9		Intersection LOS: B	
Intersection Capacity Utilization 58.5%		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	460	158	21	473	0	0	0	0
Future Volume (vph)	0	0	0	0	460	158	21	473	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					0.966							
Flt Protected								0.998				
Satd. Flow (prot)	0	0	0	0	2039	0	0	1879	0	0	0	0
Flt Permitted								0.998				
Satd. Flow (perm)	0	0	0	0	2039	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	554	190	23	514	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	744	0	0	537	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				

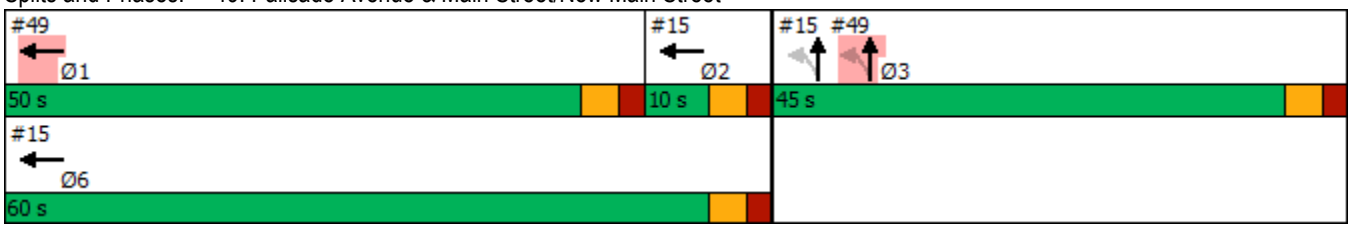
Lane Group	Ø2	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
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					0.85			0.75				
Control Delay					38.2			36.1				
Queue Delay					0.0			0.0				
Total Delay					38.2			36.1				
LOS					D			D				
Approach Delay					38.2			36.1				
Approach LOS					D			D				
Queue Length 50th (ft)					439			308				
Queue Length 95th (ft)					532			441				
Internal Link Dist (ft)		1			350			132			174	
Turn Bay Length (ft)												
Base Capacity (vph)					873			715				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.85			0.75				

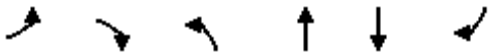
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Natural Cycle: 105			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 37.3		Intersection LOS: D	
Intersection Capacity Utilization 68.2%		ICU Level of Service C	
Analysis Period (min) 15			

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



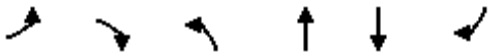
Lane Group	Ø2	Ø6
Switch Phase		
Minimum Initial (s)	2.0	5.0
Minimum Split (s)	7.0	10.0
Total Split (s)	10.0	60.0
Total Split (%)	10%	57%
Maximum Green (s)	5.0	55.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle 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)	27	100	98	103	81	26
Future Volume (vph)	27	100	98	103	81	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893				0.967	
Flt Protected	0.990			0.976		
Satd. Flow (prot)	1647	0	0	1818	1801	0
Flt Permitted	0.990			0.976		
Satd. Flow (perm)	1647	0	0	1818	1801	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)	29	109	107	112	88	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	138	0	0	219	116	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 31.8%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	69	100	419	637	20
Future Volume (vph)	14	69	100	419	637	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.887				0.996	
Flt Protected	0.992			0.990		
Satd. Flow (prot)	1639	0	0	1844	1855	0
Flt Permitted	0.992			0.990		
Satd. Flow (perm)	1639	0	0	1844	1855	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)	15	75	109	455	692	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	90	0	0	564	714	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 77.4%		ICU Level of Service D	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	529	21	0	0	0	6
Future Volume (vph)	529	21	0	0	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					0.865
Flt Protected						
Satd. Flow (prot)	1853	0	0	0	0	1611
Flt Permitted						
Satd. Flow (perm)	1853	0	0	0	0	1611
Link Speed (mph)	30			30	30	
Link Distance (ft)	208			327	272	
Travel Time (s)	4.7			7.4	6.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	575	23	0	0	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	598	0	0	0	0	7
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.1%		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	204	82	0	217	0	93	0	0	14	0	7
Future Vol, veh/h	0	204	82	0	217	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	237	95	0	236	0	101	0	0	15	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	332	0	0	525	-	-	521	568	236
Stage 1	-	-	-	-	-	-	285	-	-	236	236	-
Stage 2	-	-	-	-	-	-	240	-	-	285	332	-
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	-	-	1205	-	0	463	0	0	466	432	803
Stage 1	0	-	-	-	-	0	722	0	0	767	710	-
Stage 2	0	-	-	-	-	0	763	0	0	722	644	-
Platoon blocked, %		-	-		-				-			
Mov Cap-1 Maneuver	-	-	-	1205	-	-	459	-	-	466	432	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	459	-	-	466	432	-
Stage 1	-	-	-	-	-	-	722	-	-	767	710	-
Stage 2	-	-	-	-	-	-	756	-	-	722	644	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	15	11.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	459	-	-	1205	-	542
HCM Lane V/C Ratio	0.22	-	-	-	-	0.042
HCM Control Delay (s)	15	-	-	0	-	11.9
HCM Lane LOS	C	-	-	A	-	B
HCM 95th %tile Q(veh)	0.8	-	-	0	-	0.1

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	183	0	0	0	0	49	89	87	49	0	33
Future Vol, veh/h	4	183	0	0	0	0	49	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	215	0	0	0	0	59	107	105	54	0	37

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	-	282	225	231	347	225	38
Stage 1	-	-	-	225	225	-	0	0	-
Stage 2	-	-	-	57	0	-	347	225	-
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	660	665	796	607	674	1034
Stage 1	-	-	0	766	708	-	-	-	-
Stage 2	-	-	0	-	-	-	669	718	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	614	665	796	462	674	1000
Mov Cap-2 Maneuver	-	-	-	614	665	-	462	674	-
Stage 1	-	-	-	766	708	-	-	-	-
Stage 2	-	-	-	-	-	-	493	718	-

Approach	EB	NB	SB
HCM Control Delay, s		13.4	12.2
HCM LOS		B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	SBLn1
Capacity (veh/h)	697	-	-	590
HCM Lane V/C Ratio	0.389	-	-	0.154
HCM Control Delay (s)	13.4	-	-	12.2
HCM Lane LOS	B	-	-	B
HCM 95th %tile Q(veh)	1.8	-	-	0.5

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	240	0	0	395	0	0
Future Vol, veh/h	240	0	0	395	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	261	0	0	429	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	429	-	-	0
Stage 1	0	-	-	-
Stage 2	429	-	-	-
Critical Hdwy	6.42	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	-	-
Pot Cap-1 Maneuver	583	0	0	-
Stage 1	-	0	0	-
Stage 2	657	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	583	-	-	-
Mov Cap-2 Maneuver	583	-	-	-
Stage 1	-	-	-	-
Stage 2	657	-	-	-

Approach	EB	NB
HCM Control Delay, s	16.1	0
HCM LOS	C	

Minor Lane/Major Mvmt	NBT	EBLn1
Capacity (veh/h)	-	583
HCM Lane V/C Ratio	-	0.447
HCM Control Delay (s)	-	16.1
HCM Lane LOS	-	C
HCM 95th %tile Q(veh)	-	2.3

Intersection	
Int Delay, s/veh	66.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1692	0	1	2214	83	137
Future Vol, veh/h	1692	0	1	2214	83	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	1901	0	1	2331	90	149

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1901	0	2835	951
Stage 1	-	-	-	-	1901	-
Stage 2	-	-	-	-	934	-
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	-	-	140	-	~ 32	224
Stage 1	-	-	-	-	~ 66	-
Stage 2	-	-	-	-	310	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	140	-	~ 32	224
Mov Cap-2 Maneuver	-	-	-	-	~ 32	-
Stage 1	-	-	-	-	~ 66	-
Stage 2	-	-	-	-	308	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	$ 1235.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	69	-	-	140	-
HCM Lane V/C Ratio	3.466	-	-	0.008	-
HCM Control Delay (s)	$ 1235.8	-	-	30.9	-
HCM Lane LOS	F	-	-	D	-
HCM 95th %tile Q(veh)	24.9	-	-	0	-

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

Intersection	
Int Delay, s/veh	45.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑							↱
Traffic Vol, veh/h	0	1795	434	0	1865	0	0	0	0	0	0	447
Future Vol, veh/h	0	1795	434	0	1865	0	0	0	0	0	0	447
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	2017	488	0	1963	0	0	0	0	0	0	486

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	-	-	0			-	-	982
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	~ 252
Stage 1	0	-	-	0	-	0			0	0	-
Stage 2	0	-	-	0	-	0			0	0	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	-	-	-			-	0	~ 252
Mov Cap-2 Maneuver	-	-	-	-	-	-			-	0	-
Stage 1	-	-	-	-	-	-			-	0	-
Stage 2	-	-	-	-	-	-			-	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	$ 464.7
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBT	SBLn1
Capacity (veh/h)	-	-	-	252
HCM Lane V/C Ratio	-	-	-	1.928
HCM Control Delay (s)	-	-	-	-$ 464.7
HCM Lane LOS	-	-	-	F
HCM 95th %tile Q(veh)	-	-	-	34.5

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

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	672	52	82	545	40	48
Future Vol, veh/h	672	52	82	545	40	48
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	730	57	89	592	43	52

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	787	0	1529	759
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	770	-
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	-	-	832	-	129	406
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	457	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	832	-	108	406
Mov Cap-2 Maneuver	-	-	-	-	108	-
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	384	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	45.7
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	180	-	-	832	-
HCM Lane V/C Ratio	0.531	-	-	0.107	-
HCM Control Delay (s)	45.7	-	-	9.8	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	2.7	-	-	0.4	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	100	98	103	81	26
Future Vol, veh/h	27	100	98	103	81	26
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	29	109	107	112	88	28

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	428	102	116	0	-	0
Stage 1	102	-	-	-	-	-
Stage 2	326	-	-	-	-	-
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	584	953	1473	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	539	953	1473	-	-	-
Mov Cap-2 Maneuver	539	-	-	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	3.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1473	-	819	-	-
HCM Lane V/C Ratio	0.072	-	0.169	-	-
HCM Control Delay (s)	7.6	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	69	100	419	637	20
Future Vol, veh/h	14	69	100	419	637	20
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	15	75	109	455	692	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1376	703	714	0	-	0
Stage 1	703	-	-	-	-	-
Stage 2	673	-	-	-	-	-
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	160	438	886	-	-	-
Stage 1	491	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	134	438	886	-	-	-
Mov Cap-2 Maneuver	134	-	-	-	-	-
Stage 1	410	-	-	-	-	-
Stage 2	507	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.8	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	886	-	317	-	-
HCM Lane V/C Ratio	0.123	-	0.285	-	-
HCM Control Delay (s)	9.6	0	20.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	529	21	0	0	0	6
Future Vol, veh/h	529	21	0	0	0	6
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	-	-	16983	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	575	23	0	0	0	7

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	587
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.22
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.318
Pot Cap-1 Maneuver	-	-		0	510
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	510
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	12.2
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	510	-	-
HCM Lane V/C Ratio	0.013	-	-
HCM Control Delay (s)	12.2	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Intersection Delay, s/veh	144.5
Intersection LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	128	334	185	229	560	146
Future Vol, veh/h	128	334	185	229	560	146
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	412	226	279	644	168
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	30.6	51	282.8
HCM LOS	D	F	F

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	79%
Vol Thru, %	45%	0%	0%	21%
Vol Right, %	55%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	414	128	334	706
LT Vol	0	128	0	560
Through Vol	185	0	0	146
RT Vol	229	0	334	0
Lane Flow Rate	505	158	412	811
Geometry Grp	2	7	7	2
Degree of Util (X)	0.922	0.361	0.804	1.566
Departure Headway (Hd)	7.414	9.162	7.915	6.946
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	495	395	462	527
Service Time	5.414	6.862	5.615	5.006
HCM Lane V/C Ratio	1.02	0.4	0.892	1.539
HCM Control Delay	51	16.9	35.9	282.8
HCM Lane LOS	F	C	E	F
HCM 95th-tile Q	10.8	1.6	7.4	43.3

Intersection	
Intersection Delay, s/veh	98.5
Intersection LOS	F

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	389	357	0	500	0	0
Future Vol, veh/h	389	357	0	500	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	401	368	0	575	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	135.8	48.6
HCM LOS	F	E

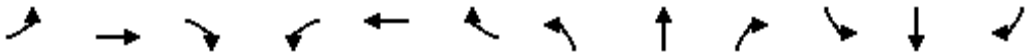
Lane	NBLn1	EBLn1
Vol Left, %	0%	52%
Vol Thru, %	100%	0%
Vol Right, %	0%	48%
Sign Control	Stop	Stop
Traffic Vol by Lane	500	746
LT Vol	0	389
Through Vol	500	0
RT Vol	0	357
Lane Flow Rate	575	769
Geometry Grp	1	1
Degree of Util (X)	0.935	1.227
Departure Headway (Hd)	6.381	5.742
Convergence, Y/N	Yes	Yes
Cap	575	638
Service Time	4.381	3.742
HCM Lane V/C Ratio	1	1.205
HCM Control Delay	48.6	135.8
HCM Lane LOS	E	F
HCM 95th-tile Q	12	28.1

Intersection	
Intersection Delay, s/veh	26.9
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	152	378	101	0	0	0	0	49	32	140	41	0
Future Vol, veh/h	152	378	101	0	0	0	0	49	32	140	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	165	411	110	0	0	0	0	53	35	152	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	33.4	9.8	11.9
HCM LOS	D	A	B

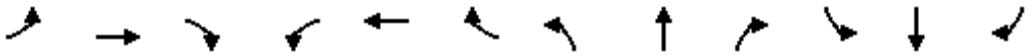
Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	24%	77%
Vol Thru, %	60%	60%	23%
Vol Right, %	40%	16%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	81	631	181
LT Vol	0	152	140
Through Vol	49	378	41
RT Vol	32	101	0
Lane Flow Rate	88	686	197
Geometry Grp	1	1	1
Degree of Util (X)	0.143	0.891	0.329
Departure Headway (Hd)	5.839	4.678	6.018
Convergence, Y/N	Yes	Yes	Yes
Cap	617	761	600
Service Time	3.849	2.776	4.023
HCM Lane V/C Ratio	0.143	0.901	0.328
HCM Control Delay	9.8	33.4	11.9
HCM Lane LOS	A	D	B
HCM 95th-tile Q	0.5	11.5	1.4



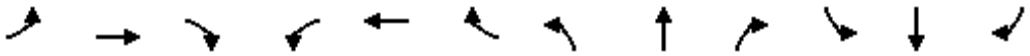
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	673	63	178	462	252	0	0	0	0	0	0
Future Volume (Veh/h)	53	673	63	178	462	252	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.81	0.81	0.81	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	748	70	220	570	311	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	596	0	0	444	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	596	0	0	444	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 %	59	17	94	0	36	71	100			100		
cM capacity (veh/h)	145	896	1085	147	896	1085	1623			1623		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	433	444	220	881
Volume Left	59	0	220	0
Volume Right	0	70	0	311
cSH	526	921	147	955
Volume to Capacity	0.82	0.48	1.50	0.92
Queue Length 95th (ft)	205	67	369	354
Control Delay (s)	36.3	12.5	313.3	34.6
Lane LOS	E	B	F	D
Approach Delay (s)	24.2		90.3	
Approach LOS	C		F	

Intersection Summary				
Average Delay	61.0			
Intersection Capacity Utilization	68.5%	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)	5	45	53	50	49	42	48	224	31	18	224	7
Future Volume (vph)	5	45	53	50	49	42	48	224	31	18	224	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			0.98			1.00	
Frt		0.930			0.959			0.986			0.996	
Flt Protected		0.998			0.983			0.992			0.996	
Satd. Flow (prot)	0	1575	0	0	1469	0	0	1472	0	0	1687	0
Flt Permitted		0.989			0.871			0.911			0.965	
Satd. Flow (perm)	0	1561	0	0	1301	0	0	1351	0	0	1635	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	54	53	46	57	267	37	20	255	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	120	0	0	153	0	0	361	0	0	283	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
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	

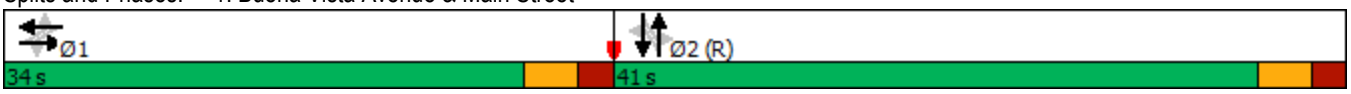


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1			1			2			2	
Permitted Phases	1			1			2			2		
Detector Phase	1	1		1	1		2	2		2	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	34.0	34.0		34.0	34.0		32.0	32.0		32.0	32.0	
Total Split (s)	34.0	34.0		34.0	34.0		41.0	41.0		41.0	41.0	
Total Split (%)	45.3%	45.3%		45.3%	45.3%		54.7%	54.7%		54.7%	54.7%	
Maximum Green (s)	29.0	29.0		29.0	29.0		36.0	36.0		36.0	36.0	
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	
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		C-Max	C-Max		C-Max	C-Max	
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)		29.0			29.0			36.0			36.0	
Actuated g/C Ratio		0.39			0.39			0.48			0.48	
v/c Ratio		0.20			0.30			0.56			0.36	
Control Delay		16.4			18.1			10.1			13.9	
Queue Delay		0.0			0.0			0.1			0.0	
Total Delay		16.4			18.1			10.2			13.9	
LOS		B			B			B			B	
Approach Delay		16.4			18.1			10.2			13.9	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		36			48			115			79	
Queue Length 95th (ft)		68			92			34			129	
Internal Link Dist (ft)		33			169			220			154	
Turn Bay Length (ft)												
Base Capacity (vph)		603			503			648			784	
Starvation Cap Reductn		0			0			16			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.30			0.57			0.36	

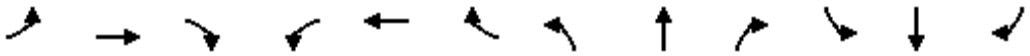
Intersection Summary	
Area Type:	Other
Cycle Length: 75	
Actuated Cycle Length: 75	
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green	
Natural Cycle: 70	

Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 13.5	Intersection LOS: B
Intersection Capacity Utilization 61.3%	ICU Level of Service B
Analysis Period (min) 15	

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	36	6	55	23	9	22	291	20	10	309	8
Future Volume (vph)	3	36	6	55	23	9	22	291	20	10	309	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	11	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
Ped Bike Factor					0.95			1.00			1.00	
Frt		0.981			0.986			0.992			0.997	
Flt Protected		0.997			0.969			0.997			0.999	
Satd. Flow (prot)	0	1822	0	0	1708	0	0	1601	0	0	2007	0
Flt Permitted		0.973			0.969			0.968			0.987	
Satd. Flow (perm)	0	1778	0	0	1621	0	0	1555	0	0	1981	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			7			5			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		146			240			235			300	
Travel Time (s)		3.3			5.5			5.3			6.8	
Confl. Peds. (#/hr)				39					9	23		
Peak Hour Factor	0.92	0.92	0.92	0.91	0.92	0.91	0.92	0.82	0.82	0.87	0.87	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	2%	3%	2%	17%	17%	7%	7%	2%
Parking (#/hr)				10				5				
Adj. Flow (vph)	3	39	7	60	25	10	24	355	24	11	355	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	95	0	0	403	0	0	375	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)		30			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.04	1.04	1.04	0.85	1.01	0.85	0.85	0.85	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	Perm	NA		Split	NA		Perm	NA		Perm	NA	

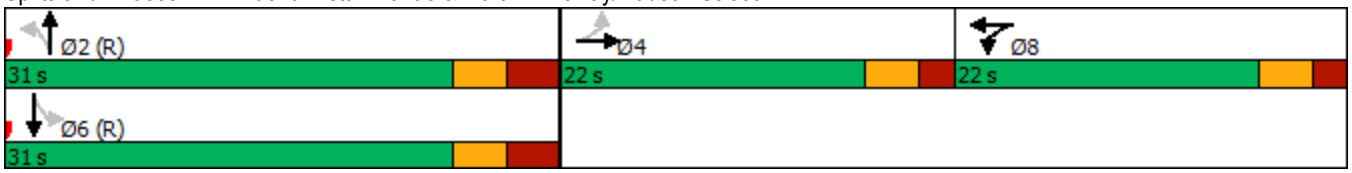


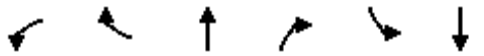
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		25.0	25.0		25.0	25.0	
Total Split (s)	22.0	22.0		22.0	22.0		31.0	31.0		31.0	31.0	
Total Split (%)	29.3%	29.3%		29.3%	29.3%		41.3%	41.3%		41.3%	41.3%	
Maximum Green (s)	17.0	17.0		17.0	17.0		25.0	25.0		25.0	25.0	
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		3.0	3.0		3.0	3.0	
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												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		7.3			9.2			50.1			50.1	
Actuated g/C Ratio		0.10			0.12			0.67			0.67	
v/c Ratio		0.27			0.44			0.39			0.28	
Control Delay		31.1			33.9			10.7			6.8	
Queue Delay		0.0			0.0			0.0			0.2	
Total Delay		31.1			33.9			10.7			7.0	
LOS		C			C			B			A	
Approach Delay		31.1			33.9			10.7			7.0	
Approach LOS		C			C			B			A	
Queue Length 50th (ft)		19			39			98			71	
Queue Length 95th (ft)		48			77			174			99	
Internal Link Dist (ft)		66			160			155			220	
Turn Bay Length (ft)												
Base Capacity (vph)		408			392			1040			1324	
Starvation Cap Reductn		0			0			0			366	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.12			0.24			0.39			0.39	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 12 (16%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 47.0%		ICU Level of Service A	

Analysis Period (min) 15

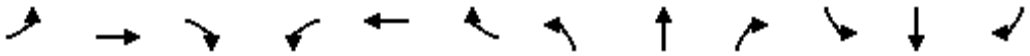
Splits and Phases: 2: Buena Vista Avenue & North Driveway/Hudson Street





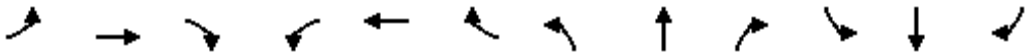
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	83	287	121	137	339	90
Future Volume (vph)	83	287	121	137	339	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	9	9	16	16
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850	0.928			
Flt Protected	0.950					0.962
Satd. Flow (prot)	1742	1558	1229	0	0	1954
Flt Permitted	0.950					0.962
Satd. Flow (perm)	1742	1558	1229	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	354	148	167	390	103
Shared Lane Traffic (%)						
Lane Group Flow (vph)	102	354	315	0	0	493
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 53.4%		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	85	9	38	110	0	25	0	21	7	0	6
Future Volume (vph)	0	85	9	38	110	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		0.988						0.865			0.937	
Flt Protected					0.987		0.950				0.974	
Satd. Flow (prot)	0	1625	0	0	1654	0	1770	0	0	0	1700	0
Flt Permitted					0.987		0.950				0.974	
Satd. Flow (perm)	0	1625	0	0	1654	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	99	10	41	120	0	27	0	23	8	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	0	0	161	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	

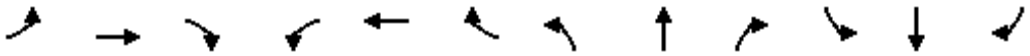
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	58	0	0	0	0	57	38	47	17	0	30
Future Volume (vph)	8	58	0	0	0	0	57	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								0.955			0.914	
Flt Protected		0.994						0.980			0.982	
Satd. Flow (prot)	0	1452	0	0	0	0	0	1648	0	0	1728	0
Flt Permitted		0.994						0.980			0.982	
Satd. Flow (perm)	0	1452	0	0	0	0	0	1648	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	68	0	0	0	0	69	46	57	19	0	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	0	0	0	172	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	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

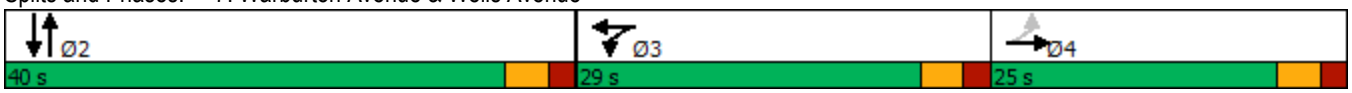
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	2	330	0	50	0	210	0	0	305	22
Future Volume (vph)	1	0	2	330	0	50	0	210	0	0	305	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	13	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						0.991	
Flt Protected		0.984		0.950								
Satd. Flow (prot)	0	1668	0	1554	1425	0	0	1689	0	0	1969	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	1695	0	1554	1425	0	0	1689	0	0	1969	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		81									4	
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	351	0	53	0	256	0	0	314	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	351	53	0	0	256	0	0	337	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		0.67	0.11			0.31			0.35	
Control Delay		0.0		28.4	17.8			12.8			12.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		0.0		28.4	17.8			12.8			12.8	
LOS		A		C	B			B			B	
Approach Delay					27.0			12.8			12.8	
Approach LOS					C			B			B	
Queue Length 50th (ft)		0		120	15			56			75	
Queue Length 95th (ft)		0		#276	45			121			172	
Internal Link Dist (ft)		1			34			302			604	
Turn Bay Length (ft)												
Base Capacity (vph)		547		538	493			854			997	
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		0.65	0.11			0.30			0.34	

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: 0.67			
Intersection Signal Delay: 18.5		Intersection LOS: B	
Intersection Capacity Utilization 50.7%		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	NER	NER2	Ø9
Lane Configurations										
Traffic Volume (vph)	55	199	86	21	561	55	11	5	21	
Future Volume (vph)	55	199	86	21	561	55	11	5	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	12	12	12	16	16	16	16	12	12	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor		0.94			0.98		0.80			
Frt		0.955			0.988		0.906			
Flt Protected	0.950				0.998		0.985			
Satd. Flow (prot)	1703	1367	0	0	1904	0	1322	0	0	
Flt Permitted	0.347				0.981		0.985			
Satd. Flow (perm)	622	1367	0	0	1872	0	1322	0	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		89		
Peak Hour Factor	0.94	0.94	0.94	0.93	0.93	0.93	0.81	0.81	0.81	
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	2%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	8	0	0	0	0	
Parking (#/hr)		10					5			
Adj. Flow (vph)	59	212	91	23	603	59	14	6	26	
Shared Lane Traffic (%)										
Lane Group Flow (vph)	59	303	0	0	685	0	46	0	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	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	0.88	0.85	1.01	1.00	1.00	
Turning Speed (mph)	15		9	15		9	15	9	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	NER	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	0.20	0.45			0.75		0.13			
Control Delay	15.8	15.6			24.0		3.0			
Queue Delay	0.0	0.0			4.7		0.0			
Total Delay	15.8	15.6			28.7		3.0			
LOS	B	B			C		A			
Approach Delay		15.6			28.7		3.0			
Approach LOS		B			C		A			
Queue Length 50th (ft)	11	60			188		0			
Queue Length 95th (ft)	56	214			#629		5			
Internal Link Dist (ft)		351			302		94			
Turn Bay Length (ft)										
Base Capacity (vph)	301	676			908		357			
Starvation Cap Reductn	0	0			158		0			
Spillback Cap Reductn	0	0			0		0			
Storage Cap Reductn	0	0			0		0			
Reduced v/c Ratio	0.20	0.45			0.91		0.13			

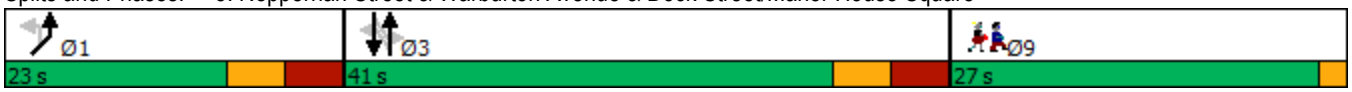
Intersection Summary			
Area Type:	Other		
Cycle Length: 91			
Actuated Cycle Length: 69.4			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 23.3		Intersection LOS: C	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	

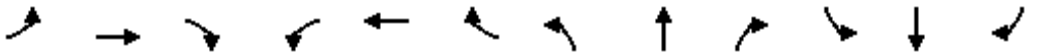
Analysis Period (min) 15

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

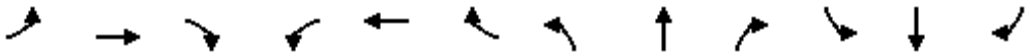
Queue shown is maximum after two cycles.

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)	43	0	70	219	70	75	12	222	0	0	516	66
Future Volume (vph)	43	0	70	219	70	75	12	222	0	0	516	66
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			0.94						0.98	
Frt		0.916			0.922						0.983	
Flt Protected		0.981		0.950			0.950					
Satd. Flow (prot)	0	1339	0	1711	1417	0	1477	3154	0	0	2981	0
Flt Permitted		0.831		0.674			0.322					
Satd. Flow (perm)	0	1134	0	1214	1417	0	501	3154	0	0	2981	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			57						15	
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)	52	0	85	264	84	90	12	227	0	0	567	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	137	0	264	174	0	12	227	0	0	640	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	

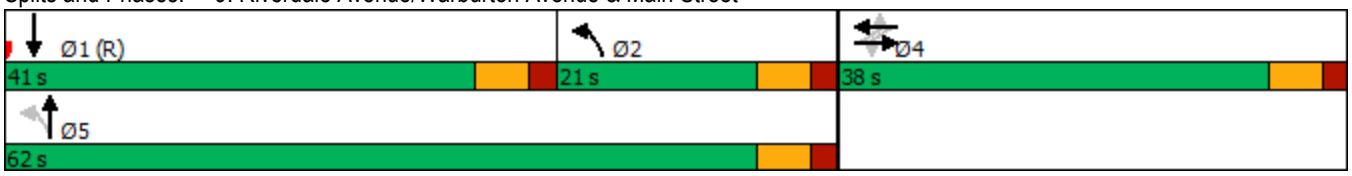


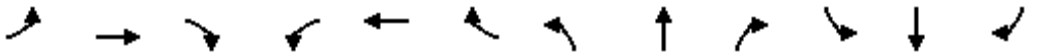
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA			NA	
Protected Phases		4			4		2	5			1	
Permitted Phases	4			4			5					
Detector 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		0.32		0.69	0.36		0.03	0.13			0.60	
Control Delay		11.2		41.0	19.9		10.3	10.5			28.6	
Queue Delay		0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay		11.2		41.0	19.9		10.3	10.5			28.6	
LOS		B		D	B		B	B			C	
Approach Delay		11.2			32.6			10.5			28.6	
Approach LOS		B			C			B			C	
Queue Length 50th (ft)		18		148	56		3	33			168	
Queue Length 95th (ft)		52		214	99		11	52			231	
Internal Link Dist (ft)		446			417			245			351	
Turn Bay Length (ft)							75					
Base Capacity (vph)		429		388	492		429	1785			1070	
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		0.32		0.68	0.35		0.03	0.13			0.60	

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	

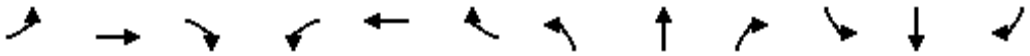
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 25.2	Intersection LOS: C
Intersection Capacity Utilization 87.9%	ICU Level of Service E
Analysis Period (min) 15	

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	76	19	0	0	0	0	207	191	242	563	0
Future Volume (vph)	27	76	19	0	0	0	0	207	191	242	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		0.96						0.84				
Frt		0.979						0.928				
Flt Protected		0.989								0.950		
Satd. Flow (prot)	0	1626	0	0	0	0	0	2419	0	1533	3119	0
Flt Permitted		0.989								0.500		
Satd. Flow (perm)	0	1626	0	0	0	0	0	2419	0	807	3119	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9						203				
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	89	22	0	0	0	0	220	203	260	605	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	143	0	0	0	0	0	423	0	260	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	

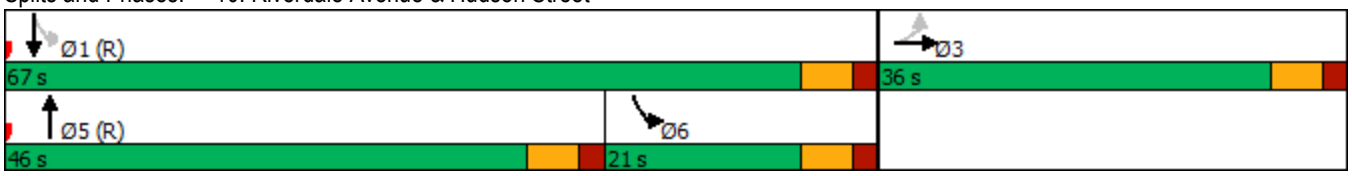


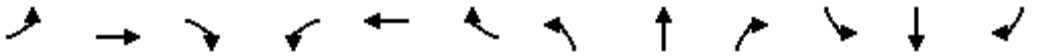
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex						Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0			0.0	
Turn Type	Perm	NA						NA		pm+pt	NA	
Protected Phases		3						5		6	1	
Permitted Phases	3									1		
Detector Phase	3	3						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)		14.2						55.8		76.8	76.8	
Actuated g/C Ratio		0.14						0.54		0.75	0.75	
v/c Ratio		0.62						0.30		0.37	0.26	
Control Delay		50.1						7.5		7.5	4.8	
Queue Delay		0.0						0.0		1.5	0.7	
Total Delay		50.1						7.5		9.0	5.5	
LOS		D						A		A	A	
Approach Delay		50.1						7.5			6.5	
Approach LOS		D						A			A	
Queue Length 50th (ft)		84						36		43	54	
Queue Length 95th (ft)		131						73		88	94	
Internal Link Dist (ft)		458			299			445			245	
Turn Bay Length (ft)										125		
Base Capacity (vph)		479						1402		707	2324	
Starvation Cap Reductn		0						0		279	1297	
Spillback Cap Reductn		0						0		0	0	
Storage Cap Reductn		0						0		0	0	
Reduced v/c Ratio		0.30						0.30		0.61	0.59	

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	

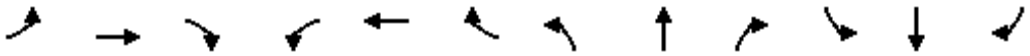
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 11.2	Intersection LOS: B
Intersection Capacity Utilization 68.4%	ICU Level of Service C
Analysis Period (min) 15	

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	334	56	275	480	133	81	257	338	260	299	23
Future Volume (vph)	8	334	56	275	480	133	81	257	338	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		0.979				0.850		0.915				0.850
Flt Protected		0.999		0.950			0.950			0.950		
Satd. Flow (prot)	0	3812	0	1770	1863	1552	1652	2773	0	1652	3421	1531
Flt Permitted		0.918		0.427			0.363			0.406		
Satd. Flow (perm)	0	3503	0	795	1863	1389	631	2773	0	706	3421	1439
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		17				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	371	62	299	522	145	88	279	367	280	322	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	442	0	299	522	145	88	646	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			20	
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		0.42		0.68	0.63	0.18	0.31	0.98dr		0.94	0.31	0.05
Control Delay		31.0		13.7	8.4	0.5	31.8	42.7		81.6	30.8	0.2
Queue Delay		0.0		0.0	0.1	0.0	0.0	0.3		46.9	0.0	0.0
Total Delay		31.0		13.7	8.6	0.5	31.8	43.0		128.4	30.8	0.2
LOS		C		B	A	A	C	D		F	C	A
Approach Delay		31.0			8.9			41.7			73.2	
Approach LOS		C			A			D			E	
Queue Length 50th (ft)		125		22	39	0	46	218		166	92	0
Queue Length 95th (ft)		173		48	50	1	86	290		#342	131	0
Internal Link Dist (ft)		431			323			442			445	
Turn Bay Length (ft)				160			100			155		
Base Capacity (vph)		1062		442	829	827	282	831		297	1026	536
Starvation Cap Reductn		0		0	28	0	0	0		0	0	0
Spillback Cap Reductn		0		0	0	0	0	18		86	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.42		0.68	0.65	0.18	0.31	0.79		1.33	0.31	0.05

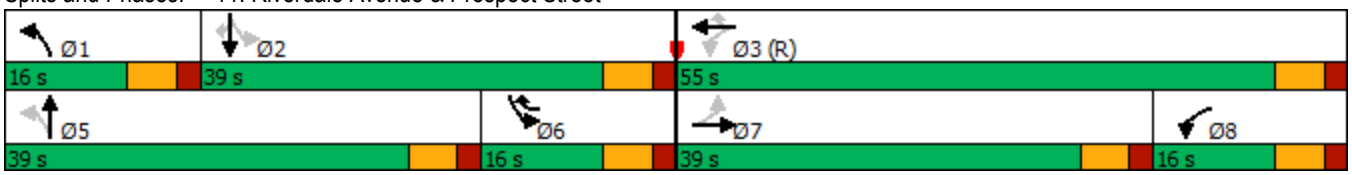
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 25 (23%), Referenced to phase 3:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	

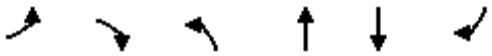
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 35.7	Intersection LOS: D
Intersection Capacity Utilization 116.9%	ICU Level of Service H
Analysis Period (min) 15	

\# 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)	112	0	0	332	0	0
Future Volume (vph)	112	0	0	332	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)	122	0	0	361	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	122	0	0	361	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 30.3%		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)	0	0	0	0	271	142	93	190	0	0	0	0
Future Volume (vph)	0	0	0	0	271	142	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)					38			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	327	171	101	207	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	498	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												

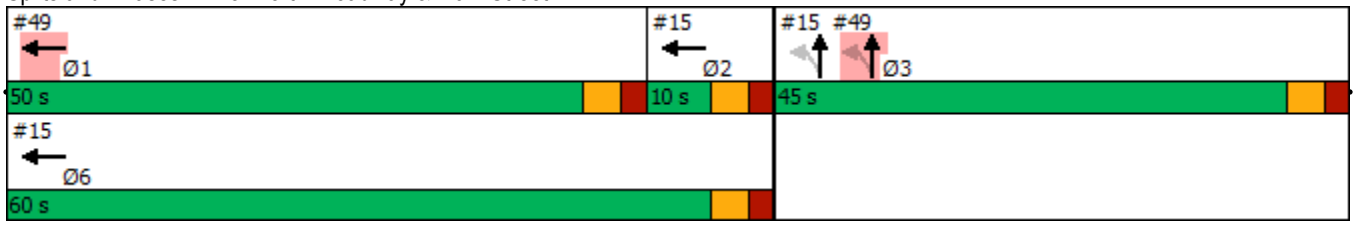
Lane Group	Ø1	Ø2	Ø6
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Width (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link 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					0.46			0.37				
Control Delay					2.6			19.0				
Queue Delay					0.0			0.0				
Total Delay					2.6			19.0				
LOS					A			B				
Approach Delay					2.6			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)					1073			836				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.46			0.37				

Intersection Summary

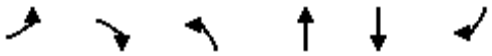
Area Type: Other
Cycle Length: 105
Actuated Cycle Length: 105
Natural Cycle: 105
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 8.9 Intersection LOS: A
Intersection Capacity Utilization 46.4% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 15: North Broadway & Main Street



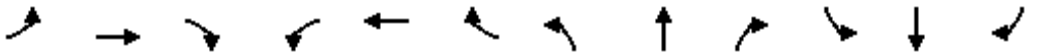
Lane Group	Ø1	Ø2	Ø6
Minimum Initial (s)	5.0	2.0	5.0
Minimum Split (s)	50.0	7.0	10.0
Total Split (s)	50.0	10.0	60.0
Total Split (%)	48%	10%	57%
Maximum Green (s)	45.0	5.0	55.0
Yellow Time (s)	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lead	Lag	
Lead-Lag 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

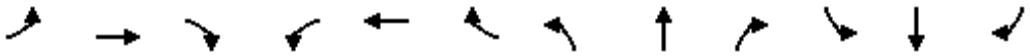


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	304	205	0	321	0	0
Future Volume (vph)	304	205	0	321	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	12	16	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.946					
Flt Protected	0.971					
Satd. Flow (prot)	1713	0	0	1760	0	0
Flt Permitted	0.971					
Satd. Flow (perm)	1713	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)	313	211	0	369	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	524	0	0	369	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 53.0%		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)	44	834	54	125	813	66	54	211	87	117	67	21
Future Volume (vph)	44	834	54	125	813	66	54	211	87	117	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		0.956			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3491	0	1613	3226	1491	1574	1611	0	1687	1642	0
Flt Permitted	0.137			0.200			0.697			0.393		
Satd. Flow (perm)	253	3491	0	340	3226	1363	1155	1611	0	698	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	937	61	132	856	69	58	227	94	124	71	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	998	0	132	856	69	58	321	0	124	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	



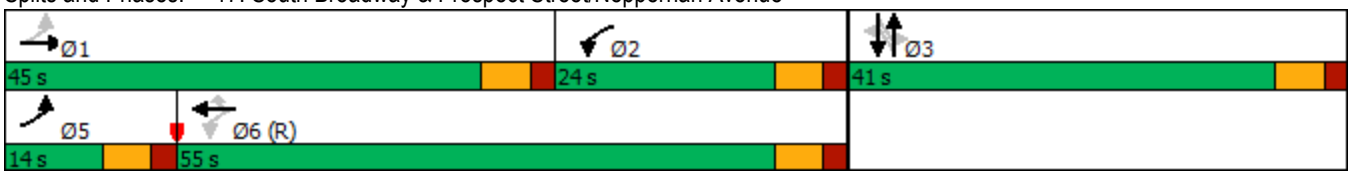
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	1		2	6			3			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)	38.0	38.0		49.0	49.0	49.0	34.2	34.2		34.2	34.2	
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	0.24	0.83		0.35	0.60	0.11	0.16	0.64		0.57	0.18	
Control Delay	20.8	33.4		10.8	8.5	0.9	29.0	39.5		43.9	24.1	
Queue Delay	0.0	32.1		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	20.8	65.5		10.8	8.5	0.9	29.0	39.5		43.9	24.1	
LOS	C	E		B	A	A	C	D		D	C	
Approach Delay		63.4			8.3			37.9			35.4	
Approach LOS		E			A			D			D	
Queue Length 50th (ft)	17	289		10	32	0	30	195		73	40	
Queue Length 95th (ft)	m26	m382		m32	m80	m2	62	291		140	80	
Internal Link Dist (ft)		323			758			543			434	
Turn Bay Length (ft)	107						120			100		
Base Capacity (vph)	207	1247		380	1437	656	367	512		222	532	
Starvation Cap Reductn	0	303		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	0.24	1.06		0.35	0.60	0.11	0.16	0.63		0.56	0.17	

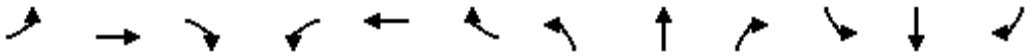
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 15 (14%), Referenced to phase 6:WBTL, Start of Green	

Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 36.0	Intersection LOS: D
Intersection Capacity Utilization 92.3%	ICU Level of Service F
Analysis Period (min) 15	

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

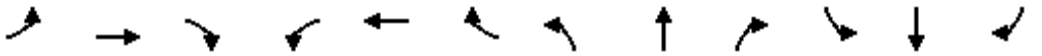
Splits and Phases: 17: South Broadway & Prospect Street/Nepperhan Avenue



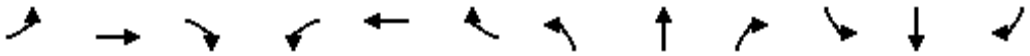


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	238	63	0	0	0	0	38	33	121	32	0
Future Volume (vph)	129	238	63	0	0	0	0	38	33	121	32	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	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		0.980						0.937				
Flt Protected		0.985									0.962	
Satd. Flow (prot)	0	2038	0	0	0	0	0	1745	0	0	1792	0
Flt Permitted		0.985									0.962	
Satd. Flow (perm)	0	2038	0	0	0	0	0	1745	0	0	1792	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		254			216			222			499	
Travel Time (s)		5.8			4.9			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)	140	259	68	0	0	0	0	41	36	132	35	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	467	0	0	0	0	0	77	0	0	167	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 45.2%		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)	59	917	62	340	964	311	40	101	281	0	0	0
Future Volume (vph)	59	917	62	340	964	311	40	101	281	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		0.910				
Flt Protected	0.950			0.950				0.995				
Satd. Flow (prot)	1651	4858	0	1770	5085	1526	0	1625	0	0	0	0
Flt Permitted	0.195			0.167				0.995				
Satd. Flow (perm)	339	4858	0	311	5085	1526	0	1625	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)	66	1030	70	358	1015	327	43	110	305	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	1100	0	358	1015	327	0	458	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												



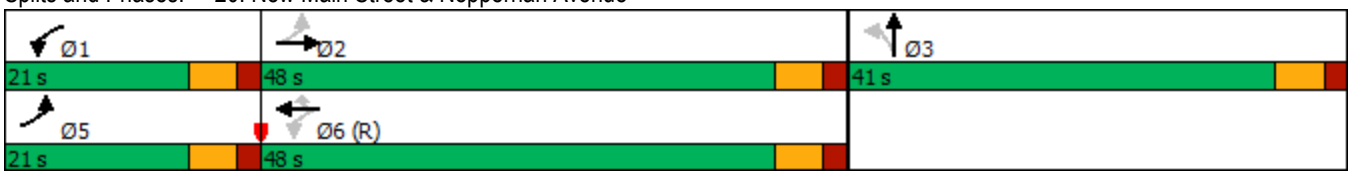
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA				
Protected Phases	5	2		1	6			3				
Permitted Phases	2			6		6	3					
Detector Phase	5	2		1	6	6	3	3				
Switch Phase												
Minimum Initial (s)	5.0	5.0		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	0.18	0.59		0.98	0.52	0.56		0.90				
Control Delay	6.3	11.6		80.6	11.5	13.6		57.9				
Queue Delay	0.0	0.0		0.0	0.3	0.6		0.0				
Total Delay	6.3	11.6		80.6	11.7	14.2		57.9				
LOS	A	B		F	B	B		E				
Approach Delay		11.3			26.7			57.9				
Approach LOS		B			C			E				
Queue Length 50th (ft)	8	91		200	59	53		306				
Queue Length 95th (ft)	m12	115		#371	71	73		#493				
Internal Link Dist (ft)		758			298			644			331	
Turn Bay Length (ft)	360			180								
Base Capacity (vph)	360	1861		366	1941	582		517				
Starvation Cap Reductn	0	0		0	324	66		0				
Spillback Cap Reductn	0	0		0	0	0		0				
Storage Cap Reductn	0	0		0	0	0		0				
Reduced v/c Ratio	0.18	0.59		0.98	0.63	0.63		0.89				

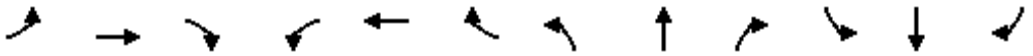
Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	

Intersection Signal Delay: 25.6	Intersection LOS: C
Intersection Capacity Utilization 77.7%	ICU Level of Service D
Analysis Period (min) 15	

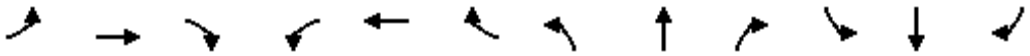
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

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





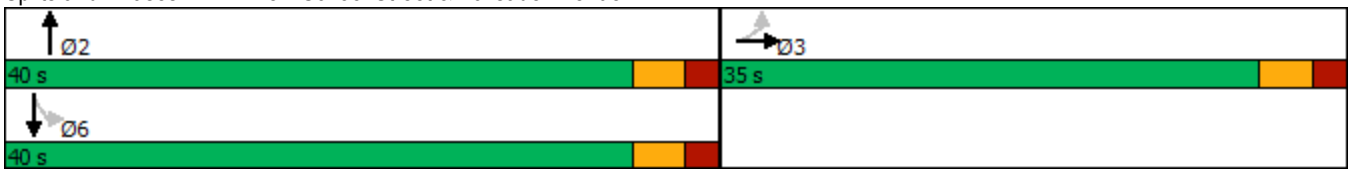
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	199	83	0	0	0	0	114	161	69	143	0
Future Volume (vph)	95	199	83	0	0	0	0	114	161	69	143	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	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		0.970						0.921				
Flt Protected		0.988									0.984	
Satd. Flow (prot)	0	1720	0	0	0	0	0	1944	0	0	2027	0
Flt Permitted		0.988									0.817	
Satd. Flow (perm)	0	1720	0	0	0	0	0	1944	0	0	1683	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23						127				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		307			736			222			625	
Travel Time (s)		7.0			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)	103	216	90	0	0	0	0	124	175	75	155	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	0	0	0	0	0	299	0	0	230	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)		-10			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		

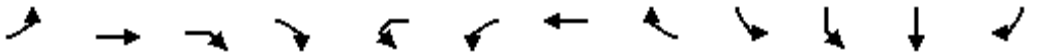


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	3	3						2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0						5.0		5.0	5.0	
Minimum Split (s)	34.0	34.0						39.0		10.0	10.0	
Total Split (s)	35.0	35.0						40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%						53.3%		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)		29.2						35.0			35.0	
Actuated g/C Ratio		0.39						0.47			0.47	
v/c Ratio		0.59						0.30			0.29	
Control Delay		21.0						7.7			13.3	
Queue Delay		0.0						0.0			0.0	
Total Delay		21.0						7.7			13.3	
LOS		C						A			B	
Approach Delay		21.0						7.7			13.3	
Approach LOS		C						A			B	
Queue Length 50th (ft)		136						43			61	
Queue Length 95th (ft)		223						91			110	
Internal Link Dist (ft)		227			656			142			545	
Turn Bay Length (ft)												
Base Capacity (vph)		708						984			794	
Starvation Cap Reductn		0						0			0	
Spillback Cap Reductn		0						0			0	
Storage Cap Reductn		0						0			0	
Reduced v/c Ratio		0.58						0.30			0.29	

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: 0.59			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 60.5%		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)	132	999	63	4	21	37	1395	319	76	36	11	220
Future Volume (vph)	132	999	63	4	21	37	1395	319	76	36	11	220
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			0.913	
Flt Protected	0.950					0.950					0.984	
Satd. Flow (prot)	1711	5040	0	0	0	1753	5212	1569	0	0	1897	0
Flt Permitted	0.091					0.146					0.984	
Satd. Flow (perm)	164	5040	0	0	0	269	5212	1569	0	0	1897	0
Right Turn on Red				Yes				Yes				Yes
Satd. Flow (RTOR)		1						336			86	
Link Speed (mph)		30					30				30	
Link Distance (ft)		378					492				359	
Travel Time (s)		8.6					11.2				8.2	
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)	148	1122	71	4	22	39	1468	336	83	39	12	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	1197	0	0	0	61	1468	336	0	0	373	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	

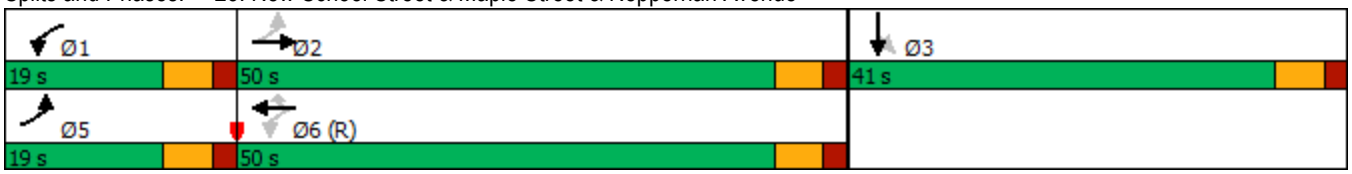
Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	SBL2	SBL	SBT	SBR
Protected Phases	5	2				1	6				3	
Permitted Phases	2					6		6		3		
Detector Phase	5	2				1	6	6		3	3	
Switch Phase												
Minimum Initial (s)	5.0	5.0				5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	46.0				11.0	46.0	46.0		40.0	40.0	
Total 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	0.52	0.59				0.18	0.70	0.41			0.58	
Control Delay	38.5	13.8				11.6	29.8	3.9			28.4	
Queue Delay	0.0	0.2				0.0	0.0	0.0			0.2	
Total Delay	38.5	13.9				11.6	29.8	3.9			28.6	
LOS	D	B				B	C	A			C	
Approach Delay		16.6					24.6				28.6	
Approach LOS		B					C				C	
Queue Length 50th (ft)	72	83				18	312	0			169	
Queue Length 95th (ft)	m126	m128				36	367	55			269	
Internal Link Dist (ft)		298					412				279	
Turn Bay Length (ft)	100					210						
Base Capacity (vph)	283	2016				330	2084	829			662	
Starvation Cap Reductn	0	184				0	0	0			0	
Spillback Cap Reductn	0	0				0	0	0			38	
Storage Cap Reductn	0	0				0	0	0			0	
Reduced v/c Ratio	0.52	0.65				0.18	0.70	0.41			0.60	

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: 0.70			
Intersection Signal Delay: 22.0		Intersection LOS: C	
Intersection Capacity Utilization 69.6%		ICU Level of Service C	

Analysis Period (min) 15

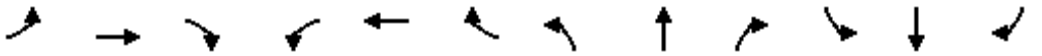
m Volume for 95th percentile queue is metered by upstream signal.

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

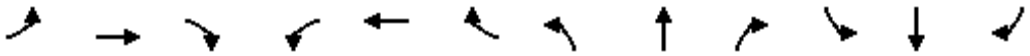


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1075	0	1	1701	71	119
Future Volume (vph)	1075	0	1	1701	71	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	15	15	15
Grade (%)	5%			-5%	0%	
Storage Length (ft)		0	120		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt					0.915	
Flt Protected			0.950		0.982	
Satd. Flow (prot)	4752	0	1814	5703	1841	0
Flt Permitted			0.950		0.982	
Satd. Flow (perm)	4752	0	1814	5703	1841	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)	1208	0	1	1791	77	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1208	0	1	1791	206	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 50.8%		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)	341	67	21	208	0	39	0	1090	104	64	1473	0
Future Volume (vph)	341	67	21	208	0	39	0	1090	104	64	1473	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		0.964			0.979			0.987				
Flt Protected	0.950				0.960					0.950		
Satd. Flow (prot)	1454	1736	0	0	1736	0	0	4894	0	1711	5085	0
Flt Permitted	0.663				0.694					0.090		
Satd. Flow (perm)	1015	1736	0	0	1255	0	0	4894	0	162	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			89			17				
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)	371	73	23	226	0	42	0	1225	117	67	1551	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	96	0	0	268	0	0	1342	0	67	1551	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			38.6		59.6	59.6	
Actuated g/C Ratio	0.33	0.33			0.33			0.36		0.56	0.56	
v/c Ratio	1.11	0.17			0.57			0.75		0.22	0.55	
Control Delay	119.7	23.2			25.4			32.5		12.3	15.7	
Queue Delay	0.0	0.0			0.0			0.0		0.0	0.0	
Total Delay	119.7	23.2			25.4			32.5		12.3	15.7	
LOS	F	C			C			C		B	B	
Approach Delay		99.8			25.4			32.5			15.6	
Approach LOS		F			C			C			B	
Queue Length 50th (ft)	~302	40			102			287		20	232	
Queue Length 95th (ft)	#494	81			195			337		40	273	
Internal Link Dist (ft)		656			321			321			503	
Turn Bay Length (ft)										140		
Base Capacity (vph)	333	580			472			1939		308	3006	
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	1.11	0.17			0.57			0.69		0.22	0.52	

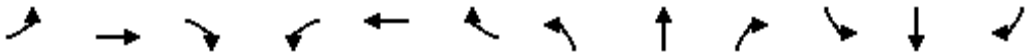
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 106.7			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 33.1		Intersection LOS: C	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	

Analysis Period (min) 15

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

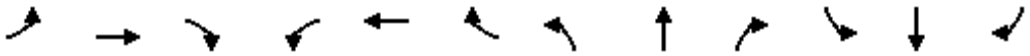
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 27: Nepperhan Avenue & Elm Street



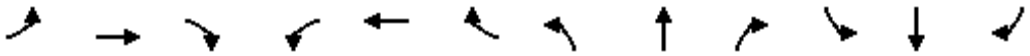
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	398	63	87	370	127	0	0	0	0	0	0
Future Volume (vph)	15	398	63	87	370	127	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	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		0.980			0.962							
Flt Protected		0.998		0.950								
Satd. Flow (prot)	0	3923	0	2006	2031	0	0	0	0	0	0	0
Flt Permitted		0.998		0.950								
Satd. Flow (perm)	0	3923	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	0.90	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	442	70	107	457	157	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	529	0	107	614	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 47.3%		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)	0	0	0	0	381	120	32	310	0	0	0	0
Future Volume (vph)	0	0	0	0	381	120	32	310	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					0.968							
Flt Protected								0.995				
Satd. Flow (prot)	0	0	0	0	2044	0	0	1983	0	0	0	0
Flt Permitted								0.995				
Satd. Flow (perm)	0	0	0	0	2044	0	0	1983	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	459	145	35	337	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	604	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)		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				

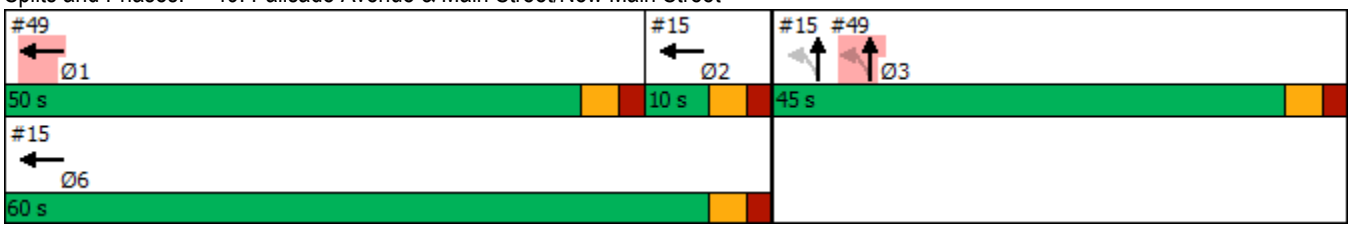
Lane Group	Ø2	Ø6
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
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					0.69			0.49				
Control Delay					29.4			27.5				
Queue Delay					0.0			0.0				
Total Delay					29.4			27.5				
LOS					C			C				
Approach Delay					29.4			27.5				
Approach LOS					C			C				
Queue Length 50th (ft)					322			188				
Queue Length 95th (ft)					398			276				
Internal Link Dist (ft)		1			350			132			174	
Turn Bay Length (ft)												
Base Capacity (vph)					876			755				
Starvation Cap Reductn					0			0				
Spillback Cap Reductn					0			0				
Storage Cap Reductn					0			0				
Reduced v/c Ratio					0.69			0.49				

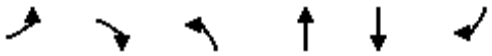
Intersection Summary			
Area Type:	Other		
Cycle Length: 105			
Actuated Cycle Length: 105			
Natural Cycle: 105			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 28.7		Intersection LOS: C	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

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



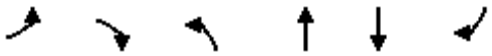
Lane Group	Ø2	Ø6
Switch Phase		
Minimum Initial (s)	2.0	5.0
Minimum Split (s)	7.0	10.0
Total Split (s)	10.0	60.0
Total Split (%)	10%	57%
Maximum Green (s)	5.0	55.0
Yellow Time (s)	3.0	3.0
All-Red Time (s)	2.0	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	
Lead-Lag Optimize?	Yes	
Vehicle 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)	20	77	94	73	76	25
Future Volume (vph)	20	77	94	73	76	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893				0.967	
Flt Protected	0.990			0.973		
Satd. Flow (prot)	1647	0	0	1812	1801	0
Flt Permitted	0.990			0.973		
Satd. Flow (perm)	1647	0	0	1812	1801	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)	22	84	102	79	83	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	106	0	0	181	110	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 28.2%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	77	90	318	352	18
Future Volume (vph)	15	77	90	318	352	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.887				0.993	
Flt Protected	0.992			0.989		
Satd. Flow (prot)	1639	0	0	1842	1850	0
Flt Permitted	0.992			0.989		
Satd. Flow (perm)	1639	0	0	1842	1850	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)	16	84	98	346	383	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	100	0	0	444	403	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 56.9%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	371	21	0	0	0	6
Future Volume (vph)	371	21	0	0	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993					0.865
Flt Protected						
Satd. Flow (prot)	1850	0	0	0	0	1611
Flt Permitted						
Satd. Flow (perm)	1850	0	0	0	0	1611
Link Speed (mph)	30			30	30	
Link Distance (ft)	216			307	260	
Travel Time (s)	4.9			7.0	5.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	403	23	0	0	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	426	0	0	0	0	7
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	85	9	38	110	0	25	0	21	7	0	6
Future Vol, veh/h	0	85	9	38	110	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	99	10	41	120	0	27	0	23	8	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	109	0	0	310	-	104	318	311	120
Stage 1	-	-	-	-	-	-	104	-	-	202	202	-
Stage 2	-	-	-	-	-	-	206	-	-	116	109	-
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	-	-	1457	-	0	642	0	951	635	604	931
Stage 1	0	-	-	-	-	0	902	0	-	800	734	-
Stage 2	0	-	-	-	-	0	796	0	-	889	805	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1457	-	-	623	-	951	606	586	931
Mov Cap-2 Maneuver	-	-	-	-	-	-	623	-	-	606	586	-
Stage 1	-	-	-	-	-	-	902	-	-	800	712	-
Stage 2	-	-	-	-	-	-	767	-	-	868	805	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.9	10.2	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	739	-	-	1457	-	722
HCM Lane V/C Ratio	0.068	-	-	0.028	-	0.02
HCM Control Delay (s)	10.2	-	-	7.5	0	10.1
HCM Lane LOS	B	-	-	A	A	B
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	0.1

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	58	0	0	0	0	57	38	47	17	0	30
Future Vol, veh/h	8	58	0	0	0	0	57	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	68	0	0	0	0	69	46	57	19	0	33

Major/Minor	Major1			Minor1			Minor2		
Conflicting Flow All	0	0	-	141	86	84	154	86	38
Stage 1	-	-	-	86	86	-	0	0	-
Stage 2	-	-	-	55	0	-	154	86	-
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	817	795	962	813	804	1034
Stage 1	-	-	0	910	814	-	-	-	-
Stage 2	-	-	0	-	-	-	848	824	-
Platoon blocked, %		-							
Mov Cap-1 Maneuver	-	-	-	764	795	962	732	804	1000
Mov Cap-2 Maneuver	-	-	-	764	795	-	732	804	-
Stage 1	-	-	-	910	814	-	-	-	-
Stage 2	-	-	-	-	-	-	753	824	-

Approach	EB	NB	SB
HCM Control Delay, s		10.5	9.3
HCM LOS		B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	SBLn1
Capacity (veh/h)	829	-	-	883
HCM Lane V/C Ratio	0.206	-	-	0.059
HCM Control Delay (s)	10.5	-	-	9.3
HCM Lane LOS	B	-	-	A
HCM 95th %tile Q(veh)	0.8	-	-	0.2

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	112	0	0	332	0	0
Future Vol, veh/h	112	0	0	332	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	122	0	0	361	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	361	-	-	0
Stage 1	0	-	-	-
Stage 2	361	-	-	-
Critical Hdwy	6.42	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	-	-
Pot Cap-1 Maneuver	638	0	0	-
Stage 1	-	0	0	-
Stage 2	705	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	638	-	-	-
Mov Cap-2 Maneuver	638	-	-	-
Stage 1	-	-	-	-
Stage 2	705	-	-	-

Approach	EB	NB
HCM Control Delay, s	12	0
HCM LOS	B	

Minor Lane/Major Mvmt	NBT	EBLn1
Capacity (veh/h)	-	638
HCM Lane V/C Ratio	-	0.191
HCM Control Delay (s)	-	12
HCM Lane LOS	-	B
HCM 95th %tile Q(veh)	-	0.7

Intersection	
Int Delay, s/veh	9.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1075	0	1	1701	71	119
Future Vol, veh/h	1075	0	1	1701	71	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	1208	0	1	1791	77	129

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1208	0	1926	604
Stage 1	-	-	-	-	1208	-
Stage 2	-	-	-	-	718	-
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	-	-	310	-	103	378
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	404	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	310	-	103	378
Mov Cap-2 Maneuver	-	-	-	-	103	-
Stage 1	-	-	-	-	180	-
Stage 2	-	-	-	-	403	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	143.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	189	-	-	310	-
HCM Lane V/C Ratio	1.093	-	-	0.003	-
HCM Control Delay (s)	143.9	-	-	16.7	-
HCM Lane LOS	F	-	-	C	-
HCM 95th %tile Q(veh)	10	-	-	0	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	77	94	73	76	25
Future Vol, veh/h	20	77	94	73	76	25
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	22	84	102	79	83	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	380	97	110	0	-	0
Stage 1	97	-	-	-	-	-
Stage 2	283	-	-	-	-	-
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	622	959	1480	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	577	959	1480	-	-	-
Mov Cap-2 Maneuver	577	-	-	-	-	-
Stage 1	860	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	4.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1480	-	844	-	-
HCM Lane V/C Ratio	0.069	-	0.125	-	-
HCM Control Delay (s)	7.6	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	77	90	318	352	18
Future Vol, veh/h	15	77	90	318	352	18
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	16	84	98	346	383	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	935	393	403	0	-	0
Stage 1	393	-	-	-	-	-
Stage 2	542	-	-	-	-	-
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	295	656	1156	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	264	656	1156	-	-	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	583	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1156	-	528	-	-
HCM Lane V/C Ratio	0.085	-	0.189	-	-
HCM Control Delay (s)	8.4	0	13.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.7	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	371	21	0	0	0	6
Future Vol, veh/h	371	21	0	0	0	6
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	-	-	16983	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	403	23	0	0	0	7

Major/Minor	Major1			Minor1	
Conflicting Flow All	0	0		-	415
Stage 1	-	-		-	-
Stage 2	-	-		-	-
Critical Hdwy	-	-		-	6.22
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		-	-
Follow-up Hdwy	-	-		-	3.318
Pot Cap-1 Maneuver	-	-		0	637
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Platoon blocked, %	-	-			
Mov Cap-1 Maneuver	-	-		-	637
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	NB
HCM Control Delay, s	0	10.7
HCM LOS		B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	637	-	-
HCM Lane V/C Ratio	0.01	-	-
HCM Control Delay (s)	10.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Intersection Delay, s/veh	22.8
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	83	287	121	137	339	90
Future Vol, veh/h	83	287	121	137	339	90
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	354	148	167	390	103
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	17.5	15.8	32.3
HCM LOS	C	C	D

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	0%	100%	0%	79%
Vol Thru, %	47%	0%	0%	21%
Vol Right, %	53%	0%	100%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	258	83	287	429
LT Vol	0	83	0	339
Through Vol	121	0	0	90
RT Vol	137	0	287	0
Lane Flow Rate	315	102	354	493
Geometry Grp	2	7	7	2
Degree of Util (X)	0.528	0.215	0.622	0.831
Departure Headway (Hd)	6.04	7.541	6.316	6.067
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	592	473	567	592
Service Time	4.127	5.321	4.095	4.143
HCM Lane V/C Ratio	0.532	0.216	0.624	0.833
HCM Control Delay	15.8	12.4	19	32.3
HCM Lane LOS	C	B	C	D
HCM 95th-tile Q	3.1	0.8	4.3	8.7

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	304	205	0	321	0	0
Future Vol, veh/h	304	205	0	321	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	313	211	0	369	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	20	14.6
HCM LOS	C	B

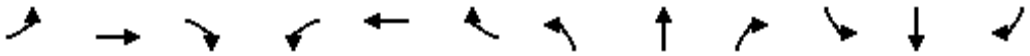
Lane	NBLn1	EBLn1
Vol Left, %	0%	60%
Vol Thru, %	100%	0%
Vol Right, %	0%	40%
Sign Control	Stop	Stop
Traffic Vol by Lane	321	509
LT Vol	0	304
Through Vol	321	0
RT Vol	0	205
Lane Flow Rate	369	525
Geometry Grp	1	1
Degree of Util (X)	0.542	0.722
Departure Headway (Hd)	5.29	4.95
Convergence, Y/N	Yes	Yes
Cap	675	724
Service Time	3.388	3.031
HCM Lane V/C Ratio	0.547	0.725
HCM Control Delay	14.6	20
HCM Lane LOS	B	C
HCM 95th-tile Q	3.3	6.2

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	129	238	63	0	0	0	0	38	33	121	32	0
Future Vol, veh/h	129	238	63	0	0	0	0	38	33	121	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	140	259	68	0	0	0	0	41	36	132	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	13.9	8.7	10.1
HCM LOS	B	A	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	0%	30%	79%
Vol Thru, %	54%	55%	21%
Vol Right, %	46%	15%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	71	430	153
LT Vol	0	129	121
Through Vol	38	238	32
RT Vol	33	63	0
Lane Flow Rate	77	467	166
Geometry Grp	1	1	1
Degree of Util (X)	0.107	0.589	0.245
Departure Headway (Hd)	5.005	4.533	5.307
Convergence, Y/N	Yes	Yes	Yes
Cap	710	795	672
Service Time	3.079	2.576	3.372
HCM Lane V/C Ratio	0.108	0.587	0.247
HCM Control Delay	8.7	13.9	10.1
HCM Lane LOS	A	B	B
HCM 95th-tile Q	0.4	3.9	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	398	63	87	370	127	0	0	0	0	0	0
Future Volume (Veh/h)	15	398	63	87	370	127	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	442	70	107	457	157	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	386	0	0	291	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	386	0	0	291	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 %	94	51	94	72	49	86	100			100		
cM capacity (veh/h)	293	896	1085	379	896	1085	1623			1623		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2
Volume Total	238	291	107	614
Volume Left	17	0	107	0
Volume Right	0	70	0	157
cSH	781	935	379	938
Volume to Capacity	0.30	0.31	0.28	0.65
Queue Length 95th (ft)	32	33	29	126
Control Delay (s)	11.6	10.6	18.2	15.8
Lane LOS	B	B	C	C
Approach Delay (s)	11.0		16.2	
Approach LOS	B		C	

Intersection Summary				
Average Delay	14.0			
Intersection Capacity Utilization	47.3%	ICU Level of Service	A	
Analysis Period (min)	15			