Tom Johnson

From: Tom Johnson
Sent: Monday, October 29, 2018 9:45 AM
To: Larry Boudreau
Subject: RE: Beacon - 248 Tioronda

Larry, previous traffic analysis files are not in the project folder so I re-created them. Here is summary of updated analysis for Wolcott/Tioronda intersection:

1. The 2015 analysis showed LOS B for AM and PM build using Synchro version 8
2. Re-creating the 2015 analysis showed LOS A for AM and PM using Synchro version 10 which is 2 versions after 8
3. To change LOS A to B for AM peak I added 300 vehicles EB on Wolcott, 300 vehicles WB on Wolcott, and 50 vehicles SB on Tioronda (kept NB the same). Delay increased by about 3 seconds.
4. To change LOS A to B for PM peak I added 200 vehicles EB on Wolcott, 200 vehicles WB on Wolcott, and 50 vehicles SB on Tioronda (kept NB the same). Delay increased by about 3 seconds.

Bottom line: intersection can handle a lot more traffic and still operate with very good levels of service.

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From: Larry Boudreau
Sent: Friday, October 26, 2018 2:53 PM
To: 'Ward-Willis, Nicholas M.' <NWard-Willis@kblaw.com>; 'John Russo' <jdr@lanctully.com>
Cc: 'Anthony Ruggiero' <aruggiero@cityofbeacon.org>; 'John Clarke' <jclarkeplandesign@gmail.com>
Subject: RE: Beacon - 248 Tioronda

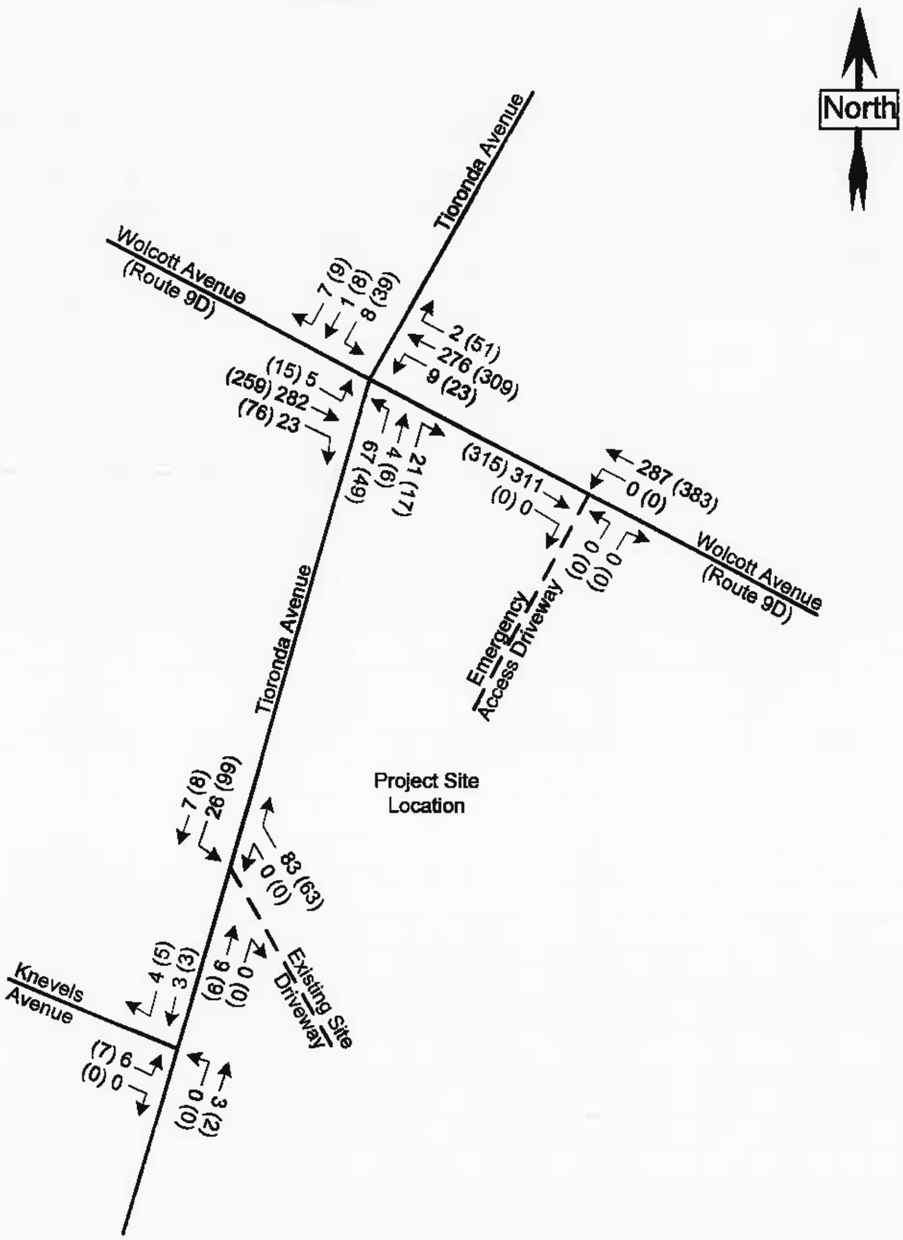
Yes I understand. The TIS completed at that time indicated that all studied intersections were operating at a health good to excellent service (LOS A and B), and the 2015 build volumes did not change the LOS at the studied intersections. I will prepare a ppt slide to review this Monday night. Thanks Nic.
Larry

From: Ward-Willis, Nicholas M. <NWard-Willis@kblaw.com>
Sent: Friday, October 26, 2018 1:51 PM
To: Larry Boudreau <lboudreau@chazencompanies.com>; 'John Russo' <jdr@lanctully.com>
Cc: 'Anthony Ruggiero' <aruggiero@cityofbeacon.org>; 'John Clarke' <jclarkeplandesign@gmail.com>
Subject: RE: Beacon - 248 Tioronda

Larry, thanks. I read that language in the EAF, but my question is more focused on whether given the changes in Beacon in the last 5 years since the report was done, have the traffic counts on Route 9D and Tioronda Avenue and traffic patterns changed, such that the 2013 Study should be updated. As the attorney, I don't know the answer, but in my mind, it is a legitimate question.

Nick

Scenario 1



AM PEAK HOUR TRAFFIC VOLUMES (PM PEAK HOUR TRAFFIC VOLUMES)

THE Chazen COMPANIES®	**Beacon 248 Development, LLC** Tioronda Avenue City of Beacon Dutchess County, New York	2015 Build Traffic Volumes (Scenario 1)
	Project #: 81056.00 / Date: October 2013	Figure: #A3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	282	23	9	276	2	67	4	21	8	1	7
Future Volume (vph)	5	282	23	9	276	2	67	4	21	8	1	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.999			0.969			0.940	
Flt Protected		0.999			0.998			0.965			0.976	
Satd. Flow (prot)	0	1842	0	0	1857	0	0	1742	0	0	1709	0
Flt Permitted		0.992			0.983			0.815			0.902	
Satd. Flow (perm)	0	1829	0	0	1829	0	0	1471	0	0	1579	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		10			1							
Link Speed (mph)		15			30			25			30	
Link Distance (ft)		964			1319			984			876	
Travel Time (s)		43.8			30.0			26.8			19.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	6	320	26	10	314	2	76	5	24	9	1	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	352	0	0	326	0	0	105	0	0	18	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
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		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		2.5	2.5		2.5	2.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		8.0	8.0		23.0	23.0	
Total Split (s)	63.0	63.0		63.0	63.0		23.0	23.0		23.0	23.0	
Total Split (%)	73.3%	73.3%		73.3%	73.3%		26.7%	26.7%		26.7%	26.7%	
Maximum Green (s)	58.0	58.0		58.0	58.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
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?												
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		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effct Green (s)		13.3			13.3			18.1			18.1	
Actuated g/C Ratio		0.32			0.32			0.44			0.44	
v/c Ratio		0.59			0.56			0.16			0.03	
Control Delay		15.8			15.4			9.2			8.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.8			15.4			9.2			8.4	
LOS		B			B			A			A	
Approach Delay		15.8			15.4			9.2			8.4	
Approach LOS		B			B			A			A	

Intersection Summary	
Area Type: Other	
Cycle Length: 86	
Actuated Cycle Length: 41.5	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 14.6	Intersection LOS: B
Intersection Capacity Utilization 35.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Tioronda & Wolcott (9D)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	259	76	23	309	51	49	5	17	39	8	9
Future Volume (vph)	15	259	76	23	309	51	49	5	17	39	8	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.982			0.968			0.977	
Flt Protected		0.998			0.997			0.967			0.966	
Satd. Flow (prot)	0	1805	0	0	1824	0	0	1744	0	0	1758	0
Flt Permitted		0.971			0.960			0.808			0.811	
Satd. Flow (perm)	0	1756	0	0	1756	0	0	1457	0	0	1476	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		35			20							
Link Speed (mph)		15			30			25			30	
Link Distance (ft)		964			1319			984			876	
Travel Time (s)		43.8			30.0			26.8			19.9	
Peak Hour 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
Adj. Flow (vph)	18	305	89	27	364	60	58	6	20	46	9	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	412	0	0	451	0	0	84	0	0	66	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
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		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		2.5	2.5		2.5	2.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		8.0	8.0		23.0	23.0	
Total Split (s)	63.0	63.0		63.0	63.0		23.0	23.0		23.0	23.0	
Total Split (%)	73.3%	73.3%		73.3%	73.3%		26.7%	26.7%		26.7%	26.7%	
Maximum Green (s)	58.0	58.0		58.0	58.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
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?												
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		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effct Green (s)		16.0			16.0			18.2			18.2	
Actuated g/C Ratio		0.36			0.36			0.41			0.41	
v/c Ratio		0.63			0.70			0.14			0.11	
Control Delay		15.0			17.6			10.6			10.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		15.0			17.6			10.6			10.3	
LOS		B			B			B			B	
Approach Delay		15.0			17.6			10.6			10.3	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 86

Actuated Cycle Length: 44.2

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 15.5 Intersection LOS: B

Intersection Capacity Utilization 41.0% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Tioronda & Wolcott (9D)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	582	23	9	576	2	67	4	21	60	1	7
Future Volume (vph)	5	582	23	9	576	2	67	4	21	60	1	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995						0.969			0.986	
Flt Protected					0.999			0.965			0.958	
Satd. Flow (prot)	0	1853	0	0	1861	0	0	1742	0	0	1760	0
Flt Permitted		0.995			0.989			0.765			0.721	
Satd. Flow (perm)	0	1844	0	0	1842	0	0	1381	0	0	1324	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		5										
Link Speed (mph)		15			30			25			30	
Link Distance (ft)		964			1319			984			876	
Travel Time (s)		43.8			30.0			26.8			19.9	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	6	661	26	10	655	2	76	5	24	68	1	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	693	0	0	667	0	0	105	0	0	77	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
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		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		2.5	2.5		2.5	2.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		8.0	8.0		23.0	23.0	
Total Split (s)	63.0	63.0		63.0	63.0		23.0	23.0		23.0	23.0	
Total Split (%)	73.3%	73.3%		73.3%	73.3%		26.7%	26.7%		26.7%	26.7%	
Maximum Green (s)	58.0	58.0		58.0	58.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
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?												
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		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effct Green (s)		28.8			28.8			18.4			18.4	
Actuated g/C Ratio		0.50			0.50			0.32			0.32	
v/c Ratio		0.75			0.72			0.24			0.18	
Control Delay		16.4			15.7			19.7			19.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.4			15.7			19.7			19.2	
LOS		B			B			B			B	
Approach Delay		16.4			15.7			19.7			19.2	
Approach LOS		B			B			B			B	

Intersection Summary	
Area Type: Other	
Cycle Length: 86	
Actuated Cycle Length: 57.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 49.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: Tioronda & Wolcott (9D)

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	459	76	23	509	51	49	5	17	90	8	9
Future Volume (vph)	15	459	76	23	509	51	49	5	17	90	8	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.988			0.968			0.988	
Flt Protected		0.999			0.998			0.967			0.960	
Satd. Flow (prot)	0	1826	0	0	1837	0	0	1744	0	0	1767	0
Flt Permitted		0.976			0.965			0.767			0.714	
Satd. Flow (perm)	0	1783	0	0	1776	0	0	1383	0	0	1314	0
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)		21			12							
Link Speed (mph)		15			30			25			30	
Link Distance (ft)		964			1319			984			876	
Travel Time (s)		43.8			30.0			26.8			19.9	
Peak Hour 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
Adj. Flow (vph)	18	540	89	27	599	60	58	6	20	106	9	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	647	0	0	686	0	0	84	0	0	126	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
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		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		2.5	2.5		2.5	2.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	23.0	23.0		23.0	23.0		8.0	8.0		23.0	23.0	
Total Split (s)	63.0	63.0		63.0	63.0		23.0	23.0		23.0	23.0	
Total Split (%)	73.3%	73.3%		73.3%	73.3%		26.7%	26.7%		26.7%	26.7%	
Maximum Green (s)	58.0	58.0		58.0	58.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
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?												
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		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0					11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effct Green (s)		26.9			26.9			18.4			18.4	
Actuated g/C Ratio		0.48			0.48			0.33			0.33	
v/c Ratio		0.74			0.79			0.18			0.29	
Control Delay		16.3			18.7			17.8			19.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.3			18.7			17.8			19.2	
LOS		B			B			B			B	
Approach Delay		16.3			18.7			17.8			19.2	
Approach LOS		B			B			B			B	

Intersection Summary	
Area Type: Other	
Cycle Length: 86	
Actuated Cycle Length: 55.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 17.7	Intersection LOS: B
Intersection Capacity Utilization 56.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: Tioronda & Wolcott (9D)