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May 18, 2017

VIA EMAIL AND UPS

Mr. James Sheers
Beacon Planning Board
City of Beacon City Hall
1 Municipal Plaza
Beacon, NY 12508

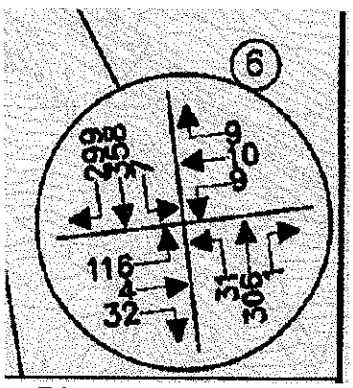
Re: Review for West End Lofts
City of Beacon, New York
MC Project No. 17000432A

Dear Chairman Sheers:

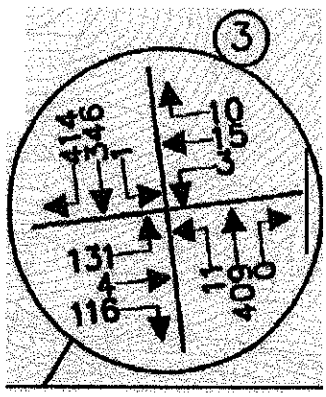
We have received the May 5, 2017 letter from Creighton Manning regarding the above referenced project and have the following responses. Items 1 through 3 of the Creighton Manning letter pertain to the site plan and will be addressed by Insite Engineering separately.

Traffic Study

4. We note some differences in the existing traffic volumes between the Edgewater study and the West End Loft study. For example, the Beekman Avenue/West Church Street/Route 9D intersection has a few movements that are 80 to 115 vehicles different (below).Were different volumes used at the common intersections between the two studies?



EdgewaterAMPH–Fig2



WestEndLoftsAMPH–Fig2

Response: ***The traffic volumes utilized in the Edgewater study were based on older traffic volume data collected by our office. The traffic volume data utilized***

in the West End Lofts study are based on the recent turning movement traffic volume data collected during March 2017. These reflect current conditions. The Edgewater Traffic Study has also been revised accordingly, to be consistent with the traffic volumes utilized in the West End Lofts study.

5. A background growth factor of 2% was used; however, our review of historical traffic volumes of Route 9D (2005-2012) revealed traffic growth of 3.46% per year.

   Response: ***The 2% per year growth rate utilized in the study accounts for normal background traffic growth in the area of the development. The analysis also accounts for traffic associated with the Views, Edgewater and 555 South Avenue developments, when considered together with the normal background traffic growth, the total growth rate from 2017 to 2022 is in excess of 20%, which is comparable to a 3.46% growth rate over the 5 year period, which would equate to a total growth percentage of 17.3%.***

6. The study included background traffic from other development projects including The Views, Edgewater, and the 555 South Avenue project. We defer to the Planning Board as to whether this adequately includes nearby projects.

   Response: ***At the time of completion of the study, The Views, Edgewater and 555 South Avenue were the other specific projects requested to be included in the Traffic Study as other development projects by the City's Engineer Lanc & Tully.***

7. We concur with the trip generation estimate based on ITE sources, noting that no credit was taken for pedestrian trips destined for the train station. We expect that West End residents will find it more convenient to walk (+/-1,600 ft.) to the station rather than drive and park. Are the Tompkins Terrace Apartments a comparable trip generator to which the traffic/pedestrian trip generation could be applied to West End?

   Response: ***Traffic data collected at the intersection of Tomkins Avenue and Bank Street collected as part of the Edgewater development TIS did not indicate any significant pedestrian activity. The actual vehicle trip generation for the proposed development will likely be lower than the estimates contained in Table No. 1 of the Traffic Study due to the anticipated pedestrian trips***

to and from the train station. We do not believe that the Tomkins Terrace Apartments are a comparable traffic generator.

8. We concur with the trip distribution.

   Response: Comment noted. No further response necessary.

9. The Route 90 (Wolcott Avenue) intersections with the site driveway and the Municipal Center/Main Street intersections are expected to operate adequately as proposed.

   Response: Comment noted. No further response necessary.

10. The Route 90/Beekman Street/W. Church Street intersection is expected to operate at LOS F on the southbound approach during the AM peak hour and PM peak hours under No-Build conditions, with minimal increases in delay due to the project. That being said, signal timing adjustments, as offered in the study, consisting of decreasing the northbound left turn movement to only 2 seconds of maximum green, along with some other changes will improve the condition to LOS D in the AM peak hour. However, it is our opinion that the change to the northbound left turn movement will generate complaints from motorists that the green is too short. In the PM peak hour, the northbound left turn movement is changed from a leading phase (comes up first) to a lagging phase (green ball first, then green arrow later). This, with other changes, will alleviate the LOS F operation, but the City should consider driver expectations with the change in phase order. Can the delays at this intersection be minimized while keeping the left turn phase at the beginning?

    Response: The analysis of the Route 9D/Beekman Street/West Church Street intersection with proposed signal timing improvements under future build conditions has been revised to maintain the existing traffic signal phasing (i.e. leading left turn phase) and to maintain the existing green time for the northbound left turn phase. The green time on the northbound and southbound through movements has been balanced with the green time on the eastbound and westbound approaches to reduce the future no-build and build delays expected to be experienced at the intersection. The revised analyses with these signal timing modifications are summarized in the table below.

3	NYS ROUTE 9D (WOLCOTT AVENUE) & BEEKMAN STREET/WEST CHURCH STREET	**SIGNALIZED**						
	BEEKMAN STREET	EB APPROACH	C [25.3]	C [29.7]	C [26.0]	D [35.2]	C [26.2]	D [35.3]
	WEST CHURCH STREET	WB APPROACH	C [22.3]	C [21.5]	C [22.2]	C [24.0]	C [22.3]	C [24.2]
	NYS ROUTE 9D	NB APPROACH	A [7.6]	B [17.5]	A [9.7]	C [21.6]	A [9.9]	C [21.9]
	NYS ROUTE 9D	SB APPROACH	C [20.1]	C [32.2]	E [62.4]	F [87.7]	E [65.6]	F [98.2]
		OVERALL	**B [17.4]**	**C [27.2]**	**D [39.5]**	**D [53.9]**	**D [40.9]**	**E [58.7]**
	W/SIGNAL TIMING CHANGES							
	BEEKMAN STREET	EB APPROACH	-	-	C [27.9]	D [53.5]	C [28.1]	D [54.9]
	WEST CHURCH STREET	WB APPROACH	-	-	C [23.7]	C [25.8]	C [23.8]	C [25.1]
	NYS ROUTE 9D	NB APPROACH	-	-	A [9.5]	B [17.3]	A [9.7]	C [17.4]
	NYS ROUTE 9D	SB APPROACH	-	-	D [46.5]	D [44.1]	D [48.7]	D [49.5]
		OVERALL	-	-	**C [31.7]**	**D [37.5]**	**C [32.7]**	**D [40.2]**

11. Overall, there are some differences in intersection operations when comparing the West End report to the Edgewater report for those intersections that they have in common. This may be explained based on the response to comment #4.

Response: ***Response 4 above addresses this. The West End Lofts Traffic Study utilized the more recent traffic volume data collected in March 2017 for the matching intersections. The analysis for the Edgewater development has now been revised to reflect the more recent traffic volume data as well. In addition, all proposed recommendations between the two projects, i.e. signal timing modifications have also been coordinated.***

If you have any questions regarding the above, please do not hesitate to contact us.

Very truly yours,

MASER CONSULTING P.A.

Philip J. Grealy, Ph.D., P.E.
Principal/Department Manager

Richard G. D'Andrea, P.E., PTOE
Associate/Project Manager

Enclosures

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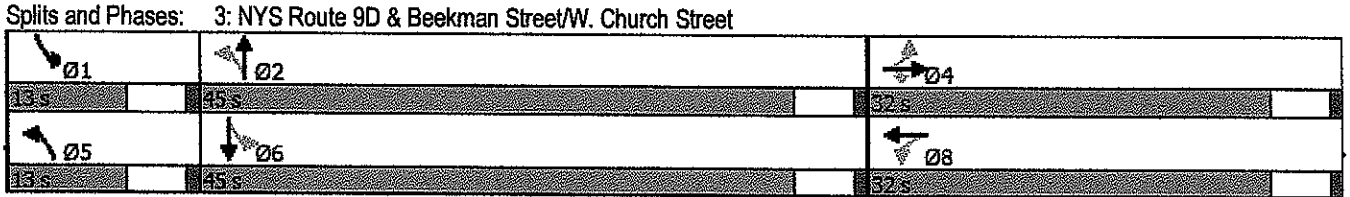
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	4	159	3	17	11	29	511	1	1	452	457
Future Volume (vph)	153	4	159	3	17	11	29	511	1	1	452	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	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	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99			1.00		1.00		
Frt			0.850		0.951						0.925	
Flt Protected		0.953			0.995		0.950			0.950		
Satd. Flow (prot)	0	1709	1599	0	1807	0	1706	1864	0	1778	1634	0
Flt Permitted		0.707			0.974		0.092			0.383		
Satd. Flow (perm)	0	1245	1599	0	1768	0	165	1864	0	715	1634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		12						73	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			167	
Travel Time (s)		6.2			3.6			8.8			3.8	
Confl. Peds. (#/hr)	7					7			6	6		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	0%	0%	33%	0%	0%	9%	5%	0%	0%	11%	1%
Adj. Flow (vph)	163	4	169	3	18	12	31	544	1	1	481	486
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	167	169	0	33	0	31	545	0	1	967	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			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	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)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex			Cl+Ex		
Detector 2 Channel												

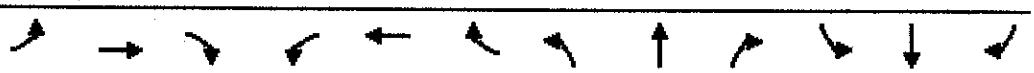
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0	0.0		0.0		0.0			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		2.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		7.0	21.0		9.0	21.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		13.0	45.0		13.0	45.0	
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%		14.4%	50.0%		14.4%	50.0%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		8.0	40.0		8.0	40.0	
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)	1.0	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	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		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	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.62	0.35		0.08		0.13	0.48		0.00	0.99	
Control Delay		36.4	6.6		17.4		7.2	11.3		6.0	44.8	
Queue Delay		0.0	0.0		0.0		0.0	0.7		0.0	0.0	
Total Delay		36.4	6.6		17.4		7.2	12.0		6.0	44.8	
Queue Length 50th (ft)		59	0		7		4	104		0	288	
Queue Length 95th (ft)		137	45		30		17	316		2	#875	
Internal Link Dist (ft)		193			78			308			87	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		488	730		701		283	1145		566	980	
Starvation Cap Reductn		0	0		0		0	304		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		0.34	0.23		0.05		0.11	0.65		0.00	0.99	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 70.5
Natural Cycle: 80
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: NYS Route 9D & Beekman Street/W. Church Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	4	159	3	17	11	29	511	1	1	452	457
Future Volume (veh/h)	153	4	159	3	17	11	29	511	1	1	452	457
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1793	1881	1995	1937	1995	1795	1864	1957	1872	1766	1872
Adj Flow Rate, veh/h	163	4	169	3	18	12	31	544	1	1	481	486
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	9	5	5	0	11	11
Cap, veh/h	331	6	271	66	188	112	134	1125	2	489	474	479
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.02	0.61	0.61	0.00	0.59	0.59
Sat Flow, veh/h	1308	32	1566	47	1086	647	1710	1860	3	1782	805	813
Grp Volume(v), veh/h	167	0	169	33	0	0	31	0	545	1	0	967
Grp Sat Flow(s),veh/h/ln	1340	0	1566	1780	0	0	1710	0	1863	1782	0	1618
Q Serve(g_s), s	6.8	0.0	6.8	0.0	0.0	0.0	0.5	0.0	11.1	0.0	0.0	40.0
Cycle Q Clear(g_c), s	7.9	0.0	6.8	1.0	0.0	0.0	0.5	0.0	11.1	0.0	0.0	40.0
Prop In Lane	0.98		1.00	0.09		0.36	1.00		0.00	1.00		0.50
Lane Grp Cap(c), veh/h	336	0	271	365	0	0	134	0	1127	489	0	954
V/C Ratio(X)	0.50	0.00	0.62	0.09	0.00	0.00	0.23	0.00	0.48	0.00	0.00	1.01
Avail Cap(c_a), veh/h	631	0	624	754	0	0	308	0	1127	696	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	26.0	23.6	0.0	0.0	17.2	0.0	7.5	6.4	0.0	13.9
Incr Delay (d2), s/veh	1.1	0.0	2.4	0.1	0.0	0.0	0.9	0.0	1.5	0.0	0.0	32.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	3.1	0.5	0.0	0.0	0.4	0.0	6.1	0.0	0.0	26.1
LnGrp Delay(d),s/veh	27.5	0.0	28.4	23.7	0.0	0.0	18.0	0.0	9.0	6.4	0.0	46.5
LnGrp LOS	C		C	C			B		A	A		F
Approach Vol, veh/h		336			33			576			968	
Approach Delay, s/veh		27.9			23.7			9.5			46.5	
Approach LOS		C			C			A			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	46.0		16.7	6.1	45.0		16.7
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	8.0	40.0		27.0	8.0	40.0		27.0
Max Q Clear Time (g_c+I1), s	2.0	13.1		9.9	2.5	42.0		3.0
Green Ext Time (p_c), s	0.0	5.9		1.9	0.0	0.0		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	31.7
HCM 2010 LOS	C

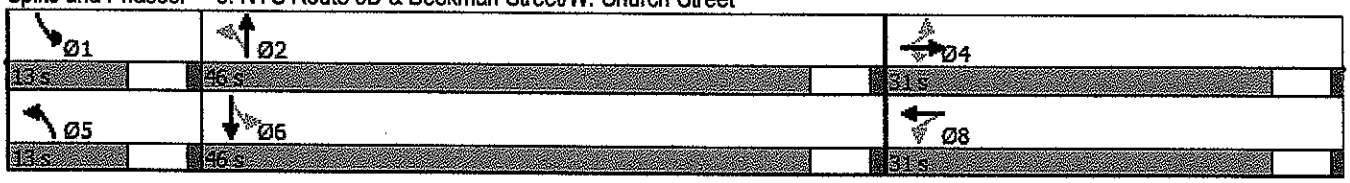
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	325	6	59	12	3	7	68	461	11	12	613	126
Future Volume (vph)	325	6	59	12	3	7	68	461	11	12	613	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			0%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	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	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.96			0.98			1.00		1.00		
Frt			0.850		0.957			0.996			0.974	
Flt Protected		0.953			0.973		0.950			0.950		
Satd. Flow (prot)	0	1758	1552	0	1729	0	1603	1911	0	1805	1823	0
Flt Permitted		0.712			0.792		0.082			0.378		
Satd. Flow (perm)	0	1264	1552	0	1407	0	138	1911	0	717	1823	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		8			2			15	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			167	
Travel Time (s)		6.2			3.6			8.8			3.8	
Confl. Peds. (#/hr)	14					14			6	6		
Peak Hour Factor	0.89	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	0%	3%	0%	0%	17%	16%	2%	0%	0%	1%	4%
Adj. Flow (vph)	365	7	67	14	3	8	77	524	13	14	697	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	372	67	0	25	0	77	537	0	14	840	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			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	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)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	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			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		2.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		7.0	21.0		9.0	21.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0		13.0	46.0		13.0	46.0	
Total Split (%)	34.4%	34.4%	34.4%	34.4%	34.4%		14.4%	51.1%		14.4%	51.1%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		8.0	41.0		8.0	41.0	
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)	1.0	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	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		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	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.98	0.13		0.06		0.38	0.50		0.03	0.97	
Control Delay		76.4	4.5		18.4		15.1	14.4		7.8	48.5	
Queue Delay		0.0	0.0		0.0		0.0	2.8		0.0	0.0	
Total Delay		76.4	4.5		18.4		15.1	17.3		7.8	48.5	
Queue Length 50th (ft)		~218	0		7		17	155		3	~458	
Queue Length 95th (ft)		#384	20		25		41	306		10	#699	
Internal Link Dist (ft)		193			78			308			87	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		378	523		426		214	1071		489	868	
Starvation Cap Reductn		0	0		0		0	407		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		0.98	0.13		0.06		0.36	0.81		0.03	0.97	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 87.2
Natural Cycle: 90
Control Type: Semi Act-Uncoord
~ 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: 3: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	325	6	59	12	3	7	68	461	11	12	613	126
Future Volume (veh/h)	325	6	59	12	3	7	68	461	11	12	613	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1845	1826	1995	1892	1995	1687	1920	1957	1900	1872	1900
Adj Flow Rate, veh/h	365	7	67	14	3	8	77	524	12	14	697	143
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.89	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	3	0	0	0	16	2	2	0	1	1
Cap, veh/h	395	6	461	66	22	10	168	948	22	386	722	148
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.04	0.51	0.51	0.01	0.48	0.48
Sat Flow, veh/h	1025	20	1517	0	73	34	1607	1869	43	1810	1506	309
Grp Volume(v), veh/h	372	0	67	25	0	0	77	0	536	14	0	840
Grp Sat Flow(s),veh/h/ln	1044	0	1517	107	0	0	1607	0	1912	1810	0	1815
Q Serve(g_s), s	0.0	0.0	2.7	0.0	0.0	0.0	2.1	0.0	16.4	0.3	0.0	38.3
Cycle Q Clear(g_c), s	26.0	0.0	2.7	26.0	0.0	0.0	2.1	0.0	16.4	0.3	0.0	38.3
Prop In Lane	0.98		1.00	0.56		0.32	1.00		0.02	1.00		0.17
Lane Grp Cap(c), veh/h	401	0	461	98	0	0	168	0	969	386	0	871
V/C Ratio(X)	0.93	0.00	0.15	0.25	0.00	0.00	0.46	0.00	0.55	0.04	0.00	0.96
Avail Cap(c_a), veh/h	401	0	461	98	0	0	253	0	969	531	0	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.6	0.0	21.6	24.5	0.0	0.0	19.8	0.0	14.4	12.3	0.0	21.5
Incr Delay (d2), s/veh	27.5	0.0	0.1	1.3	0.0	0.0	1.9	0.0	2.3	0.0	0.0	23.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	0.0	1.2	0.5	0.0	0.0	1.0	0.0	9.2	0.2	0.0	24.5
LnGrp Delay(d),s/veh	59.2	0.0	21.8	25.8	0.0	0.0	21.8	0.0	16.7	12.3	0.0	44.6
LnGrp LOS	E		C	C			C		B	B		D
Approach Vol, veh/h		439			25			613			854	
Approach Delay, s/veh		53.5			25.8			17.3			44.1	
Approach LOS		D			C			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	48.3		31.0	8.5	46.0		31.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	8.0	41.0		26.0	8.0	41.0		26.0
Max Q Clear Time (g_c+I1), s	2.3	18.4		28.0	4.1	40.3		28.0
Green Ext Time (p_c), s	0.0	4.4		0.0	0.1	0.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	37.5
HCM 2010 LOS	D

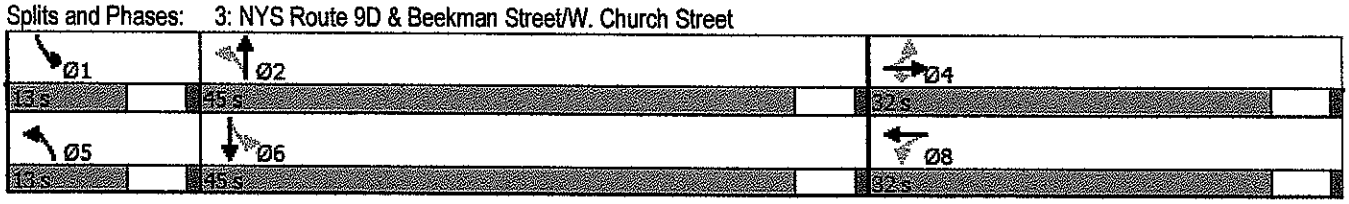
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	4	160	3	17	11	35	527	0	1	456	457
Future Volume (vph)	153	4	160	3	17	11	35	527	0	1	456	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			3%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	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	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99					1.00		
Frt			0.850		0.951						0.925	
Flt Protected		0.953			0.995		0.950			0.950		
Satd. Flow (prot)	0	1709	1599	0	1807	0	1706	1864	0	1778	1633	0
Flt Permitted		0.707			0.974		0.088			0.386		
Satd. Flow (perm)	0	1245	1599	0	1768	0	158	1864	0	721	1633	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			170		12						72	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			167	
Travel Time (s)		6.2			3.6			8.8			3.8	
Confl. Peds. (#/hr)	7					7			6	6		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	0%	0%	33%	0%	0%	9%	5%	0%	0%	11%	1%
Adj. Flow (vph)	163	4	170	3	18	12	37	561	0	1	485	486
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	167	170	0	33	0	37	561	0	1	971	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			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	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)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	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			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		2.0	16.0		4.0	16.0	
Minimum Split (s)	20.0	20.0	20.0	21.0	21.0		7.0	21.0		9.0	21.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		13.0	45.0		13.0	45.0	
Total Split (%)	35.6%	35.6%	35.6%	35.6%	35.6%		14.4%	50.0%		14.4%	50.0%	
Maximum Green (s)	27.0	27.0	27.0	27.0	27.0		8.0	40.0		8.0	40.0	
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)	1.0	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	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		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	3.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.64	0.36		0.09		0.15	0.48		0.00	1.02	
Control Delay		39.1	6.7		18.1		7.3	11.2		6.0	55.7	
Queue Delay		0.0	0.0		0.0		0.0	1.4		0.0	0.0	
Total Delay		39.1	6.7		18.1		7.3	12.6		6.0	55.7	
Queue Length 50th (ft)		74	0		8		5	108		0	~519	
Queue Length 95th (ft)		138	45		30		19	329		2	#884	
Internal Link Dist (ft)		193			78			308			87	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		472	712		679		275	1167		567	950	
Starvation Cap Reductn		0	0		0		0	398		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		0.35	0.24		0.05		0.13	0.73		0.00	1.02	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 72.9
Natural Cycle: 80
Control Type: Semi Act-Uncoord
~ 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: 3: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	4	160	3	17	11	35	527	0	1	456	457
Future Volume (veh/h)	153	4	160	3	17	11	35	527	0	1	456	457
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.98	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1793	1881	1995	1937	1995	1795	1864	1957	1872	1766	1872
Adj Flow Rate, veh/h	163	4	170	3	18	12	37	561	0	1	485	486
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	9	5	5	0	11	11
Cap, veh/h	330	6	270	66	187	112	139	1129	0	478	475	476
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.02	0.61	0.00	0.00	0.59	0.59
Sat Flow, veh/h	1308	32	1566	47	1086	647	1710	1864	0	1782	808	810
Grp Volume(v), veh/h	167	0	170	33	0	0	37	561	0	1	0	971
Grp Sat Flow(s),veh/h/ln	1340	0	1566	1780	0	0	1710	1864	0	1782	0	1618
Q Serve(g_s), s	6.9	0.0	6.9	0.0	0.0	0.0	0.6	11.6	0.0	0.0	0.0	40.0
Cycle Q Clear(g_c), s	7.9	0.0	6.9	1.0	0.0	0.0	0.6	11.6	0.0	0.0	0.0	40.0
Prop In Lane	0.98		1.00	0.09		0.36	1.00		0.00	1.00		0.50
Lane Grp Cap(c), veh/h	336	0	270	365	0	0	139	1129	0	478	0	951
V/C Ratio(X)	0.50	0.00	0.63	0.09	0.00	0.00	0.27	0.50	0.00	0.00	0.00	1.02
Avail Cap(c_a), veh/h	629	0	621	751	0	0	307	1129	0	685	0	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	26.1	23.7	0.0	0.0	17.1	7.6	0.0	6.5	0.0	14.0
Incr Delay (d2), s/veh	1.1	0.0	2.4	0.1	0.0	0.0	1.0	1.6	0.0	0.0	0.0	34.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	3.1	0.5	0.0	0.0	0.5	6.4	0.0	0.0	0.0	26.6
LnGrp Delay(d),s/veh	27.6	0.0	28.5	23.8	0.0	0.0	18.1	9.1	0.0	6.5	0.0	48.7
LnGrp LOS	C		C	C			B	A		A		F
Approach Vol, veh/h		337			33			598			972	
Approach Delay, s/veh		28.1			23.8			9.7			48.7	
Approach LOS		C			C			A			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	46.2		16.8	6.3	45.0		16.8
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	8.0	40.0		27.0	8.0	40.0		27.0
Max Q Clear Time (g_c+I1), s	2.0	13.6		9.9	2.6	42.0		3.0
Green Ext Time (p_c), s	0.0	5.9		1.9	0.0	0.0		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	32.7
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	325	6	66	12	3	7	72	471	11	12	631	126
Future Volume (vph)	325	6	66	12	3	7	72	471	11	12	631	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-10%			-6%			0%	
Storage Length (ft)	0		95	0		0	80		0	85		0
Storage Lanes	0		1	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	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.96			0.98			1.00		1.00		
Frt			0.850		0.957			0.996			0.975	
Flt Protected		0.953			0.973		0.950			0.950		
Satd. Flow (prot)	0	1758	1552	0	1729	0	1603	1911	0	1805	1825	0
Flt Permitted		0.712			0.788		0.082			0.368		
Satd. Flow (perm)	0	1264	1552	0	1400	0	138	1911	0	698	1825	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85		8			2			15	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		273			158			388			167	
Travel Time (s)		6.2			3.6			8.8			3.8	
Confl. Peds. (#/hr)	14					14			6	6		
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
Heavy Vehicles (%)	2%	0%	3%	0%	0%	17%	16%	2%	0%	0%	1%	4%
Adj. Flow (vph)	369	7	75	14	3	8	82	535	13	14	717	143
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	376	75	0	25	0	82	548	0	14	860	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			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.94	0.94	0.94	0.96	0.96	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	2	1	2		2	1		2	1	
Detector Template	Left			Left								
Leading Detector (ft)	20	83	83	20	83		83	6		83	6	
Trailing Detector (ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Position(ft)	0	-5	-5	0	-5		-5	0		-5	0	
Detector 1 Size(ft)	20	43	43	20	43		43	6		43	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)		40	40		40		40			40		
Detector 2 Size(ft)		43	43		43		43			43		
Detector 2 Type		Cl+Ex	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			0.0		
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		2.0	16.0		4.0	16.0	
Minimum Split (s)	9.0	9.0	9.0	21.0	21.0		7.0	21.0		9.0	21.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0		13.0	46.0		13.0	46.0	
Total Split (%)	34.4%	34.4%	34.4%	34.4%	34.4%		14.4%	51.1%		14.4%	51.1%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		8.0	41.0		8.0	41.0	
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)	1.0	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	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		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None	None	None	None		None	Max		None	Max	
Walk Time (s)				5.0	5.0							
Flash Dont Walk (s)				11.0	11.0							
Pedestrian Calls (#/hr)				0	0							
v/c Ratio		0.99	0.14		0.06		0.42	0.51		0.03	0.99	
Control Delay		77.9	5.6		18.4		16.6	14.4		7.8	52.3	
Queue Delay		0.0	0.0		0.0		0.0	2.9		0.0	0.0	
Total Delay		77.9	5.6		18.4		16.6	17.4		7.8	52.3	
Queue Length 50th (ft)		~218	0		7		18	160		3	~481	
Queue Length 95th (ft)		#390	25		25		44	307		10	#723	
Internal Link Dist (ft)		193			78			308			87	
Turn Bay Length (ft)			95				80			85		
Base Capacity (vph)		379	525		426		215	1072		483	872	
Starvation Cap Reductn		0	0		0		0	401		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		0.99	0.14		0.06		0.38	0.82		0.03	0.99	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 86.8

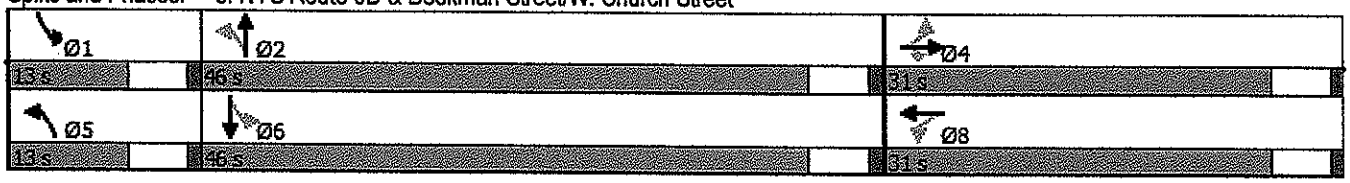
Natural Cycle: 90

Control Type: Semi Act-Uncoord

~ 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: 3: NYS Route 9D & Beekman Street/W. Church Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	325	6	66	12	3	7	72	471	11	12	631	126
Future Volume (veh/h)	325	6	66	12	3	7	72	471	11	12	631	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1845	1826	1995	1892	1995	1687	1920	1957	1900	1872	1900
Adj Flow Rate, veh/h	369	7	75	14	3	8	82	535	12	14	717	143
Adj No. of Lanes	0	1	1	0	1	0	1	1	0	1	1	0
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
Percent Heavy Veh, %	0	0	3	0	0	0	16	2	2	0	1	1
Cap, veh/h	394	6	460	66	22	10	158	950	21	379	725	145
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.04	0.51	0.51	0.01	0.48	0.48
Sat Flow, veh/h	1025	19	1516	0	73	34	1607	1870	42	1810	1514	302
Grp Volume(v), veh/h	376	0	75	25	0	0	82	0	547	14	0	860
Grp Sat Flow(s),veh/h/ln	1044	0	1516	107	0	0	1607	0	1912	1810	0	1816
Q Serve(g_s), s	0.0	0.0	3.1	0.0	0.0	0.0	2.2	0.0	16.9	0.3	0.0	40.2
Cycle Q Clear(g_c), s	26.0	0.0	3.1	26.0	0.0	0.0	2.2	0.0	16.9	0.3	0.0	40.2
Prop In Lane	0.98		1.00	0.56		0.32	1.00		0.02	1.00		0.17
Lane Grp Cap(c), veh/h	400	0	460	98	0	0	158	0	971	379	0	869
V/C Ratio(X)	0.94	0.00	0.16	0.25	0.00	0.00	0.52	0.00	0.56	0.04	0.00	0.99
Avail Cap(c_a), veh/h	400	0	460	98	0	0	240	0	971	524	0	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	21.9	24.6	0.0	0.0	20.1	0.0	14.5	12.4	0.0	22.1
Incr Delay (d2), s/veh	29.7	0.0	0.1	0.5	0.0	0.0	1.0	0.0	2.4	0.0	0.0	28.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	0.0	1.3	0.4	0.0	0.0	1.0	0.0	9.4	0.2	0.0	26.6
LnGrp Delay(d),s/veh	61.5	0.0	21.9	25.1	0.0	0.0	21.1	0.0	16.9	12.4	0.0	50.1
LnGrp LOS	E		C	C			C		B	B		D
Approach Vol, veh/h		451			25			629			874	
Approach Delay, s/veh		54.9			25.1			17.4			49.5	
Approach LOS		D			C			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	48.5		31.0	8.7	46.0		31.0
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0
Max Green Setting (Gmax), s	8.0	41.0		26.0	8.0	41.0		26.0
Max Q Clear Time (g_c+I1), s	2.3	18.9		28.0	4.2	42.2		28.0
Green Ext Time (p_c), s	0.0	1.8		0.0	0.1	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	40.2
HCM 2010 LOS	D