

**Appendix III/IV.L**  
**Transportation**

III/IV.L-7: Synchro Output Reports -  
2033 No Action Conditions

Intersection						
Int Delay, s/veh	8.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	85	45	29	70	102	59
Future Vol, veh/h	85	45	29	70	102	59
Conflicting Peds, #/hr	2	0	106	0	0	106
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	42	42	79	79	72	72
Heavy Vehicles, %	0	11	4	0	1	0
Mvmt Flow	202	107	37	89	142	82

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	454	289	330	0	-	0
Stage 1	289	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.4	6.31	4.14	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.399	2.236	-	-	-
Pot Cap-1 Maneuver	568	729	1218	-	-	-
Stage 1	765	-	-	-	-	-
Stage 2	869	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	441	654	1092	-	-	-
Mov Cap-2 Maneuver	441	-	-	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	779	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	2.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1092	-	441	654	-	-
HCM Lane V/C Ratio	0.034	-	0.459	0.164	-	-
HCM Control Delay (s)	8.4	-	19.9	11.6	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	2.4	0.6	-	-

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	27	34	59	86	62
Future Vol, veh/h	41	27	34	59	86	62
Conflicting Peds, #/hr	0	0	103	0	0	103
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	67	67	66	66	78	78
Heavy Vehicles, %	0	0	0	2	9	0
Mvmt Flow	61	40	52	89	110	79

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	406	213	213	0	0
Stage 1	213	-	-	-	-
Stage 2	193	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	605	832	1369	-	0
Stage 1	827	-	-	-	0
Stage 2	845	-	-	-	0
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	483	761	1251	-	-
Mov Cap-2 Maneuver	483	-	-	-	-
Stage 1	723	-	-	-	-
Stage 2	772	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	2.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1251	-	565	-
HCM Lane V/C Ratio	0.041	-	0.18	-
HCM Control Delay (s)	8	0	12.8	-
HCM Lane LOS	A	A	B	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-

Hudson Highlands Fjord Trail  
3: South Ave. & Route 9D

2033 No Action  
Saturday Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	17	264	18	32	307	52	17	14	27	33	9	4
Future Volume (vph)	17	264	18	32	307	52	17	14	27	33	9	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	13	12	12	14	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		1.00			0.99			0.99			1.00	
Frt		0.992			0.982			0.937			0.987	
Flt Protected		0.997			0.996			0.986			0.965	
Satd. Flow (prot)	0	1927	0	0	1939	0	0	1720	0	0	1926	0
Flt Permitted		0.966			0.947			0.930			0.817	
Satd. Flow (perm)	0	1866	0	0	1843	0	0	1622	0	0	1630	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			16			38			5	
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		635			504			277			487	
Travel Time (s)		14.4			11.5			7.6			11.1	
Confl. Peds. (#/hr)	8		2	2		8	1		1	1		1
Confl. Bikes (#/hr)						26						
Peak Hour Factor	0.74	0.74	0.74	0.92	0.92	0.92	0.71	0.71	0.71	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	21%	0%	2%	0%	15%	0%	0%	0%	0%	0%
Adj. Flow (vph)	23	357	24	35	334	57	24	20	38	38	10	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	404	0	0	426	0	0	82	0	0	53	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	0.92	1.00	1.00	0.92	1.00	1.00	0.96	1.00	1.00	0.92	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	35.0	35.0		35.0	35.0		30.0	30.0		30.0	30.0	
Total Split (%)	53.8%	53.8%		53.8%	53.8%		46.2%	46.2%		46.2%	46.2%	
Maximum Green (s)	30.0	30.0		30.0	30.0		25.0	25.0		25.0	25.0	
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?												
Act Effct Green (s)		30.0			30.0			25.0			25.0	
Actuated g/C Ratio		0.46			0.46			0.38			0.38	
v/c Ratio		0.47			0.50			0.13			0.08	
Control Delay		14.1			14.2			8.7			12.3	

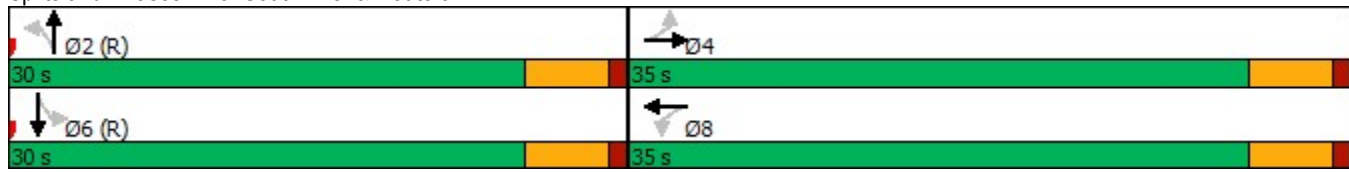


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.1			14.2			8.7			12.3	
LOS		B			B			A			B	
Approach Delay		14.1			14.2			8.7			12.3	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.50
Intersection Signal Delay:	13.6
Intersection LOS:	B
Intersection Capacity Utilization	46.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 3: South Ave. & Route 9D



Intersection						
Int Delay, s/veh	4.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	269	80	12	547	58	40
Future Vol, veh/h	269	80	12	547	58	40
Conflicting Peds, #/hr	0	61	61	0	45	11
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	75	75	96	96	62	62
Heavy Vehicles, %	8	6	9	5	6	0
Mvmt Flow	359	107	13	570	94	65

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	527	0	1115
Stage 1	-	-	-	-	474
Stage 2	-	-	-	-	641
Critical Hdwy	-	-	4.19	-	6.46
Critical Hdwy Stg 1	-	-	-	-	5.46
Critical Hdwy Stg 2	-	-	-	-	5.46
Follow-up Hdwy	-	-	2.281	-	3.554
Pot Cap-1 Maneuver	-	-	1005	-	226
Stage 1	-	-	-	-	618
Stage 2	-	-	-	-	517
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	954	-	202
Mov Cap-2 Maneuver	-	-	-	-	202
Stage 1	-	-	-	-	586
Stage 2	-	-	-	-	488

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	35.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	272	-	-	954	-
HCM Lane V/C Ratio	0.581	-	-	0.013	-
HCM Control Delay (s)	35.1	-	-	8.8	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	3.4	-	-	0	-

Hudson Highlands Fjord Trail  
 5: Route 9D (Chestnut St.)/Route 9D (Morris Ave.) & Main St.

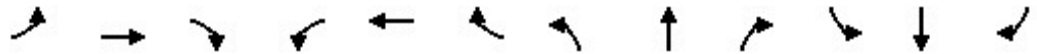
2033 No Action  
 Saturday Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	42	124	118	87	178	236	158	353	116	100	220	41
Future Volume (vph)	42	124	118	87	178	236	158	353	116	100	220	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12	12	11	12	12	11	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		0.77			0.70			0.91			0.94	
Frt		0.944			0.936			0.975			0.985	
Flt Protected		0.993			0.991			0.988			0.986	
Satd. Flow (prot)	0	1082	0	0	961	0	0	1427	0	0	1598	0
Flt Permitted		0.870			0.866			0.746			0.658	
Satd. Flow (perm)	0	926	0	0	803	0	0	1026	0	0	1067	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		47						15			8	
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		299			289			346			546	
Travel Time (s)		8.2			6.6			7.9			12.4	
Confl. Peds. (#/hr)	338		222	222		338	188		96	96		188
Confl. Bikes (#/hr)			1						2			1
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.93	0.93	0.93	0.86	0.86	0.86
Heavy Vehicles (%)	3%	12%	17%	1%	4%	16%	1%	5%	0%	2%	7%	3%
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Adj. Flow (vph)	49	146	139	97	198	262	170	380	125	116	256	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	334	0	0	557	0	0	675	0	0	420	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	1.19	1.00	1.00	1.29	1.00	1.00	1.24	1.00	1.00	1.04	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			Left			Left			Left		
Leading Detector (ft)	20	55		20	55		20	55		20	55	
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	25		20	25		20	25		20	25	
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)		30			30			30			30	
Detector 2 Size(ft)		25			25			25			25	
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	

Hudson Highlands Fjord Trail  
 5: Route 9D (Chestnut St.)/Route 9D (Morris Ave.) & Main St.

2033 No Action  
 Saturday Peak Hour

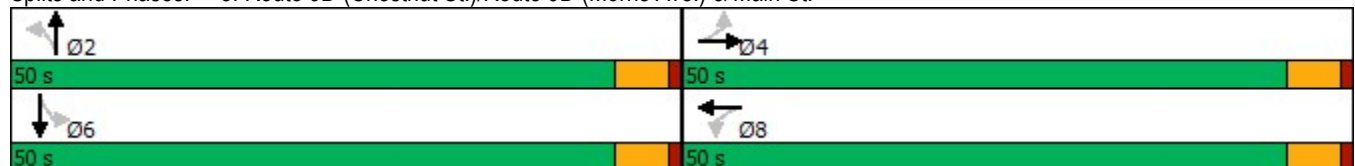


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		24.0	24.0		24.0	24.0	
Total Split (s)	50.0	50.0		50.0	50.0		50.0	50.0		50.0	50.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
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	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)		45.0			45.0			45.0			45.0	
Actuated g/C Ratio		0.45			0.45			0.45			0.45	
v/c Ratio		0.76			1.54			1.44			0.87	
Control Delay		32.5			283.0			235.1			44.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		32.5			283.0			235.1			44.7	
LOS		C			F			F			D	
Approach Delay		32.5			283.0			235.1			44.7	
Approach LOS		C			F			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.54  
 Intersection Signal Delay: 174.2  
 Intersection Capacity Utilization 98.3%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service F

Splits and Phases: 5: Route 9D (Chestnut St.)/Route 9D (Morris Ave.) & Main St.





Intersection						
Int Delay, s/veh	18.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	12	140	272	74	110	94
Future Vol, veh/h	12	140	272	74	110	94
Conflicting Peds, #/hr	220	0	0	220	39	89
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	77	77	89	89	83	83
Heavy Vehicles, %	0	14	2	0	4	1
Mvmt Flow	16	182	306	83	133	113

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	609	0	-	0	821 657
Stage 1	-	-	-	-	568 -
Stage 2	-	-	-	-	253 -
Critical Hdwy	4.1	-	-	-	6.44 6.21
Critical Hdwy Stg 1	-	-	-	-	5.44 -
Critical Hdwy Stg 2	-	-	-	-	5.44 -
Follow-up Hdwy	2.2	-	-	-	3.536 3.309
Pot Cap-1 Maneuver	979	-	-	-	341 467
Stage 1	-	-	-	-	563 -
Stage 2	-	-	-	-	785 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	829	-	-	-	239 374
Mov Cap-2 Maneuver	-	-	-	-	239 -
Stage 1	-	-	-	-	467 -
Stage 2	-	-	-	-	665 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	61.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	829	-	-	-	287
HCM Lane V/C Ratio	0.019	-	-	-	0.856
HCM Control Delay (s)	9.4	0	-	-	61.9
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	7.4

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	110	31	20	114	123	56
Future Vol, veh/h	110	31	20	114	123	56
Conflicting Peds, #/hr	0	0	58	0	0	58
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	90	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	83	83	73	73
Heavy Vehicles, %	0	4	0	0	0	0
Mvmt Flow	155	44	24	137	168	77
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	450	265	303	0	-	0
Stage 1	265	-	-	-	-	-
Stage 2	185	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	571	769	1269	-	-	-
Stage 1	784	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	498	726	1197	-	-	-
Mov Cap-2 Maneuver	498	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.4	1.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1197	-	498	726	-	-
HCM Lane V/C Ratio	0.02	-	0.311	0.06	-	-
HCM Control Delay (s)	8.1	-	15.5	10.3	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	0.2	-	-

Intersection						
Int Delay, s/veh	8.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	97	63	59	40	47	103
Future Vol, veh/h	97	63	59	40	47	103
Conflicting Peds, #/hr	0	0	44	0	0	44
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	79	79	85	85
Heavy Vehicles, %	0	2	0	0	3	0
Mvmt Flow	141	91	75	51	55	121

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	300	99	99	0	0
Stage 1	99	-	-	-	-
Stage 2	201	-	-	-	-
Critical Hdwy	6.4	6.22	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.2	-	-
Pot Cap-1 Maneuver	696	957	1507	-	0
Stage 1	930	-	-	-	0
Stage 2	838	-	-	-	0
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	611	922	1452	-	-
Mov Cap-2 Maneuver	611	-	-	-	-
Stage 1	848	-	-	-	-
Stage 2	807	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	4.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	1452	-	705	-
HCM Lane V/C Ratio	0.051	-	0.329	-
HCM Control Delay (s)	7.6	0	12.6	-
HCM Lane LOS	A	A	B	-
HCM 95th %tile Q(veh)	0.2	-	1.4	-

Hudson Highlands Fjord Trail  
3: South Ave. & Route 9D

2033 No Action  
Sunday Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	7	285	33	12	291	37	15	14	16	42	9	11
Future Volume (vph)	7	285	33	12	291	37	15	14	16	42	9	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	14	12	12	14	12	12	13	12	12	14	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		1.00			1.00			0.99			1.00	
Frt		0.986			0.985			0.952			0.976	
Flt Protected		0.999			0.998			0.983			0.967	
Satd. Flow (prot)	0	1991	0	0	1987	0	0	1745	0	0	1913	0
Flt Permitted		0.991			0.983			0.918			0.815	
Satd. Flow (perm)	0	1975	0	0	1957	0	0	1630	0	0	1608	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			13			22			14	
Link Speed (mph)		30			30			25			30	
Link Distance (ft)		635			504			277			487	
Travel Time (s)		14.4			11.5			7.6			11.1	
Confl. Peds. (#/hr)	3		6	6		3			3	3		
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.88	0.88	0.88	0.81	0.81	0.81	0.73	0.73	0.73	0.80	0.80	0.80
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	13%	0%	0%	0%	0%	0%
Adj. Flow (vph)	8	324	38	15	359	46	21	19	22	53	11	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	370	0	0	420	0	0	62	0	0	78	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	0.92	1.00	1.00	0.92	1.00	1.00	0.96	1.00	1.00	0.92	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		2				6		
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	35.0	35.0		35.0	35.0		30.0	30.0		30.0	30.0	
Total Split (%)	53.8%	53.8%		53.8%	53.8%		46.2%	46.2%		46.2%	46.2%	
Maximum Green (s)	30.0	30.0		30.0	30.0		25.0	25.0		25.0	25.0	
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?												
Act Effct Green (s)		30.0			30.0			25.0			25.0	
Actuated g/C Ratio		0.46			0.46			0.38			0.38	
v/c Ratio		0.40			0.46			0.10			0.12	
Control Delay		12.8			13.6			9.8			11.7	

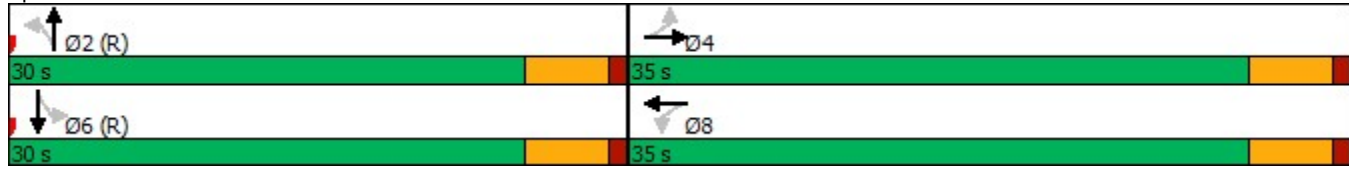


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.8			13.6			9.8			11.7	
LOS		B			B			A			B	
Approach Delay		12.8			13.6			9.8			11.7	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type:	Other
Cycle Length:	65
Actuated Cycle Length:	65
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.46
Intersection Signal Delay:	12.9
Intersection LOS:	B
Intersection Capacity Utilization	40.3%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 3: South Ave. & Route 9D



Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	248	109	17	421	44	32
Future Vol, veh/h	248	109	17	421	44	32
Conflicting Peds, #/hr	0	19	19	0	24	11
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	78	78	93	93	55	55
Heavy Vehicles, %	5	1	0	3	4	0
Mvmt Flow	318	140	18	453	80	58
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	477	0	920	418
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	513	-
Critical Hdwy	-	-	4.1	-	6.44	6.2
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.2	-	3.536	3.3
Pot Cap-1 Maneuver	-	-	1096	-	298	639
Stage 1	-	-	-	-	668	-
Stage 2	-	-	-	-	597	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1079	-	281	623
Mov Cap-2 Maneuver	-	-	-	-	281	-
Stage 1	-	-	-	-	657	-
Stage 2	-	-	-	-	572	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.3	20.7			
HCM LOS				C		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	365	-	-	1079	-	
HCM Lane V/C Ratio	0.379	-	-	0.017	-	
HCM Control Delay (s)	20.7	-	-	8.4	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.7	-	-	0.1	-	

Hudson Highlands Fjord Trail  
 5: Route 9D (Chestnut St.)/Route 9D (Morris Ave.) & Main St.

2033 No Action  
 Sunday Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	32	86	66	75	173	112	199	365	73	91	232	61
Future Volume (vph)	32	86	66	75	173	112	199	365	73	91	232	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	10	12	12	11	12	12	11	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		0.86			0.84			0.95			0.95	
Frt		0.951			0.958			0.984			0.978	
Flt Protected		0.991			0.990			0.985			0.988	
Satd. Flow (prot)	0	1237	0	0	1289	0	0	1505	0	0	1658	0
Flt Permitted		0.895			0.891			0.696			0.738	
Satd. Flow (perm)	0	1087	0	0	1112	0	0	1036	0	0	1229	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		37						8			12	
Link Speed (mph)		25			30			30			30	
Link Distance (ft)		299			289			346			546	
Travel Time (s)		8.2			6.6			7.9			12.4	
Confl. Peds. (#/hr)	154		123	123		154	90		58	58		90
Confl. Bikes (#/hr)									2			1
Peak Hour Factor	0.86	0.86	0.86	0.89	0.89	0.89	0.99	0.99	0.99	0.85	0.85	0.85
Heavy Vehicles (%)	7%	0%	30%	0%	0%	0%	1%	2%	0%	0%	4%	2%
Parking (#/hr)	5	5	5	5	5	5	5	5	5	5	5	5
Adj. Flow (vph)	37	100	77	84	194	126	201	369	74	107	273	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	214	0	0	404	0	0	644	0	0	452	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.19	1.00	1.00	1.29	1.00	1.00	1.24	1.00	1.00	1.04	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			Left			Left			Left		
Leading Detector (ft)	20	55		20	55		20	55		20	55	
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	25		20	25		20	25		20	25	
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)		30			30			30			30	
Detector 2 Size(ft)		25			25			25			25	
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	

Hudson Highlands Fjord Trail  
 5: Route 9D (Chestnut St.)/Route 9D (Morris Ave.) & Main St.

2033 No Action  
 Sunday Peak Hour

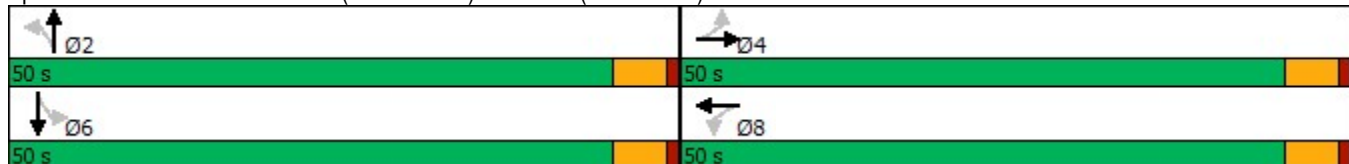


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		24.0	24.0		24.0	24.0	
Total Split (s)	50.0	50.0		50.0	50.0		50.0	50.0		50.0	50.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0	
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		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)		37.1			37.1			45.4			45.4	
Actuated g/C Ratio		0.40			0.40			0.49			0.49	
v/c Ratio		0.47			0.91			1.26			0.74	
Control Delay		19.7			51.5			157.4			29.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		19.7			51.5			157.4			29.9	
LOS		B			D			F			C	
Approach Delay		19.7			51.5			157.4			29.9	
Approach LOS		B			D			F			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 92.6  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.26  
 Intersection Signal Delay: 81.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 91.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 5: Route 9D (Chestnut St.)/Route 9D (Morris Ave.) & Main St.





Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	9	121	327	96	0	0
Future Vol, veh/h	9	121	327	96	0	0
Conflicting Peds, #/hr	691	0	0	691	42	43
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	96	96	92	92	25	25
Heavy Vehicles, %	13	1	0	0	0	0
Mvmt Flow	9	126	355	104	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1150	0	-	0	1284 1141
Stage 1	-	-	-	-	1098 -
Stage 2	-	-	-	-	186 -
Critical Hdwy	4.23	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.317	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	569	-	-	-	184 247
Stage 1	-	-	-	-	322 -
Stage 2	-	-	-	-	851 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	296	-	-	-	48 125
Mov Cap-2 Maneuver	-	-	-	-	48 -
Stage 1	-	-	-	-	162 -
Stage 2	-	-	-	-	443 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	296	-	-	-	-
HCM Lane V/C Ratio	0.032	-	-	-	-
HCM Control Delay (s)	17.6	0	-	-	0
HCM Lane LOS	C	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	-