APPENDIX A

Synchro LOS Worksheets

HCM Signalized Intersection Capacity Analysis 2005 No Build
4: Main Street & Elm Street 4/9/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1>	0	1	1>	0	1	1>	0	1	1>	0
Volume (vph)	155	119	27	114	193	138	17	497	68	52	538	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1811		1770	1746		1770	1829		1770	1822	
Flt Permitted	0.43	1.00		0.66	1.00		0.21	1.00		0.27	1.00	
Satd. Flow (perm)	798	1811		1223	1746		390	1829		504	1822	
Peak-hour factor, PHF	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)	168	129	29	124	210	150	18	540	74	57	585	101
RTOR Reduction (vph)	0	13	0	0	40	0	0	8	0	0	9	0
Lane Group Flow (vph)	168	145	0	124	320	0	18	606	0	57	677	0
Parking (#/hr)			0			0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	22.0	22.0		22.0	22.0		31.0	31.0		31.0	31.0	
Effective Green, g (s)	22.0	22.0		22.0	22.0		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.48	0.48		0.48	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	270	613		414	591		186	872		240	869	
v/s Ratio Prot		0.08			0.18			0.33			c0.37	
v/s Ratio Perm	c0.21			0.10			0.05			0.11		
v/c Ratio	0.62	0.24		0.30	0.54		0.10	0.70		0.24	0.78	
Uniform Delay, d1	18.0	15.5		15.8	17.4		9.3	13.3		10.0	14.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.4	0.9		1.8	3.5		1.0	4.6		2.3	6.8	
Delay (s)	28.4	16.4		17.7	21.0		10.4	17.9		12.3	21.0	
Level of Service	C	B		B	C		B	B		B	C	
Approach Delay (s)		22.6			20.1			17.6			20.3	
Approach LOS		C			C			B			C	

Intersection Summary					
HCM Average Control Delay	19.8	HCM Level of Service		B	
HCM Volume to Capacity ratio	0.71				
Actuated Cycle Length (s)	65.0	Sum of lost time (s)		12.0	
Intersection Capacity Utilization		85.4% ICU Level of Service			E
Analysis Period (min)	15				

c Critical Lane Group

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HCM Unsignalized Intersection Capacity Analysis 2005 No Build
5: Main Street & Lincoln Street 4/9/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1>	0	0	<1>	0	0	<1	1	0	<1>	0
Volume (veh/h)	24	184	31	39	238	96	18	73	35	108	150	52
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	26	200	34	42	259	104	20	79	38	117	163	57

Pedestrians		20		10		20			20	
Lane Width (ft)		12.0		12.0		12.0			12.0	
Walking Speed (ft/s)		4.0		4.0		4.0			4.0	
Percent Blockage		2		1		2			2	
Right turn flare (veh)								6		
Median type		None		None						
Median storage veh)										
Upstream signal (ft)		997								
pX, platoon unblocked										
vC, conflicting volume	383		254		843	757	247	753	722	351
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	383		254		843	757	247	753	722	351
tC, single (s)	4.1		4.1		7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)										
tF (s)	2.2		2.2		3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98		97		86	74	95	48	49	92
cM capacity (veh/h)	1156		1290		142	308	772	227	323	670

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	260	405	137	337
Volume Left	26	42	20	117
Volume Right	34	104	38	57
cSH	1156	1290	381	304
Volume to Capacity	0.02	0.03	0.36	1.11
Queue Length 95th (ft)	2	3	40	336
Control Delay (s)	1.0	1.1	21.0	121.4
Lane LOS	A	A	C	F
Approach Delay (s)	1.0	1.1	21.0	121.4
Approach LOS			C	F

Intersection Summary			
Average Delay	39.0		
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

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HCM Unsignalized Intersection Capacity Analysis 2005 No Build
6: Main Street & York Street 4/9/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1			1>	0				1>		0
Volume (veh/h)	1	327			373	1				1		1
Sign Control		Free			Free					Stop		
Grade		0%			0%					0%		
Peak Hour Factor	0.92	0.92			0.92	0.92				0.92		0.92
Hourly flow rate (vph)	1	355			405	1				1		1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1237										
pX, platoon unblocked												
vC, conflicting volume	407									764		406

vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	407									764		406
tC, single (s)	4.1									6.4		6.2
tC, 2 stage (s)												
tF (s)	2.2									3.5		3.3
p0 queue free %	100									100		100
cM capacity (veh/h)	1152									372		645

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	357	407	2
Volume Left	1	0	1
Volume Right	0	1	1
cSH	1152	1700	472
Volume to Capacity	0.00	0.24	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	12.7
Lane LOS	A		B
Approach Delay (s)	0.0	0.0	12.7
Approach LOS			B

Intersection Summary					
Average Delay		0.1			
Intersection Capacity Utilization			29.7%	ICU Level of Service	A
Analysis Period (min)		15			

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HCM Unsignalized Intersection Capacity Analysis 2005 No Build
7: Main Street & Laconia Street 4/9/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1>	0	0	<1>	0	0	<1>	0	0	<1>	0
Volume (veh/h)	5	323	155	356	248	1	60	2	300	0	1	2
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	5	351	168	387	270	1	65	2	326	0	1	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					801							
pX, platoon unblocked	0.83						0.83	0.83		0.83	0.83	0.83
vC, conflicting volume	271			520			1493	1491	435	1817	1574	270
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			520			1492	1489	435	1880	1589	26
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			63			0	97	47	100	98	100
cM capacity (veh/h)	1324			1047			59	65	621	15	56	876

Direction, Lane #	EB 1	WB 1	NB 1	SB 1

Volume Total	525	658	393	3
Volume Left	5	387	65	0
Volume Right	168	1	326	2
cSH	1324	1047	237	150
Volume to Capacity	0.00	0.37	1.66	0.02
Queue Length 95th (ft)	0	43	633	2
Control Delay (s)	0.1	8.0	350.4	29.6
Lane LOS	A	A	F	D
Approach Delay (s)	0.1	8.0	350.4	29.6
Approach LOS			F	D

Intersection Summary

Average Delay	90.8		
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

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HCM Signalized Intersection Capacity Analysis 2005 No Build
9: Main Street & Hill & Water 4/9/2009

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	NER2
Lane Configurations		1>	0	0	0	<1	1		0	1		1				1>		0	0
Volume (vph)		542	70	11	236	299	526		7	65		275				14		239	7
Ideal Flow (vphpl)		1900	1900	1900	1900	1900	1900		1900	1900		1900				1900		1900	1900
Total Lost time (s)		6.0				6.0	6.0			6.0		4.0				6.0			
Lane Util. Factor		1.00				1.00	1.00			1.00		1.00				1.00			
Frt		0.98				1.00	1.00			1.00		0.85				0.87			
Flt Protected		1.00				0.95	1.00			0.95		1.00				1.00			
Satd. Flow (prot)		1830				1770	1676			1770		1583				1620			
Flt Permitted		1.00				0.95	1.00			0.95		1.00				1.00			
Satd. Flow (perm)		1830				1770	1676			1770		1583				1620			
Peak-hour factor, PHF		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)		589	76	12	257	325	572		8	71		299				15		260	8
RTOR Reduction (vph)		1	0	0	0	0	0		0	0		0				1		0	0
Lane Group Flow (vph)		676	0	0	0	582	572		0	79		299				282		0	0
Parking (#/hr)					0		0												
Turn Type						Prot	Prot			Perm		Free							
Protected Phases		4				3	3		8			5				6			
Permitted Phases										5		Free							

Actuated Green, G (s)	51.0	45.0	102.0	7.0	150.0	23.0
Effective Green, g (s)	51.0	45.0	102.0	7.0	150.0	23.0
Actuated g/C Ratio	0.34	0.30	0.68	0.05	1.00	0.15
Clearance Time (s)	6.0	6.0	6.0	6.0		6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	622	531	1140	83	1583	248
v/s Ratio Prot	c0.37	c0.33	0.34			c0.17
v/s Ratio Perm				0.04	0.19	
v/c Ratio	1.09	1.10	0.50	0.95	0.19	1.14
Uniform Delay, d1	49.5	52.5	11.7	71.3	0.0	63.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	62.1	67.9	1.6	82.2	0.3	99.4
Delay (s)	111.6	120.4	13.2	153.6	0.3	162.9
Level of Service	F	F	B	F	A	F
Approach Delay (s)	111.6		67.3	32.3		162.9
Approach LOS	F		E	C		F

Intersection Summary

HCM Average Control Delay	84.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

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HCM Signalized Intersection Capacity Analysis 2005 No Build
10: South Entrance & Main St 4/9/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1>		0				1	1			1	1
Volume (vph)	66		68				27	1021			979	33
Ideal Flow (vphpl)	1900		1900				1900	1900			1900	1900
Total Lost time (s)	6.0						6.0	6.0			6.0	6.0
Lane Util. Factor	1.00						1.00	1.00			1.00	1.00
Frt	0.93						1.00	1.00			1.00	0.85
Flt Protected	0.98						0.95	1.00			1.00	1.00
Satd. Flow (prot)	1694						1770	1863			1863	1583
Flt Permitted	0.98						0.19	1.00			1.00	1.00
Satd. Flow (perm)	1694						352	1863			1863	1583
Peak-hour factor, PHF	0.92		0.92				0.92	0.92			0.92	0.92

Adj. Flow (vph)	72	74	29	1110	1064	36
RTOR Reduction (vph)	35	0	0	0	0	8
Lane Group Flow (vph)	111	0	29	1110	1064	28
Turn Type			Perm			Perm
Protected Phases	4			2	6	
Permitted Phases			2			6
Actuated Green, G (s)	12.0		86.0	86.0	86.0	86.0
Effective Green, g (s)	12.0		86.0	86.0	86.0	86.0
Actuated g/C Ratio	0.11		0.78	0.78	0.78	0.78
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	185		275	1457	1457	1238
v/s Ratio Prot	c0.07			c0.60	0.57	
v/s Ratio Perm			0.08			0.02
v/c Ratio	0.60		0.11	0.76	0.73	0.02
Uniform Delay, d1	46.7		2.9	6.5	6.1	2.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	5.4		0.8	3.8	3.3	0.0
Delay (s)	52.1		3.6	10.3	9.4	2.7
Level of Service	D		A	B	A	A
Approach Delay (s)	52.1			10.1	9.1	
Approach LOS	D			B	A	

Intersection Summary

HCM Average Control Delay	12.2	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization		71.6% ICU Level of Service		C
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis 2025 Build
4: Main Street & Elm Street 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1>	0	1	1>	0	1	1>	0	1	1>	0
Volume (vph)	169	153	27	136	230	138	17	541	87	52	623	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1821		1770	1758		1770	1824		1770	1822	
Flt Permitted	0.38	1.00		0.64	1.00		0.13	1.00		0.21	1.00	
Satd. Flow (perm)	701	1821		1183	1758		240	1824		395	1822	
Peak-hour factor, PHF	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)	184	166	29	148	250	150	18	588	95	57	677	117
RTOR Reduction (vph)	0	10	0	0	33	0	0	9	0	0	9	0
Lane Group Flow (vph)	184	185	0	148	367	0	18	674	0	57	785	0
Parking (#/hr)			0			0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	22.0	22.0		22.0	22.0		31.0	31.0		31.0	31.0	
Effective Green, g (s)	22.0	22.0		22.0	22.0		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.48	0.48		0.48	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	237	616		400	595		114	870		188	869	
v/s Ratio Prot		0.10			0.21			0.37			c0.43	
v/s Ratio Perm	c0.26			0.13			0.07			0.14		
v/c Ratio	0.78	0.30		0.37	0.62		0.16	0.77		0.30	0.90	
Uniform Delay, d1	19.3	15.8		16.3	18.0		9.6	14.1		10.4	15.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	21.7	1.3		2.6	4.7		2.9	6.7		4.1	14.5	
Delay (s)	41.0	17.1		18.9	22.7		12.6	20.8		14.5	30.1	
Level of Service	D	B		B	C		B	C		B	C	
Approach Delay (s)		28.7			21.7			20.6			29.0	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	25.0	HCM Level of Service			C
HCM Volume to Capacity ratio	0.85				
Actuated Cycle Length (s)	65.0	Sum of lost time (s)			12.0
Intersection Capacity Utilization		88.1%	ICU Level of Service		E
Analysis Period (min)	15				

c Critical Lane Group

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HCM Unsignalized Intersection Capacity Analysis 2025 Build
5: Main Street & Lincoln Street 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1>	0	0	<1>	0	0	<1	1	0	<1>	0
Volume (veh/h)	24	237	31	49	297	142	18	90	45	179	205	52
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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

Hourly flow rate (vph)	26	258	34	53	323	154	20	98	49	195	223	57
Pedestrians		20			10			20			20	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			1			2			2	
Right turn flare (veh)									6			
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		997										
pX, platoon unblocked												
vC, conflicting volume	497			311			1041	950	304	937	890	440
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	497			311			1041	950	304	937	890	440
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			96			55	58	93	0	12	91
cM capacity (veh/h)	1049			1228			43	235	717	140	254	597

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	317	530	166	474
Volume Left	26	53	20	195
Volume Right	34	154	49	57
cSH	1049	1228	287	201
Volume to Capacity	0.02	0.04	0.58	2.36
Queue Length 95th (ft)	2	3	84	969
Control Delay (s)	0.9	1.2	34.6	665.9
Lane LOS	A	A	D	F
Approach Delay (s)	0.9	1.2	34.6	665.9
Approach LOS			D	F

Intersection Summary

Average Delay			216.6		
Intersection Capacity Utilization				75.4%	ICU Level of Service D
Analysis Period (min)			15		

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HCM Unsignalized Intersection Capacity Analysis 2025 Build
6: Main Street & York Street 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1			1>	0				1>		0
Volume (veh/h)	29	432			436	34				45		52
Sign Control		Free			Free					Stop		
Grade		0%			0%					0%		
Peak Hour Factor	0.92	0.92			0.92	0.92				0.92		0.92
Hourly flow rate (vph)	32	470			474	37				49		57
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1237										
pX, platoon unblocked												

vC, conflicting volume	511								1025		492	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	511								1025		492	
tC, single (s)	4.1								6.4		6.2	
tC, 2 stage (s)												
tF (s)	2.2								3.5		3.3	
p0 queue free %	97								81		90	
cM capacity (veh/h)	1054								253		576	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	501	511	105
Volume Left	32	0	49
Volume Right	0	37	57
cSH	1054	1700	361
Volume to Capacity	0.03	0.30	0.29
Queue Length 95th (ft)	2	0	30
Control Delay (s)	0.9	0.0	19.0
Lane LOS	A		C
Approach Delay (s)	0.9	0.0	19.0
Approach LOS			C

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization		58.9%	ICU Level of Service	B
Analysis Period (min)	15			

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HCM Unsignalized Intersection Capacity Analysis 2025 Build
7: Main Street & Laconia Street 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1>	0	0	<1>	0	0	<1>	0	0	<1>	0
Volume (veh/h)	34	384	183	359	305	37	60	24	304	58	48	31
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	417	199	390	332	40	65	26	330	63	52	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)					801							
pX, platoon unblocked	0.84						0.84	0.84		0.84	0.84	0.84
vC, conflicting volume	372			616			1783	1743	517	2066	1822	352
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	162			616			1835	1788	517	2172	1882	138
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			60			0	34	41	0	0	96
cM capacity (veh/h)	1195			964			0	39	558	4	34	768

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	653	762	422	149
Volume Left	37	390	65	63
Volume Right	199	40	330	34
cSH	1195	964	0	8
Volume to Capacity	0.03	0.40	Err	18.01
Queue Length 95th (ft)	2	50	Err	Err
Control Delay (s)	0.8	8.6	Err	Err
Lane LOS	A	A	F	F
Approach Delay (s)	0.8	8.6	Err	Err
Approach LOS			F	F

Intersection Summary				
Average Delay			Err	
Intersection Capacity Utilization			105.9%	ICU Level of Service G
Analysis Period (min)			15	

HCM Signalized Intersection Capacity Analysis 2025 Build
9: Main Street & Hill & Water 3/16/2009

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	NER2
Lane Configurations		1>	0	0	0	<1	1		0	1		1				1>		0	0
Volume (vph)		649	83	13	310	305	537		7	84		279				18		242	7
Ideal Flow (vphpl)		1900	1900	1900	1900	1900	1900		1900	1900		1900				1900		1900	1900
Total Lost time (s)		6.0				6.0	6.0			6.0		4.0				6.0			
Lane Util. Factor		1.00				1.00	1.00			1.00		1.00				1.00			
Frt		0.98				1.00	1.00			1.00		0.85				0.87			
Flt Protected		1.00				0.95	1.00			0.95		1.00				1.00			
Satd. Flow (prot)		1830				1770	1676			1770		1583				1623			
Flt Permitted		1.00				0.95	1.00			0.95		1.00				1.00			
Satd. Flow (perm)		1830				1770	1676			1770		1583				1623			
Peak-hour factor, PHF		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)		705	90	14	337	332	584		8	91		303				20		263	8
RTOR Reduction (vph)		1	0	0	0	0	0		0	0		0				1		0	0
Lane Group Flow (vph)		808	0	0	0	669	584		0	99		303				290		0	0
Parking (#/hr)			0				0												
Turn Type					Prot	Prot			Perm			Free							
Protected Phases		4			3	3	8			5						6			

Permitted Phases							5					Free
Actuated Green, G (s)	55.0			45.0	106.0			6.0				150.0
20.0												
Effective Green, g (s)	55.0			45.0	106.0			6.0				150.0
20.0												
Actuated g/C Ratio	0.37			0.30	0.71			0.04				1.00
0.13												
Clearance Time (s)	6.0			6.0	6.0			6.0				
6.0												
Vehicle Extension (s)	3.0			3.0	3.0			3.0				
3.0												
Lane Grp Cap (vph)	671			531	1184			71				1583
216												
v/s Ratio Prot	c0.44			c0.38	0.35							
c0.18												
v/s Ratio Perm								0.06				0.19
v/c Ratio	1.20			1.26	0.49			1.39				0.19
1.34												
Uniform Delay, d1	47.5			52.5	9.9			72.0				0.0
65.0												
Progression Factor	1.00			1.00	1.00			1.00				1.00
1.00												
Incremental Delay, d2	105.9			131.6	1.5			242.9				0.3
182.1												
Delay (s)	153.4			184.1	11.4			314.9				0.3
247.1												
Level of Service	F			F	B			F				A
F												
Approach Delay (s)	153.4				103.6			77.8				
247.1												
Approach LOS	F				F			E				
F												

Intersection Summary

HCM Average Control Delay	129.6	HCM Level of Service	F	
HCM Volume to Capacity ratio	1.26			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	24.0	
Intersection Capacity Utilization		115.5% ICU Level of Service		H
Analysis Period (min)	15			

c Critical Lane Group

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HCM Signalized Intersection Capacity Analysis 2025 Build
10: South Entrance & Main 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1>		0				1	1			1	1
Volume (vph)	66		73				30	1139			1056	33
Ideal Flow (vphpl)	1900		1900				1900	1900			1900	1900
Total Lost time (s)	6.0						6.0	6.0			6.0	6.0
Lane Util. Factor	1.00						1.00	1.00			1.00	1.00
Frt	0.93						1.00	1.00			1.00	0.85
Flt Protected	0.98						0.95	1.00			1.00	1.00
Satd. Flow (prot)	1691						1770	1863			1863	1583
Flt Permitted	0.98						0.15	1.00			1.00	1.00
Satd. Flow (perm)	1691						282	1863			1863	1583

Peak-hour factor, PHF	0.92	0.92			0.92	0.92		0.92	0.92	
Adj. Flow (vph)	72	79			33	1238		1148	36	
RTOR Reduction (vph)	37	0			0	0		0	8	
Lane Group Flow (vph)	114	0			33	1238		1148	28	
Turn Type					Perm				Perm	
Protected Phases	4					2		6		
Permitted Phases					2				6	
Actuated Green, G (s)	12.0				86.0	86.0		86.0	86.0	
Effective Green, g (s)	12.0				86.0	86.0		86.0	86.0	
Actuated g/C Ratio	0.11				0.78	0.78		0.78	0.78	
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	184				220	1457		1457	1238	
v/s Ratio Prot	c0.07					c0.66		0.62		
v/s Ratio Perm					0.12				0.02	
v/c Ratio	0.62				0.15	0.85		0.79	0.02	
Uniform Delay, d1	46.8				3.0	7.8		6.8	2.7	
Progression Factor	1.00				1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.0				1.4	6.4		4.4	0.0	
Delay (s)	52.8				4.4	14.2		11.2	2.7	
Level of Service	D				A	B		B	A	
Approach Delay (s)	52.8					13.9		10.9		
Approach LOS	D					B		B		

Intersection Summary				
HCM Average Control Delay	14.8	HCM Level of Service		B
HCM Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)		12.0
Intersection Capacity Utilization		78.1% ICU Level of Service		D
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis 2025 Build - New Lanes
4: Main Street & Elm Street 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1>	0	1	1>	0	1	1>	0	1	1>	0
Volume (vph)	169	153	27	136	230	138	17	541	87	52	623	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1821		1770	1758		1770	1824		1770	1822	
Flt Permitted	0.35	1.00		0.64	1.00		0.15	1.00		0.24	1.00	
Satd. Flow (perm)	644	1821		1183	1758		284	1824		445	1822	
Peak-hour factor, PHF	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)	184	166	29	148	250	150	18	588	95	57	677	117
RTOR Reduction (vph)	0	10	0	0	33	0	0	9	0	0	9	0
Lane Group Flow (vph)	184	185	0	148	367	0	18	674	0	57	785	0
Parking (#/hr)			0			0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	20.0	20.0		20.0	20.0		33.0	33.0		33.0	33.0	
Effective Green, g (s)	20.0	20.0		20.0	20.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.51	0.51		0.51	0.51	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	198	560		364	541		144	926		226	925	
v/s Ratio Prot		0.10			0.21			0.37			c0.43	
v/s Ratio Perm	c0.29			0.13			0.06			0.13		
v/c Ratio	0.93	0.33		0.41	0.68		0.12	0.73		0.25	0.85	
Uniform Delay, d1	21.8	17.3		17.8	19.7		8.4	12.5		9.0	13.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	47.8	1.6		3.3	6.7		1.8	5.0		2.7	9.5	
Delay (s)	69.6	18.9		21.2	26.4		10.2	17.5		11.7	23.4	
Level of Service	E	B		C	C		B	B		B	C	
Approach Delay (s)		43.5			25.0			17.3			22.6	
Approach LOS		D			C			B			C	

Intersection Summary					
HCM Average Control Delay	24.8	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.88				
Actuated Cycle Length (s)	65.0	Sum of lost time (s)		12.0	
Intersection Capacity Utilization		88.1%	ICU Level of Service		E
Analysis Period (min)	15				

c Critical Lane Group

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HCM Unsignalized Intersection Capacity Analysis 2025 Build - New Lanes
5: Main Street & Lincoln Street 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1>	0	0	<1>	0	0	<1	1	0	<1>	0
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	24	237	31	49	297	142	18	90	45	179	205	52
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
Hourly flow rate (vph)	26	258	34	53	323	154	20	98	49	195	223	57

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	317	530	117	49	474
Volume Left (vph)	26	53	20	0	195
Volume Right (vph)	34	154	0	49	57
Hadj (s)	-0.01	-0.12	0.12	-0.67	0.04
Departure Headway (s)	7.9	7.4	9.1	8.4	7.5
Degree Utilization, x	0.70	1.09	0.30	0.11	0.99
Capacity (veh/h)	444	490	369	412	475
Control Delay (s)	27.2	94.1	14.8	11.2	67.0
Approach Delay (s)	27.2	94.1	13.7		67.0
Approach LOS	D	F	B		F

Intersection Summary				
Delay		62.2		
HCM Level of Service		F		
Intersection Capacity Utilization			75.4%	ICU Level of Service D
Analysis Period (min)		15		

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HCM Unsignalized Intersection Capacity Analysis 2025 Build - New Lanes
6: Main Street & York Street 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1			1>	0				1>		0
Volume (veh/h)	29	432			436	34				45		52
Sign Control		Free			Free					Stop		
Grade		0%			0%					0%		
Peak Hour Factor	0.92	0.92			0.92	0.92				0.92		0.92
Hourly flow rate (vph)	32	470			474	37				49		57
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	511									1025		492
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	511									1025		492
tC, single (s)	4.1									6.4		6.2
tC, 2 stage (s)												
tF (s)	2.2									3.5		3.3
p0 queue free %	97									81		90
cM capacity (veh/h)	1054									253		576

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	501	511	105
Volume Left	32	0	49
Volume Right	0	37	57
cSH	1054	1700	361
Volume to Capacity	0.03	0.30	0.29
Queue Length 95th (ft)	2	0	30
Control Delay (s)	0.9	0.0	19.0
Lane LOS	A		C

Approach Delay (s)	0.9	0.0	19.0
Approach LOS			C

Intersection Summary

Average Delay			2.2		
Intersection Capacity Utilization			58.9%	ICU Level of Service	B
Analysis Period (min)			15		

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HCM Unsignalized Intersection Capacity Analysis 2025 Build - New Lanes
7: Main Street & Laconia Street 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1>	0	1	1>	0	0	<1>	0	0	<1>	0
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	34	384	183	359	305	37	60	24	304	58	48	31
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
Hourly flow rate (vph)	37	417	199	390	332	40	65	26	330	63	52	34

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	653	390	372	422	149
Volume Left (vph)	37	390	0	65	63
Volume Right (vph)	199	0	40	330	34
Hadj (s)	-0.14	0.53	-0.04	-0.41	-0.02
Departure Headway (s)	7.8	8.6	8.1	7.5	9.2
Degree Utilization, x	1.41	0.94	0.83	0.88	0.38
Capacity (veh/h)	448	405	442	466	375
Control Delay (s)	219.6	58.1	38.8	44.1	17.6
Approach Delay (s)	219.6	48.6		44.1	17.6
Approach LOS	F	E		E	C

Intersection Summary

Delay			101.6		
HCM Level of Service			F		
Intersection Capacity Utilization			87.7%	ICU Level of Service	E
Analysis Period (min)			15		

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HCM Signalized Intersection Capacity Analysis 2025 Build - New Lanes
9: Main Street & Hill & Water 3/16/2009

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	NER2
Lane Configurations		2>	0	0	0	1	1		0	1		1				1>		1	0
Volume (vph)		649	83	13	310	305	537		7	84		279				18		242	7
Ideal Flow (vphpl)		1900	1900	1900	1900	1900	1900		1900	1900		1900				1900		1900	1900
Total Lost time (s)		6.0			6.0	6.0			6.0			4.0				6.0		6.0	
Lane Util. Factor		0.95			1.00	1.00			1.00			1.00							

	1.00	0.95									
Frt			0.98				1.00	1.00		1.00	0.85
	0.87	0.85									
Flt Protected			1.00				0.95	1.00		0.95	1.00
	0.99	1.00									
Satd. Flow (prot)			3471				1770	1676		1770	1583
	1611	1504									
Flt Permitted			1.00				0.95	1.00		0.95	1.00
	0.99	1.00									
Satd. Flow (perm)			3471				1770	1676		1770	1583
	1611	1504									
Peak-hour factor, PHF			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)			705	90	14	337	332	584	8	91	303
	20	263	8								
RTOR Reduction (vph)			1	0	0	0	0	0	0	0	0
	0	2	0								
Lane Group Flow (vph)			808	0	0	0	669	584	0	99	303
	146	143	0								
Parking (#/hr)				0				0			
Turn Type						Split	Split		Perm		Free
	Perm										
Protected Phases			4			8	8	8		5	
	6										
Permitted Phases									5		Free
	6										
Actuated Green, G (s)			30.0				46.0	46.0		8.0	120.0
	12.0	12.0									
Effective Green, g (s)			30.0				46.0	46.0		8.0	120.0
	12.0	12.0									
Actuated g/C Ratio			0.25				0.38	0.38		0.07	1.00
	0.10	0.10									
Clearance Time (s)			6.0				6.0	6.0		6.0	
	6.0	6.0									
Vehicle Extension (s)			3.0				3.0	3.0		3.0	
	3.0	3.0									
Lane Grp Cap (vph)			868				679	642		118	1583
	161	150									
v/s Ratio Prot			c0.23				c0.38	0.35			
	0.09										
v/s Ratio Perm										0.06	0.19
	c0.10										
v/c Ratio			0.93				0.99	0.91		0.84	0.19
	0.91	0.95									
Uniform Delay, d1			44.0				36.7	35.0		55.4	0.0
	53.4	53.7									
Progression Factor			1.00				0.90	0.89		1.00	1.00
	1.00	1.00									
Incremental Delay, d2			17.8				24.1	11.9		38.0	0.3
	44.4	59.4									
Delay (s)			61.8				56.9	43.1		93.3	0.3
	97.8	113.1									
Level of Service			E				E	D		F	A
	F	F									
Approach Delay (s)			61.8					50.5		23.2	
	105.5										
Approach LOS			E					D		C	
	F										

Intersection Summary

HCM Average Control Delay	55.6	HCM Level of Service	E

HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization		88.4% ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

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HCM Signalized Intersection Capacity Analysis 2025 Build - New Lanes
10: South Entrance & Main St 3/16/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1>		0				1	1			1	1
Volume (vph)	66		73				30	1139			1056	33
Ideal Flow (vphpl)	1900		1900				1900	1900			1900	1900
Total Lost time (s)	6.0						6.0	6.0			6.0	6.0
Lane Util. Factor	1.00						1.00	1.00			1.00	1.00
Frt	0.93						1.00	1.00			1.00	0.85
Flt Protected	0.98						0.95	1.00			1.00	1.00
Satd. Flow (prot)	1691						1770	1863			1863	1583
Flt Permitted	0.98						0.17	1.00			1.00	1.00
Satd. Flow (perm)	1691						314	1863			1863	1583
Peak-hour factor, PHF	0.92		0.92				0.92	0.92			0.92	0.92
Adj. Flow (vph)	72		79				33	1238			1148	36
RTOR Reduction (vph)	34		0				0	0			0	7
Lane Group Flow (vph)	117		0				33	1238			1148	29
Turn Type							Perm					Perm
Protected Phases	4							2			6	
Permitted Phases							2					6
Actuated Green, G (s)	11.0						97.0	97.0			97.0	97.0
Effective Green, g (s)	11.0						97.0	97.0			97.0	97.0
Actuated g/C Ratio	0.09						0.81	0.81			0.81	0.81
Clearance Time (s)	6.0						6.0	6.0			6.0	6.0
Vehicle Extension (s)	3.0						3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	155						254	1506			1506	1280
v/s Ratio Prot	c0.07							c0.66			0.62	
v/s Ratio Perm							0.10					0.02
v/c Ratio	0.76						0.13	0.82			0.76	0.02
Uniform Delay, d1	53.2						2.5	6.6			5.7	2.2
Progression Factor	1.00						0.21	1.44			1.00	1.00
Incremental Delay, d2	18.9						0.7	3.4			3.7	0.0
Delay (s)	72.1						1.2	12.8			9.4	2.3
Level of Service	E						A	B			A	A
Approach Delay (s)	72.1							12.5			9.2	
Approach LOS	E							B			A	

Intersection Summary			
HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization		78.1% ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis 2025 Build - Re-Align Hill & Water

4: Main Street & Elm Street 4/8/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1>	0	1	1>	0	1	1>	0	1	1>	0
Volume (vph)	168	152	27	137	232	138	17	540	87	52	623	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1821		1770	1758		1770	1824		1770	1822	
Flt Permitted	0.38	1.00		0.63	1.00		0.09	1.00		0.18	1.00	
Satd. Flow (perm)	717	1821		1166	1758		177	1824		341	1822	
Peak-hour factor, PHF	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)	183	165	29	149	252	150	18	587	95	57	677	116
RTOR Reduction (vph)	0	7	0	0	23	0	0	7	0	0	7	0
Lane Group Flow (vph)	183	187	0	149	379	0	18	675	0	57	786	0
Parking (#/hr)			0			0						
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.8	35.8		35.8	35.8		42.2	42.2		42.2	42.2	
Effective Green, g (s)	35.8	35.8		35.8	35.8		42.2	42.2		42.2	42.2	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.47	0.47		0.47	0.47	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	285	724		464	699		83	855		160	854	
v/s Ratio Prot		0.10			0.22			0.37			c0.43	
v/s Ratio Perm	c0.26			0.13			0.10			0.17		
v/c Ratio	0.64	0.26		0.32	0.54		0.22	0.79		0.36	0.92	
Uniform Delay, d1	21.9	18.2		18.7	20.8		14.1	20.2		15.2	22.3	
Progression Factor	1.00	1.00		0.60	0.60		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.6	0.9		1.6	2.7		1.3	4.9		1.4	15.0	
Delay (s)	32.5	19.1		13.0	15.2		15.4	25.1		16.6	37.3	
Level of Service	C	B		B	B		B	C		B	D	
Approach Delay (s)		25.6			14.6			24.8			35.9	
Approach LOS		C			B			C			D	

Intersection Summary					
HCM Average Control Delay	26.5	HCM Level of Service			C
HCM Volume to Capacity ratio	0.79				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)			12.0
Intersection Capacity Utilization		88.1%	ICU Level of Service		E
Analysis Period (min)	15				

c Critical Lane Group

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HCM Signalized Intersection Capacity Analysis 2025 Build - Re-Align
5: Main Street & Lincoln Street 4/8/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	0	<1>	0	0	<1>	0	0	<1	1	0	<1>	0
Volume (vph)	24	237	31	49	301	143	18	89	45	178	205	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900

Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			0.99			1.00	0.97		0.99	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		1.00	
Frt		0.99			0.96			1.00	0.85		0.98	
Flt Protected		1.00			1.00			0.99	1.00		0.98	
Satd. Flow (prot)		1821			1761			1847	1530		1785	
Flt Permitted		0.94			0.94			0.90	1.00		0.81	
Satd. Flow (perm)		1714			1655			1681	1530		1484	
Peak-hour factor, PHF	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)	26	258	34	53	327	155	20	97	49	193	223	57
RTOR Reduction (vph)	0	4	0	0	14	0	0	0	31	0	6	0
Lane Group Flow (vph)	0	314	0	0	521	0	0	117	18	0	467	0
Confl. Peds. (#/hr)			20			20			10			20
Confl. Bikes (#/hr)												2
Parking (#/hr)			0			0						
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		45.2			45.2			32.8	32.8		32.8	
Effective Green, g (s)		45.2			45.2			32.8	32.8		32.8	
Actuated g/C Ratio		0.50			0.50			0.36	0.36		0.36	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		861			831			613	558		541	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.31			0.07	0.01		c0.31	
v/c Ratio		0.36			0.63			0.19	0.03		0.86	
Uniform Delay, d1		13.6			16.3			19.5	18.4		26.5	
Progression Factor		1.24			0.71			1.00	1.00		1.00	
Incremental Delay, d2		1.1			3.5			0.2	0.0		13.4	
Delay (s)		18.1			15.1			19.7	18.4		40.0	
Level of Service		B			B			B	B		D	
Approach Delay (s)		18.1			15.1			19.3			40.0	
Approach LOS		B			B			B			D	

Intersection Summary				
HCM Average Control Delay	24.1	HCM Level of Service		C
HCM Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		12.0
Intersection Capacity Utilization		79.0% ICU Level of Service		D
Analysis Period (min)	15			

c Critical Lane Group

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HCM Unsignalized Intersection Capacity Analysis 2025 Build - Re-Align
6: Main Street & York Street 4/8/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	0	<1			1>	0				1>		0
Volume (veh/h)	29	431			441	33				45		51
Sign Control		Free			Free					Stop		
Grade		0%			0%					0%		
Peak Hour Factor	0.92	0.92			0.92	0.92				0.92		0.92
Hourly flow rate (vph)	32	468			479	36				49		55
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												

Percent Blockage						
Right turn flare (veh)						
Median type		None		None		
Median storage veh)						
Upstream signal (ft)		240		556		
pX, platoon unblocked	0.99				0.92	0.99
vC, conflicting volume	515				1029	497
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	502				954	484
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				81	90
cM capacity (veh/h)	1048				256	575

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	500	515	104
Volume Left	32	0	49
Volume Right	0	36	55
cSH	1048	1700	363
Volume to Capacity	0.03	0.30	0.29
Queue Length 95th (ft)	2	0	29
Control Delay (s)	0.9	0.0	18.9
Lane LOS	A		C
Approach Delay (s)	0.9	0.0	18.9
Approach LOS			C

Intersection Summary					
Average Delay		2.1			
Intersection Capacity Utilization			58.8%	ICU Level of Service	B
Analysis Period (min)		15			

HCM Signalized Intersection Capacity Analysis 2025 Build - Re-Align
7: Main Street & Laconia Street 4/8/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	0	<1>	0	1	1>	0	0	<1	1	1	1>	0
Volume (vph)	33	384	182	362	307	37	60	23	303	57	48	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt		0.96		1.00	0.98			1.00	0.85	1.00	0.94	
Flt Protected		1.00		0.95	1.00			0.97	1.00	0.95	1.00	
Satd. Flow (prot)		1781		1770	1833			1798	1583	1770	1754	
Flt Permitted		0.96		0.95	1.00			0.73	1.00	0.70	1.00	
Satd. Flow (perm)		1719		1770	1833			1364	1583	1301	1754	
Peak-hour factor, PHF	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)	36	417	198	393	334	40	65	25	329	62	52	33
RTOR Reduction (vph)	0	17	0	0	5	0	0	0	297	0	25	0
Lane Group Flow (vph)	0	634	0	393	369	0	0	90	32	62	60	0
Parking (#/hr)			0			0						
Turn Type	Perm			Prot			Perm		Perm	Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)		40.2		23.0	69.2			8.8	8.8	8.8	8.8	

Effective Green, g (s)	40.2	23.0	69.2	8.8	8.8	8.8	8.8
Actuated g/C Ratio	0.45	0.26	0.77	0.10	0.10	0.10	0.10
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	768	452	1409	133	155	127	172
v/s Ratio Prot		c0.22	0.20				0.03
v/s Ratio Perm	c0.37			c0.07	0.02	0.05	
v/c Ratio	0.83	0.87	0.26	0.68	0.21	0.49	0.35
Uniform Delay, d1	21.8	32.1	3.0	39.2	37.4	38.5	37.9
Progression Factor	0.94	0.84	1.07	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4	14.3	0.4	12.8	0.7	2.9	1.2
Delay (s)	30.0	41.2	3.6	52.0	38.1	41.4	39.1
Level of Service	C	D	A	D	D	D	D
Approach Delay (s)	30.0		22.9	41.1			40.1
Approach LOS	C		C	D			D

Intersection Summary					
HCM Average Control Delay	30.3	HCM Level of Service		C	
HCM Volume to Capacity ratio	0.82				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		18.0	
Intersection Capacity Utilization		79.4%	ICU Level of Service		D
Analysis Period (min)	15				

c Critical Lane Group

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HCM Signalized Intersection Capacity Analysis 2025 Build - Re-Align
8: Main Street & Northdam 4/8/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	0	<1	1	1	1>	0	0	<1	1	0	<1	0
Volume (vph)	10	880	89	236	904	14	81	3	278	21	4	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0			4.0	4.0		6.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1862	1583	1770	1859			1777	1583		1718	
Flt Permitted		0.99	1.00	0.95	1.00			0.70	1.00		0.77	
Satd. Flow (perm)		1838	1583	1770	1859			1304	1583		1349	
Peak-hour factor, PHF	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)	11	957	97	257	983	15	88	3	302	23	4	18
RTOR Reduction (vph)	0	0	44	0	1	0	0	0	268	0	16	0
Lane Group Flow (vph)	0	968	53	257	997	0	0	91	34	0	29	0
Turn Type	Perm		Perm	Prot			Perm		Perm	Perm		
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4				2		2	6		
Actuated Green, G (s)		48.0	48.0	16.0	70.0			10.0	10.0		8.0	
Effective Green, g (s)		48.0	48.0	16.0	70.0			10.0	10.0		8.0	
Actuated g/C Ratio		0.53	0.53	0.18	0.78			0.11	0.11		0.09	
Clearance Time (s)		6.0	6.0	6.0	6.0			4.0	4.0		6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		980	844	315	1446			145	176		120	
v/s Ratio Prot				c0.15	0.54							
v/s Ratio Perm		c0.53	0.03					c0.07	0.02		0.02	
v/c Ratio		0.99	0.06	0.82	0.69			0.63	0.19		0.24	
Uniform Delay, d1		20.7	10.1	35.6	4.8			38.2	36.3		38.2	
Progression Factor		0.35	0.15	0.86	0.38			1.00	1.00		1.00	
Incremental Delay, d2		19.5	0.1	9.3	1.6			8.2	0.5		1.0	

Delay (s)	26.8	1.6	40.1	3.5	46.4	36.9	39.2	
Level of Service	C	A	D	A	D	D	D	
Approach Delay (s)	24.5			11.0	39.1		39.2	
Approach LOS	C			B	D		D	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization		119.4% ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

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HCM Signalized Intersection Capacity Analysis 2025 Build - Re-Align
9: Main Street & Hill St & Water St 4/8/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		1>	0	1	1		1>		0			
Volume (vph)		732	13	312	691		16		249			
Ideal Flow (vphpl)		1900	1900	1900	1900		1900		1900			
Total Lost time (s)		6.0		6.0	6.0		4.0					
Lane Util. Factor		1.00		1.00	1.00		1.00					
Frt		1.00		1.00	1.00		0.87					
Flt Protected		1.00		0.95	1.00		1.00					
Satd. Flow (prot)		1858		1770	1863		1621					
Flt Permitted		1.00		0.95	1.00		1.00					
Satd. Flow (perm)		1858		1770	1863		1621					
Peak-hour factor, PHF		0.92	0.92	0.92	0.92		0.92		0.92			
Adj. Flow (vph)		796	14	339	751		17		271			
RTOR Reduction (vph)		1	0	0	0		241		0			
Lane Group Flow (vph)		809	0	339	751		47		0			
Turn Type				Prot								
Protected Phases		4		3	8		2					
Permitted Phases												
Actuated Green, G (s)		48.0		16.0	70.0		10.0					
Effective Green, g (s)		48.0		16.0	70.0		10.0					
Actuated g/C Ratio		0.53		0.18	0.78		0.11					
Clearance Time (s)		6.0		6.0	6.0		4.0					
Vehicle Extension (s)		3.0		3.0	3.0		3.0					
Lane Grp Cap (vph)		991		315	1449		180					
v/s Ratio Prot		c0.44		c0.19	0.40		c0.03					
v/s Ratio Perm												
v/c Ratio		0.82		1.08	0.52		0.26					
Uniform Delay, d1		17.4		37.0	3.7		36.6					
Progression Factor		0.44		0.91	0.50		1.00					
Incremental Delay, d2		4.8		65.1	1.0		0.8					
Delay (s)		12.4		98.8	2.8		37.4					
Level of Service		B		F	A		D					
Approach Delay (s)		12.4			32.7		37.4					
Approach LOS		B			C		D					

Intersection Summary			
HCM Average Control Delay	25.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization		86.2% ICU Level of Service	E
Analysis Period (min)	15		

2005 No Build
SimTraffic Performance Report
4/9/2009 Baseline

4: Main Street & Elm Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	2.5	0.9	0.2	0.7	1.2	0.7	0.2	2.7	0.3	0.5	3.7	0.6	14.1
Delay / Veh (s)	58.3	29.4	23.4	27.1	22.3	18.2	36.3	19.2	14.1	38.2	25.4	21.0	25.7
Stop Delay (hr)	2.3	0.8	0.2	0.6	0.9	0.5	0.1	2.0	0.2	0.4	2.7	0.5	11.3
St Del/Veh (s)	54.3	25.3	21.6	22.3	17.0	15.0	31.6	14.0	11.2	32.3	18.6	16.8	20.5
Total Stops	179	106	28	97	136	102	19	347	47	67	401	77	1606
Stop/Veh	1.15	0.92	1.00	0.98	0.72	0.78	1.27	0.68	0.68	1.46	0.77	0.77	0.81
Avg Speed (mph)	3	6	6	12	13	14	6	9	10	5	7	8	8

5: Main Street & Lincoln Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.3	0.1	0.8	1.1	0.3	3.0
Delay / Veh (s)	5.6	2.8	2.0	3.9	1.7	0.7	15.7	15.1	10.3	28.1	26.7	22.1	11.1
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.8	1.0	0.3	2.5
St Del/Veh (s)	2.7	0.5	0.6	1.9	0.2	0.2	13.8	11.8	9.6	26.0	23.2	21.6	9.0
Total Stops	9	9	2	16	7	4	15	67	35	106	150	51	471
Stop/Veh	0.43	0.05	0.06	0.43	0.03	0.05	1.00	0.99	1.00	1.01	1.00	1.00	0.48
Avg Speed (mph)	21	25	23	16	23	19	14	15	19	10	10	11	16

6: Main Street & York Street Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Total Delay (hr)	0.0	0.1	0.1	0.0	0.0	0.0	0.2
Delay / Veh (s)	3.5	0.7	1.4	1.3		7.0	1.1
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
St Del/Veh (s)	1.7	0.3	0.2	0.2		7.2	0.3
Total Stops	0	0	0	0	0	2	2
Stop/Veh	0.00	0.00	0.00	0.00		1.00	0.00
Avg Speed (mph)	14	22	26	22	9	7	24

7: Main Street & Laconia Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBR	All
Total Delay (hr)	0.0	0.6	0.2	2.4	1.5	0.0	7.8	0.2	39.0	0.0	51.6
Delay / Veh (s)	10.2	6.6	3.9	26.6	23.5	22.5	593.8	860.7	594.6	5.0	143.6
Stop Delay (hr)	0.0	0.3	0.1	1.6	0.9	0.0	7.7	0.2	38.8	0.0	49.7
St Del/Veh (s)	7.8	3.9	2.8	18.0	14.3	16.9	589.0	852.0	591.6	5.5	138.3
Total Stops	3	45	25	335	166	1	85	3	425	1	1089
Stop/Veh	0.50	0.15	0.17	1.04	0.73	1.00	1.81	3.00	1.80	1.00	0.84
Avg Speed (mph)	14	19	19	12	13	11	1	2	2	10	5

9: Main Street & Hill & Water Performance by movement

Movement	EBT	EBR	EBR2	WBL2	WBL	WBT	NBL2	NBL	NBR	NEL	NER	NER2	All
Total Delay (hr)	13.2	1.6	0.3	8.2	10.5	3.5	0.2	2.5	0.8	1.6	23.6	0.5	66.5
Delay / Veh (s)	103.2	101.3	92.6	133.6	132.9	26.5	112.1	132.0	10.1	443.3	420.8	376.1	115.4
Stop Delay (hr)	11.2	1.4	0.2	7.4	9.5	2.5	0.2	2.4	0.5	1.6	23.0	0.5	60.4
St Del/Veh (s)	87.7	88.0	80.0	120.0	119.5	19.1	108.8	127.4	6.1	431.1	410.7	366.6	104.8
Total Stops	579	69	14	318	407	313	8	91	18	26	429	9	2281
Stop/Veh	1.26	1.21	1.27	1.44	1.43	0.67	1.14	1.32	0.06	2.00	2.12	1.80	1.10
Avg Speed (mph)	4	4	4	3	3	12	3	3	20	1	1	1	4

10: South Entrance & Main Performance by movement

c Critical Lane Group

5:00 pm Baseline Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 2025 Build - Re-Align
10: South Entrance & Main St 4/8/2009

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1>		0				1	1			1	1
Volume (vph)	66		74				30	1139			1066	33
Ideal Flow (vphpl)	1900		1900				1900	1900			1900	1900
Total Lost time (s)	6.0						6.0	6.0			6.0	6.0
Lane Util. Factor	1.00						1.00	1.00			1.00	1.00
Frt	0.93						1.00	1.00			1.00	0.85
Flt Protected	0.98						0.95	1.00			1.00	1.00
Satd. Flow (prot)	1690						1770	1863			1863	1583
Flt Permitted	0.98						0.15	1.00			1.00	1.00
Satd. Flow (perm)	1690						275	1863			1863	1583
Peak-hour factor, PHF	0.92		0.92				0.92	0.92			0.92	0.92
Adj. Flow (vph)	72		80				33	1238			1159	36
RTOR Reduction (vph)	45		0				0	0			0	8
Lane Group Flow (vph)	107		0				33	1238			1159	28
Turn Type							Perm					Perm
Protected Phases	4							2			6	
Permitted Phases							2					6
Actuated Green, G (s)	8.0						70.0	70.0			70.0	70.0
Effective Green, g (s)	8.0						70.0	70.0			70.0	70.0
Actuated g/C Ratio	0.09						0.78	0.78			0.78	0.78
Clearance Time (s)	6.0						6.0	6.0			6.0	6.0
Vehicle Extension (s)	3.0						3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	150						214	1449			1449	1231
v/s Ratio Prot	c0.06							c0.66			0.62	
v/s Ratio Perm							0.12					0.02
v/c Ratio	0.72						0.15	0.85			0.80	0.02
Uniform Delay, d1	39.9						2.5	6.6			5.9	2.3
Progression Factor	1.00						0.15	0.72			1.00	1.00
Incremental Delay, d2	15.0						0.6	2.9			4.7	0.0
Delay (s)	54.9						1.0	7.6			10.6	2.3
Level of Service	D						A	A			B	A
Approach Delay (s)	54.9							7.5			10.3	
Approach LOS	D							A			B	

Intersection Summary					
HCM Average Control Delay		11.5	HCM Level of Service		B
HCM Volume to Capacity ratio		0.84			
Actuated Cycle Length (s)		90.0	Sum of lost time (s)		12.0
Intersection Capacity Utilization			78.1% ICU Level of Service		D
Analysis Period (min)		15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1>		0				0	<1			1>	0
Volume (veh/h)	0		0				0	0			0	0
Sign Control	Stop							Free			Free	
Grade	0%							0%			0%	
Peak Hour Factor	0.92		0.92				0.92	0.92			0.92	0.92
Hourly flow rate (vph)	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)				371	
pX, platoon unblocked					
vC, conflicting volume	0		0	0	
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol	0		0	0	
tC, single (s)	6.4		6.2	4.1	
tC, 2 stage (s)					
tF (s)	3.5		3.3	2.2	
p0 queue free %	100		100	100	
cM capacity (veh/h)	1023		1085	1623	

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	0	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX B

Synchro Queuing Worksheets

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	1.2	1.1	0.2	4.3	48.7	0.7	56.2
Delay / Veh (s)	63.9	55.1	28.8	17.1	190.9	80.9	100.2
Stop Delay (hr)	1.1	1.0	0.1	2.0	42.4	0.6	47.2
St Del/Veh (s)	60.3	52.9	19.7	7.9	165.9	70.2	84.2
Total Stops	65	71	22	407	2199	44	2808
Stop/Veh	0.96	1.03	0.88	0.45	2.39	1.47	1.39
Avg Speed (mph)	5	6	10	14	5	12	7

SimTraffic Report
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Queuing and Blocking Report
4/9/2009 Baseline

Intersection: 4: Main Street & Elm Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	80	296	95	256	63	353	85	301
Average Queue (ft)	69	121	52	131	11	190	31	229
95th Queue (ft)	95	259	106	233	39	335	78	356
Link Distance (ft)		306		892		354		287
Upstream Blk Time (%)		1				2		11
Queuing Penalty (veh)		0				0		74
Storage Bay Dist (ft)	55		70		65		60	
Storage Blk Time (%)	37	15	3	24	0	28	1	38
Queuing Penalty (veh)	54	23	10	27	0	5	4	20

Intersection: 5: Main Street & Lincoln Street

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	62	86	82	57	308
Average Queue (ft)	10	16	35	19	115
95th Queue (ft)	38	51	64	44	236
Link Distance (ft)	892	177	682		661
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				150	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Main Street & York Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	17	30
Average Queue (ft)	1	2
95th Queue (ft)	9	15
Link Distance (ft)	177	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Main Street & Laconia Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	252	624	619	14
Average Queue (ft)	49	238	525	1
95th Queue (ft)	164	490	781	9
Link Distance (ft)	434	714	577	
Upstream Blk Time (%)		0	67	
Queuing Penalty (veh)		1	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Main Street & Hill & Water

Movement	EB	WB	WB	NB	NB	NE
Directions Served	TR>	<L	T	<L	R	LR>
Maximum Queue (ft)	731	691	706	246	214	436
Average Queue (ft)	613	659	463	100	20	396
95th Queue (ft)	866	758	842	225	134	504
Link Distance (ft)	714	674	674	620		417
Upstream Blk Time (%)	11	25	6			57
Queuing Penalty (veh)	69	133	33			0
Storage Bay Dist (ft)					250	
Storage Blk Time (%)				1	1	
Queuing Penalty (veh)				3	1	

Intersection: 10: South Entrance & Main

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	254	125	634	1574	1456
Average Queue (ft)	112	18	222	1148	980
95th Queue (ft)	204	65	518	1994	1941
Link Distance (ft)	642		674	1538	1538
Upstream Blk Time (%)			0	24	7
Queuing Penalty (veh)			1	0	0
Storage Bay Dist (ft)		150			
Storage Blk Time (%)			6		
Queuing Penalty (veh)			2		

2005 No Build - "In Flash" Analysis
SimTraffic Performance Report
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9: Main Street & Hill & Water Performance by movement

Movement	EBT	EBR	EBR2	WBL2	WBL	WBT	NBL2	NBL	NBR	NEL	NER	NER2	All
Total Delay (hr)	0.4	0.0	0.0	9.3	12.2	3.2	4.1	39.5	121.0	6.0	97.6	2.5	295.8
Delay / Veh (s)	3.0	2.0	2.1	172.0	172.1	26.8	14774.8	11840.3	6699.5	3627.3	3820.3	4449.8	640.4
Stop Delay (hr)	0.1	0.0	0.0	8.6	11.4	2.4	4.1	39.4	120.8	6.1	97.9	2.5	293.3
St Del/Veh (s)	0.7	0.9	0.8	160.2	160.4	20.2	14764.7	11829.6	6690.4	3635.6	3831.7	4463.0	635.0
Total Stops	9	9	1	439	610	260	3	30	117	7	126	3	1614
Stop/Veh	0.02	0.13	0.10	2.26	2.38	0.61	3.00	2.50	1.80	1.17	1.37	1.50	0.97
Travel Dist (mi)	78.1	9.8	1.5	26.6	34.9	58.1	0.8	7.6	30.5	1.8	30.1	0.8	280.5
Travel Time (hr)	3.3	0.5	0.1	10.2	13.5	5.1	4.1	39.7	122.0	6.1	98.7	2.5	306.0
Avg Speed (mph)	23	22	21	3	3	11	0	0	0	0	0	0	1
Fuel Used (gal)	3.2	0.4	0.1	3.1	4.0	3.2	1.0	9.3	28.4	1.4	23.2	0.6	77.9
Fuel Eff. (mpg)	24.2	26.9	25.5	8.6	8.7	18.2	0.8	0.8	1.1	1.3	1.3	1.3	3.6
HC Emissions (g)	45	3	0	18	19	34	0	5	58	0	68	0	251
CO Emissions (g)	1403	136	19	486	587	960	47	501	2067	77	2036	33	8350
NOx Emissions (g)	148	12	2	52	61	125	0	6	61	2	88	1	559
Vehicles Entered	533	67	10	196	258	426	3	25	109	7	123	3	1760
Vehicles Exited	532	67	10	192	254	424	0	0	23	4	60	1	1567
Hourly Exit Rate	532	67	10	192	254	424	0	0	23	4	60	1	1567
Input Volume	542	70	11	236	299	526	7	65	275	14	239	7	2291
% of Volume	98	96	91	81	85	81	0	0	8	29	25	14	68
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	4	43	162	7	112	2	330
Density (ft/veh)													47
Occupancy (veh)	3	0	0	10	14	5	3	27	71	4	63	2	202

Intersection: 9: Main Street & Hill & Water

Movement	EB	WB	WB	NB	NB	NE
Directions Served	TR>	<L	T	<L	R	LR>
Maximum Queue (ft)	160	696	704	2727	275	1799
Average Queue (ft)	16	619	573	2207	18	1557
95th Queue (ft)	93	814	934	3595	131	2259
Link Distance (ft)	713	674	674	2714		1776
Upstream Blk Time (%)		22	19	63		67
Queuing Penalty (veh)		115	102	0		0
Storage Bay Dist (ft)					250	
Storage Blk Time (%)				93	0	
Queuing Penalty (veh)				257	0	

2025 Build
SimTraffic Performance Report
3/16/2009 Baseline

4: Main Street & Elm Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	6.5	4.6	0.8	1.2	1.6	0.9	0.2	3.7	0.5	0.4	2.9	0.3	23.8
Delay / Veh (s)	145.5	107.2	115.8	36.9	28.0	24.8	46.5	24.6	20.4	37.4	21.4	16.7	41.8
Stop Delay (hr)	6.3	4.3	0.8	1.0	1.3	0.8	0.2	2.8	0.4	0.3	2.1	0.3	20.6
St Del/Veh (s)	140.4	101.4	112.5	31.5	21.6	20.7	40.8	18.4	16.8	32.5	15.4	13.4	36.2
Total Stops	240	205	37	127	179	122	25	407	70	47	349	54	1862
Stop/Veh	1.48	1.33	1.48	1.07	0.85	0.92	1.39	0.75	0.80	1.34	0.72	0.73	0.91
Avg Speed (mph)	2	3	3	10	12	12	5	8	8	5	8	9	7

5: Main Street & Lincoln Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.2	0.0	0.0	0.2	0.0	0.1	0.8	0.2	10.3	11.6	2.9	26.4
Delay / Veh (s)	6.1	3.2	2.2	4.1	2.2	1.0	23.0	30.7	12.6	256.4	266.6	244.4	79.8
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	0.1	10.2	11.4	2.9	25.7
St Del/Veh (s)	3.3	0.5	0.5	2.0	0.4	0.3	21.3	27.5	11.7	253.9	262.3	243.2	77.4
Total Stops	10	9	3	14	15	8	19	93	46	178	197	53	645
Stop/Veh	0.45	0.04	0.08	0.34	0.06	0.07	1.00	1.00	1.02	1.23	1.25	1.23	0.54
Avg Speed (mph)	21	25	23	15	20	17	11	10	17	3	3	3	7

6: Main Street & York Street Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Total Delay (hr)	0.0	0.1	0.2	0.0	0.2	0.1	0.7
Delay / Veh (s)	5.6	1.4	1.9	1.5	14.9	7.4	2.7
Stop Delay (hr)	0.0	0.1	0.0	0.0	0.2	0.1	0.4
St Del/Veh (s)	3.8	0.6	0.3	0.4	14.3	7.6	1.6
Total Stops	13	11	1	0	42	50	117
Stop/Veh	0.48	0.03	0.00	0.00	0.98	0.98	0.13
Avg Speed (mph)	12	20	24	21	5	7	20

7: Main Street & Laconia Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.4	0.1	2.2	1.6	0.2	18.6	9.2	99.2	5.8	4.8	3.3	145.5
Delay / Veh (s)	5.0	4.4	2.9	25.5	21.8	22.1	2397.8	2760.2	2446.6	455.8	452.6	406.2	363.0
Stop Delay (hr)	0.0	0.2	0.1	1.5	0.9	0.1	18.7	9.2	99.4	5.9	4.8	3.3	144.0
St Del/Veh (s)	2.7	1.8	1.8	17.4	12.7	14.7	2400.2	2761.4	2450.4	458.4	453.9	410.0	359.3
Total Stops	10	28	25	328	195	28	39	15	195	44	36	28	971
Stop/Veh	0.36	0.08	0.15	1.08	0.74	0.82	1.39	1.25	1.34	0.96	0.95	0.97	0.67
Avg Speed (mph)	19	21	20	12	13	12	1	1	1	1	1	1	4

9: Main Street & Hill & Water Performance by movement

Movement	EBT	EBR	EBR2	WBL2	WBL	WBT	NBL2	NBL	NBR	NEL	NER	NER2	All
Total Delay (hr)	9.7	1.3	0.1	10.3	9.8	2.9	1.0	12.6	14.6	3.6	49.6	1.8	117.3
Delay / Veh (s)	75.0	74.2	55.0	142.6	143.0	22.7	693.3	637.4	199.4	1084.6	1051.2	1081.7	207.8
Stop Delay (hr)	7.9	1.1	0.1	9.3	8.9	2.0	0.9	12.4	13.9	3.6	49.1	1.8	111.0
St Del/Veh (s)	61.4	62.7	45.4	128.7	129.1	15.8	682.3	626.5	190.5	1072.2	1040.3	1070.7	196.7
Total Stops	493	70	8	383	360	272	11	158	273	30	437	15	2510
Stop/Veh	1.06	1.08	1.00	1.48	1.46	0.59	2.20	2.23	1.04	2.50	2.57	2.50	1.24
Avg Speed (mph)	6	6	7	3	3	13	1	1	3	1	1	1	3

10: South Entrance & Main Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	1.2	1.1	0.3	5.3	92.6	1.9	102.3
Delay / Veh (s)	66.0	53.8	39.1	21.9	369.3	247.1	188.0
Stop Delay (hr)	1.1	1.0	0.2	2.9	85.2	1.7	92.2
St Del/Veh (s)	62.4	51.7	28.4	12.2	339.7	233.0	169.6
Total Stops	63	72	25	421	2687	50	3318
Stop/Veh	0.98	1.01	1.00	0.49	2.98	1.85	1.69
Avg Speed (mph)	5	6	9	13	4	9	6

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Intersection: 1: Diamond Street & Elm Street

Movement	WB	NB	SB
Directions Served	LR	LTR	LTR
Maximum Queue (ft)	642	7	1088
Average Queue (ft)	583	0	1052
95th Queue (ft)	755	4	1128
Link Distance (ft)	624	340	1039
Upstream Blk Time (%)	81		54
Queuing Penalty (veh)	0		0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Lincoln Street & Elm Street

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	275	28	360
Average Queue (ft)	108	2	351
95th Queue (ft)	224	14	379
Link Distance (ft)	286	548	340
Upstream Blk Time (%)	1		30
Queuing Penalty (veh)	2		333
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Pearl Street & Lincoln Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	47	242	10	104
Average Queue (ft)	14	75	1	21
95th Queue (ft)	40	190	11	68
Link Distance (ft)	450	775	661	286
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Main Street & Elm Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	80	333	95	372	90	366	85	298
Average Queue (ft)	74	219	59	177	13	220	26	203
95th Queue (ft)	95	395	112	343	50	366	69	332

Link Distance (ft)		306		892		354	287
Upstream Blk Time (%)		28				4	4
Queuing Penalty (veh)		0				0	32
Storage Bay Dist (ft)	55		70		65		60
Storage Blk Time (%)	54	24	7	29	0	34	0	32
Queuing Penalty (veh)	97	40	26	39	1	6	3	17

Intersection: 5: Main Street & Lincoln Street

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	90	106	155	100	633
Average Queue (ft)	12	22	57	25	432
95th Queue (ft)	47	73	119	68	700
Link Distance (ft)	892	177	682		661
Upstream Blk Time (%)		0			4
Queuing Penalty (veh)		0			16
Storage Bay Dist (ft)				150	
Storage Blk Time (%)			2	0	
Queuing Penalty (veh)			1	0	

Intersection: 6: Main Street & York Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	136	23	89
Average Queue (ft)	21	1	42
95th Queue (ft)	77	20	74
Link Distance (ft)	177	434	
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Main Street & Laconia Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	212	636	610	188
Average Queue (ft)	32	245	592	138
95th Queue (ft)	122	511	605	197
Link Distance (ft)	434	714	577	
Upstream Blk Time (%)		0	95	
Queuing Penalty (veh)		1	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Main Street & Hill & Water

Movement	EB	WB	WB	NB	NB	NE
Directions Served	TR>	<L	T	<L	R	LR>
Maximum Queue (ft)	728	691	689	635	275	441
Average Queue (ft)	517	677	414	432	164	427
95th Queue (ft)	802	693	806	796	384	472
Link Distance (ft)	714	674	674	620		417
Upstream Blk Time (%)	4	33	6	33		86
Queuing Penalty (veh)	27	185	34	0		0
Storage Bay Dist (ft)					250	
Storage Blk Time (%)				49	7	
Queuing Penalty (veh)				137	6	

Intersection: 10: South Entrance & Main

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	258	173	659	1581	1568
Average Queue (ft)	111	22	240	1340	1252
95th Queue (ft)	212	82	551	1922	2009
Link Distance (ft)	642		674	1538	1538
Upstream Blk Time (%)			1	46	16
Queuing Penalty (veh)			6	0	0
Storage Bay Dist (ft)		150			
Storage Blk Time (%)		0	8		
Queuing Penalty (veh)		0	2		

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4: Main Street & Elm Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	8.7	4.5	0.9	1.3	1.5	0.8	0.2	3.2	0.4	0.4	2.0	0.2	24.1
Delay / Veh (s)	193.1	103.1	106.0	38.2	25.1	22.3	34.5	20.6	15.8	34.6	15.7	12.0	42.3
Stop Delay (hr)	8.6	4.2	0.9	1.1	1.1	0.7	0.2	2.3	0.3	0.3	1.4	0.2	21.2
St Del/Veh (s)	189.1	97.3	102.5	33.0	18.8	18.5	30.0	14.8	12.7	30.9	10.9	9.6	37.3
Total Stops	230	192	38	122	165	109	18	380	68	39	258	47	1666
Stop/Veh	1.41	1.23	1.23	0.98	0.78	0.83	0.95	0.69	0.72	1.03	0.57	0.64	0.81
Avg Speed (mph)	1	4	4	10	13	13	6	9	9	6	10	11	7

5: Main Street & Lincoln Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.5	4.8	0.7	0.3	2.0	0.8	0.1	0.3	0.2	4.7	4.6	1.0	20.0
Delay / Veh (s)	80.8	77.0	82.0	23.6	26.1	21.2	10.6	12.6	16.8	119.6	100.2	98.0	58.2
Stop Delay (hr)	0.5	4.5	0.7	0.3	1.8	0.8	0.0	0.2	0.2	4.7	4.4	1.0	19.2
St Del/Veh (s)	79.1	73.0	81.8	22.1	23.3	21.5	8.8	9.2	16.3	118.7	97.6	98.4	56.1
Total Stops	23	235	32	45	278	135	17	92	45	146	169	39	1256
Stop/Veh	1.05	1.05	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.03	1.05	1.02
Avg Speed (mph)	6	7	6	6	6	6	17	16	15	5	5	5	6

6: Main Street & York Street Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Total Delay (hr)	0.2	2.2	0.8	0.0	4.5	4.2	11.9
Delay / Veh (s)	24.2	21.1	6.4	5.1	564.3	417.7	46.4
Stop Delay (hr)	0.1	1.9	0.4	0.0	4.6	4.2	11.2
St Del/Veh (s)	21.5	18.5	3.5	3.1	565.0	419.5	43.9
Total Stops	22	186	78	6	29	35	356
Stop/Veh	0.88	0.50	0.18	0.17	1.00	0.97	0.39
Avg Speed (mph)	5	6	18	17	1	1	7

7: Main Street & Laconia Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	3.2	36.4	16.7	3.2	2.0	0.2	1.1	0.5	5.9	0.2	0.2	0.1	69.6
Delay / Veh (s)	483.4	485.4	470.4	32.8	23.1	18.1	70.1	77.4	73.8	12.8	12.4	7.5	154.7
Stop Delay (hr)	3.2	36.3	16.8	2.7	1.3	0.1	1.1	0.5	5.9	0.2	0.2	0.1	68.4
St Del/Veh (s)	483.9	484.3	473.1	27.3	15.1	12.7	69.0	74.9	74.0	12.4	11.2	8.1	151.8
Total Stops	26	285	135	379	339	38	57	25	303	60	49	31	1727
Stop/Veh	1.08	1.06	1.05	1.08	1.11	1.12	1.02	1.04	1.05	1.00	1.00	0.97	1.07
Avg Speed (mph)	3	3	3	10	13	14	5	4	5	5	6	7	6

9: Main Street & Hill & Water Performance by movement

Movement	EBT	EBR	EBR2	WBL2	WBL	WBT	NBL2	NBL	NBR	NEL	NER	NER2	All
Total Delay (hr)	25.3	4.8	0.6	6.0	6.0	8.0	0.8	10.5	10.6	0.8	14.7	0.5	88.5
Delay / Veh (s)	173.9	258.5	231.9	69.3	70.2	53.3	577.6	524.4	156.1	173.3	226.6	257.2	136.5
Stop Delay (hr)	23.2	4.5	0.6	5.0	5.0	6.4	0.8	10.3	10.1	0.8	14.4	0.5	81.6
St Del/Veh (s)	159.4	242.0	217.8	58.2	58.8	42.6	569.0	515.9	148.9	166.5	222.8	254.4	125.8
Total Stops	1022	163	22	372	376	569	11	136	231	31	409	11	3353
Stop/Veh	1.95	2.43	2.20	1.20	1.23	1.05	2.20	1.89	0.95	1.82	1.76	1.57	1.44
Avg Speed (mph)	3	2	2	6	6	7	1	1	4	2	1	1	3

10: South Entrance & Main St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	1.2	1.0	0.2	3.4	12.2	0.1	18.1
Delay / Veh (s)	67.5	47.2	27.2	12.8	41.4	8.4	29.4
Stop Delay (hr)	1.2	1.0	0.1	1.2	8.4	0.1	11.9
St Del/Veh (s)	63.8	45.1	19.8	4.4	28.4	5.9	19.3
Total Stops	69	84	23	350	928	13	1467
Stop/Veh	1.06	1.05	0.96	0.37	0.88	0.41	0.66
Avg Speed (mph)	5	7	11	16	14	23	14

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Intersection: 4: Main Street & Elm Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	175	331	174	300	95	371	147	296
Average Queue (ft)	150	210	77	143	14	204	27	154
95th Queue (ft)	217	409	161	253	58	354	87	280
Link Distance (ft)		306		892		354		287
Upstream Blk Time (%)		29				3		1
Queuing Penalty (veh)		0				0		7
Storage Bay Dist (ft)	150		150		150		150	
Storage Blk Time (%)	52	3	2	5		14		7
Queuing Penalty (veh)	93	6	6	7		2		4

Intersection: 5: Main Street & Lincoln Street

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	644	194	105	65	509
Average Queue (ft)	199	134	40	23	230
95th Queue (ft)	543	212	73	50	547
Link Distance (ft)	892	177	682		661
Upstream Blk Time (%)		6			1
Queuing Penalty (veh)		30			3
Storage Bay Dist (ft)				150	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: Main Street & York Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	186	189	169
Average Queue (ft)	95	36	98
95th Queue (ft)	224	137	187
Link Distance (ft)	177	429	
Upstream Blk Time (%)	11		
Queuing Penalty (veh)	53		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Main Street & Laconia Street

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR

Maximum Queue (ft)	448	174	407	564	108
Average Queue (ft)	382	146	186	252	46
95th Queue (ft)	511	206	374	560	90
Link Distance (ft)	429		711	567	
Upstream Blk Time (%)	25			7	
Queuing Penalty (veh)	119			0	
Storage Bay Dist (ft)		150			
Storage Blk Time (%)		14	3		
Queuing Penalty (veh)		48	10		

Intersection: 9: Main Street & Hill & Water

Movement	EB	EB	WB	WB	NB	NB	NE	NE
Directions Served	T	TR>	<L	T	<L	R	LR	R>
Maximum Queue (ft)	717	730	684	681	634	275	425	175
Average Queue (ft)	500	616	545	497	377	161	265	154
95th Queue (ft)	826	883	780	765	764	383	496	212
Link Distance (ft)	711	711	669	669	614		408	
Upstream Blk Time (%)	1	16	8	3	27		20	
Queuing Penalty (veh)	3	59	45	19	0		0	
Storage Bay Dist (ft)						250		150
Storage Blk Time (%)					43	4	34	54
Queuing Penalty (veh)					119	4	43	74

Intersection: 10: South Entrance & Main

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	248	528	638	1122	789
Average Queue (ft)	109	47	120	551	320
95th Queue (ft)	203	262	361	1309	1142
Link Distance (ft)	642	669	669	1538	1538
Upstream Blk Time (%)		0	0	1	0
Queuing Penalty (veh)		0	0	0	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

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4: Main Street & Elm Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	7.0	2.9	0.5	1.2	1.7	0.9	0.2	4.8	0.7	0.4	2.5	0.3	23.2
Delay / Veh (s)	158.1	75.3	63.0	33.5	27.3	24.2	52.7	32.3	26.9	39.8	18.7	14.5	40.6
Stop Delay (hr)	6.8	2.7	0.5	1.0	1.3	0.7	0.2	3.9	0.6	0.4	1.8	0.3	20.1
St Del/Veh (s)	153.8	70.5	60.7	27.6	20.1	19.4	48.4	26.3	23.7	36.2	13.3	11.6	35.3
Total Stops	216	148	28	124	182	114	19	391	63	41	306	53	1685
Stop/Veh	1.35	1.06	1.04	0.94	0.80	0.86	1.12	0.73	0.72	1.08	0.64	0.66	0.82
Avg Speed (mph)	2	4	5	11	12	12	6	8	8	5	9	10	7

5: Main Street & Lincoln Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.8	7.0	0.8	0.4	1.9	0.6	0.1	0.3	0.6	6.2	7.9	1.8	28.5
Delay / Veh (s)	118.5	122.5	103.6	28.3	23.4	16.6	19.5	13.0	47.4	168.0	181.6	148.8	84.2
Stop Delay (hr)	0.7	6.5	0.8	0.3	1.4	0.5	0.1	0.3	0.6	6.0	7.6	1.7	26.4
St Del/Veh (s)	109.3	112.4	96.6	24.7	18.2	14.1	17.5	10.4	46.6	161.2	173.2	143.0	78.2
Total Stops	43	331	44	41	216	104	13	51	33	200	225	67	1368
Stop/Veh	1.87	1.60	1.52	0.89	0.75	0.75	0.76	0.57	0.73	1.50	1.43	1.52	1.12
Avg Speed (mph)	5	5	5	5	6	7	12	16	8	4	4	4	5

6: Main Street & York Street Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Total Delay (hr)	0.1	2.5	1.2	0.1	5.2	6.4	15.5
Delay / Veh (s)	19.3	25.2	10.2	7.6	538.8	588.2	60.9
Stop Delay (hr)	0.1	2.2	0.9	0.1	5.2	6.4	14.9
St Del/Veh (s)	16.6	22.4	7.2	5.8	539.8	590.6	58.4
Total Stops	12	123	119	8	36	40	338
Stop/Veh	0.60	0.35	0.28	0.24	1.03	1.03	0.37
Avg Speed (mph)	6	5	15	15	0	1	6

7: Main Street & Laconia Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	1.6	23.4	10.2	4.1	1.4	0.1	1.2	0.5	2.8	3.5	3.0	1.7	53.6
Delay / Veh (s)	254.3	291.7	277.3	41.5	17.2	14.1	66.2	67.8	32.8	249.1	268.8	238.3	116.9
Stop Delay (hr)	1.6	22.5	9.9	3.3	0.9	0.1	1.1	0.4	2.6	3.5	3.0	1.7	50.7
St Del/Veh (s)	245.1	280.7	269.0	33.9	10.3	8.5	61.9	62.2	30.9	248.6	267.3	239.0	110.6
Total Stops	31	357	155	363	178	24	72	26	299	55	41	26	1627
Stop/Veh	1.35	1.24	1.17	1.02	0.59	0.63	1.14	1.08	0.98	1.08	1.02	1.00	0.99
Avg Speed (mph)	3	3	3	8	15	15	5	5	9	1	1	1	6

8: Main Street & Northdam Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.1	4.0	0.1	3.5	6.7	0.1	1.4	0.0	2.5	0.3	0.0	0.1	18.9
Delay / Veh (s)	44.8	18.8	6.7	52.6	27.2	25.0	63.1	64.5	30.8	51.7	42.1	24.6	28.3
Stop Delay (hr)	0.1	3.1	0.1	2.9	4.5	0.1	1.3	0.0	2.4	0.3	0.0	0.1	14.9
St Del/Veh (s)	40.9	14.3	4.5	43.5	18.5	18.3	59.8	59.8	29.2	50.1	38.6	24.4	22.3
Total Stops	9	296	29	290	601	7	81	2	261	20	3	16	1615
Stop/Veh	1.00	0.38	0.36	1.22	0.68	0.64	1.00	1.00	0.89	0.95	1.00	1.00	0.67
Avg Speed (mph)	4	7	11	6	11	11	5	6	10	4	6	8	9

9: Main Street & Hill St Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Total Delay (hr)	13.3	0.3	4.4	0.8	0.2	1.0	20.0
Delay / Veh (s)	76.5	89.3	52.4	4.5	47.3	14.3	38.4
Stop Delay (hr)	10.9	0.3	4.0	0.5	0.2	0.9	16.7
St Del/Veh (s)	62.5	77.0	47.9	2.6	44.5	12.8	32.0
Total Stops	831	17	312	106	15	228	1509
Stop/Veh	1.33	1.42	1.03	0.16	0.94	0.94	0.80
Avg Speed (mph)	5	5	3	17	8	16	7

10: South Entrance & Main St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	3.0	3.6	0.2	1.2	13.6	0.3	21.9
Delay / Veh (s)	165.6	175.7	29.6	3.9	46.6	36.5	34.2
Stop Delay (hr)	2.9	3.5	0.2	0.4	8.8	0.2	16.0
St Del/Veh (s)	160.9	171.9	26.2	1.3	30.1	24.0	25.0
Total Stops	101	120	21	122	1273	36	1673
Stop/Veh	1.55	1.62	0.91	0.12	1.21	1.06	0.72
Avg Speed (mph)	2	2	9	22	14	16	13

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Intersection: 4: Main Street & Elm Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	175	329	174	368	100	367	152	299
Average Queue (ft)	136	174	72	161	14	217	27	178
95th Queue (ft)	216	373	147	299	57	381	80	306
Link Distance (ft)		306		892		354		287
Upstream Blk Time (%)		19				6		2
Queuing Penalty (veh)		0				0		16
Storage Bay Dist (ft)	150		150		150		150	
Storage Blk Time (%)	37	5	0	10		17		12
Queuing Penalty (veh)	67	8	0	13		3		6

Intersection: 5: Main Street & Lincoln Street

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	LT	R	LTR
Maximum Queue (ft)	706	196	146	87	591
Average Queue (ft)	286	148	46	28	326
95th Queue (ft)	768	226	112	88	698
Link Distance (ft)	892	177	682		661
Upstream Blk Time (%)	4	13			11
Queuing Penalty (veh)	12	65			41
Storage Bay Dist (ft)				150	
Storage Blk Time (%)				2	
Queuing Penalty (veh)				2	

Intersection: 6: Main Street & York Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	191	291	173
Average Queue (ft)	109	73	112
95th Queue (ft)	242	253	197
Link Distance (ft)	177	429	

Upstream Blk Time (%)	23	0
Queuing Penalty (veh)	105	1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 7: Main Street & Laconia Street

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (ft)	445	174	624	381	165	159
Average Queue (ft)	386	156	267	114	106	117
95th Queue (ft)	530	205	642	312	190	191
Link Distance (ft)	429		675	571		
Upstream Blk Time (%)	34		2	0		
Queuing Penalty (veh)	161		12	0		
Storage Bay Dist (ft)		150			150	
Storage Blk Time (%)		20	1	2	9	
Queuing Penalty (veh)		70	5	5	7	

Intersection: 8: Main Street & Northdam

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	L	TR	LT	R	LTR
Maximum Queue (ft)	254	258	273	567	221	273	81
Average Queue (ft)	186	87	184	349	71	129	32
95th Queue (ft)	279	252	315	691	155	228	70
Link Distance (ft)	212	212		550	598		406
Upstream Blk Time (%)	8	4		8			
Queuing Penalty (veh)	42	18		97			
Storage Bay Dist (ft)			250			250	
Storage Blk Time (%)			3	16		1	
Queuing Penalty (veh)			24	39		0	

Intersection: 9: Main Street & Hill St

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	695	230	195	306
Average Queue (ft)	533	203	82	93
95th Queue (ft)	870	264	175	206
Link Distance (ft)	675	212	212	830
Upstream Blk Time (%)	15	16	2	
Queuing Penalty (veh)	109	81	9	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: South Entrance & Main St

Movement	EB	NB	NB	SB	SB
Directions Served	LR	L	T	T	R
Maximum Queue (ft)	361	62	151	1301	174
Average Queue (ft)	189	20	89	646	17
95th Queue (ft)	389	54	158	1511	91
Link Distance (ft)	425		550	1538	
Upstream Blk Time (%)	8			4	
Queuing Penalty (veh)	0			0	
Storage Bay Dist (ft)		150			150
Storage Blk Time (%)			0	21	0
Queuing Penalty (veh)			0	7	0