

Attachments

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ATTACHMENT A

Volumes (Peak)

Calculations

Background Traffic Volumes - PEAK SEASONAL ADJUSTMENT
AM Peak data

Assumed growth rate:0.01

March 2023 Seasonal Adjust:1.56NHDOT Group 5 Averages

June 2023 Seasonal Adjust:1.05NHDOT Group 5 Averages (Int #21 ony)

Site Trips are not Seasonally Adjusted or Grown.

AM Peak data	Existing 2025 (Raw data) [03/06/2025]	Balance	2025	Existing 2025 w/ Seasonal Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
5. NH104 at Meredith Center Road																	
7:15 AM																	
Movement																	
EBT	370		370	577.20	577.20	582.97	588.80	594.69	600.64	606.65	612.72	618.85	625.04	631.29	637.60	643.98	650.42
EBR	256		256	399.36	399.36	403.35	407.38	411.45	415.56	419.72	423.92	428.16	432.44	436.76	441.13	445.54	450.00
WBL	0		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WBT	318		318	496.08	496.08	501.04	506.05	511.11	516.22	521.38	526.59	531.86	537.18	542.55	547.98	553.46	558.99
NBL	143		143	223.08	223.08	225.31	227.56	229.84	232.14	234.46	236.80	239.17	241.56	243.98	246.42	248.88	251.37
NBR	0		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. [7a.] US3 (DW Highway) at NH104																	
7:30 AM																	
Movement	(D)																
NBL	72		72	112.32	112.32	113.44	114.57	115.72	116.88	118.05	119.23	120.42	121.62	122.84	124.07	125.31	126.56
NBT	704		704	1098.24	1098.24	1109.22	1120.31	1131.51	1142.83	1154.26	1165.80	1177.46	1189.23	1201.12	1213.13	1225.26	1237.51
SBT	364		364	567.84	567.84	573.52	579.26	585.05	590.90	596.81	602.78	608.81	614.90	621.05	627.26	633.53	639.87
SBW	210		210	327.60	327.60	330.88	334.19	337.53	340.91	344.32	347.76	351.24	354.75	358.30	361.88	365.50	369.16
7 (7b.) US3 (DW Highway) at NH104																	
7:30 AM																	
Movement																	
EBL	290		290	452.40	452.40	456.92	461.49	466.10	470.76	475.47	480.22	485.02	489.87	494.77	499.72	504.72	509.77
EBR	84		84	131.04	131.04	132.35	133.67	135.01	136.36	137.72	139.10	140.49	141.89	143.31	144.74	146.19	147.65
NBT	482	+4	486	751.92	751.92	759.44	767.03	774.70	782.45	790.27	798.17	806.15	814.21	822.35	830.57	838.88	847.27
SBT	362	+2	364	564.72	564.72	570.37	576.07	581.83	587.65	593.53	599.47	605.46	611.51	617.63	623.81	630.05	636.35

PHF	% Heavy	Counted Heavy	Calculated Heavy	AM Peak data	2037 No-Build	Intersection Total Volume	Site Trip Distribution (Full Build)	Site Trips Added to Intersection	2037 Build (Full Build)	FUTURE BUILD PM PHF			
5. NH104 at Meredith Center Road													
Movement													
0.83	7%	25	4%	EBT	650	1910	-5	204	645	0.90			
	1%	2		EBR	450		129		579				
0.86	0%	0	2%	WBL	0		0		0	0.90			
	9%	30		WBT	559		0		559				
0.83	6%	8	6%	NBL	251		80		331	0.90			
	0%	0		NBR	0		0		0				
6. [7a.] US3 (DW Highway) at NH104													
Movement													
0.81	13%	9	5%	NBL	127	2005	0	201	127	0.90			
	5%	33		NBT	1238		93		1331				
0.90	2%	9	2%	SBT	640		108		748	0.90			
0.86	9%	19		SBW	369		-5		364	0.86			
7 (7b.) US3 (DW Highway) at NH104													
Movement													
0.81	7%	20	7%	EBL	510	2141	0	201	510	0.90			
	14%	12		EBR	148		0		148				
0.84	4%	20	3%	NBT	847		93		940	0.90			
0.90	2%	9	2%	SBT	636		108		744	0.90			

Background Traffic Volumes - PEAK SEASONAL ADJUSTMENT
AM Peak data

Assumed growth rate: 0.01
March 2023 Seasonal Adjust: 1.56 NHDOT Group 5 Averages
June 2023 Seasonal Adjust: 1.05 NHDOT Group 5 Averages (Int #21 ony)

Site Trips are not Seasonally Adjusted or Grown.

AM Peak data		Existing 2025 (Raw data) [03/06/2025]	Balance	2025	Existing 2025 w/ Seasonal Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
8. US3 (DW Highway) at Parade Road / Upper Mile Pt Dr																		
		7:30 AM																
<u>Movement</u>																		
EBL	250			250	390.00	390.00	393.90	397.84	401.82	405.84	409.90	414.00	418.14	422.32	426.54	430.81	435.12	439.47
EBT	5			5	5.00	5.00	5	5	5	5	5	5	5	5	5	5	5	5
EBR	13			13	20.28	20.28	20.48	20.68	20.89	21.10	21.31	21.52	21.74	21.96	22.18	22.40	22.62	22.85
WBL	8			8	8.00	8.00	8	8	8	8	8	8	8	8	8	8	8	8
WBT	2			2	2.00	2.00	2	2	2	2	2	2	2	2	2	2	2	2
WBR	6			6	6.00	6.00	6	6	6	6	6	6	6	6	6	6	6	6
NBL	8			8	12.48	12.48	12.60	12.73	12.86	12.99	13.12	13.25	13.38	13.51	13.65	13.79	13.93	14.07
NBT	219			219	341.64	341.64	345.06	348.51	352.00	355.52	359.08	362.67	366.30	369.96	373.66	377.40	381.17	384.98
NBR	5			5	5.00	5.00	5	5	5	5	5	5	5	5	5	5	5	5
SBL	11			11	11.00	11.00	11	11	11	11	11	11	11	11	11	11	11	11
SBT	206			206	321.36	321.36	324.57	327.82	331.10	334.41	337.75	341.13	344.54	347.99	351.47	354.98	358.53	362.12
SBR	194			194	302.64	302.64	305.67	308.73	311.82	314.94	318.09	321.27	324.48	327.72	331.00	334.31	337.65	341.03
				0		0.00												
10. US3 (DW Highway) at Roller Coaster Road / Watson Road																		
		7:30 AM		0		0.00												
<u>Movement</u>				0		0.00												
EBL	5			5	7.80	7.80	7.88	7.96	8.04	8.12	8.20	8.28	8.36	8.44	8.52	8.61	8.70	8.79
EBT	3			3	4.68	4.68	4.73	4.78	4.83	4.88	4.93	4.98	5.03	5.08	5.13	5.18	5.23	5.28
EBR	67			67	104.52	104.52	105.57	106.63	107.70	108.78	109.87	110.97	112.08	113.20	114.33	115.47	116.62	117.79
WBL	3			3	4.68	4.68	4.73	4.78	4.83	4.88	4.93	4.98	5.03	5.08	5.13	5.18	5.23	5.28
WBT	3			3	4.68	4.68	4.73	4.78	4.83	4.88	4.93	4.98	5.03	5.08	5.13	5.18	5.23	5.28
WBR	6			6	9.36	9.36	9.45	9.54	9.64	9.74	9.84	9.94	10.04	10.14	10.24	10.34	10.44	10.54
NBL	42			42	65.52	65.52	66.18	66.84	67.51	68.19	68.87	69.56	70.26	70.96	71.67	72.39	73.11	73.84
NBT	199			199	310.44	310.44	313.54	316.68	319.85	323.05	326.28	329.54	332.84	336.17	339.53	342.93	346.36	349.82
NBR	1			1	1.56	1.56	1.58	1.60	1.62	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80
SBL	1			1	1.56	1.56	1.58	1.60	1.62	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80
SBT	180			180	280.80	280.80	283.61	286.45	289.31	292.20	295.12	298.07	301.05	304.06	307.10	310.17	313.27	316.40
SBR	9			9	14.04	14.04	14.18	14.32	14.46	14.60	14.75	14.90	15.05	15.20	15.35	15.50	15.66	15.82
				0		0.00												
11. US3 (DW Highway) at Endicott Street East																		
		7:30 AM		0		0.00												
<u>Movement</u>				0		0.00												
EBT	187			187	291.72	291.72	294.64	297.59	300.57	303.58	306.62	309.69	312.79	315.92	319.08	322.27	325.49	328.74
EBR	99			99	154.44	154.44	155.98	157.54	159.12	160.71	162.32	163.94	165.58	167.24	168.91	170.60	172.31	174.03
WBL	24			24	37.44	37.44	37.81	38.19	38.57	38.96	39.35	39.74	40.14	40.54	40.95	41.36	41.77	42.19
WBT	194			194	302.64	302.64	305.67	308.73	311.82	314.94	318.09	321.27	324.48	327.72	331.00	334.31	337.65	341.03
NBL	74			74	115.44	115.44	116.59	117.76	118.94	120.13	121.33	122.54	123.77	125.01	126.26	127.52	128.80	130.09
NBR	14			14	21.84	21.84	22.06	22.28	22.50	22.73	22.96	23.19	23.42	23.65	23.89	24.13	24.37	24.61
				0		0.00												

PHF	% Heavy	Counted Heavy	Calculated Heavy	AM Peak data	2037 No-Build	Intersection Total Volume	Site Trip Distribution (Full Build)	Site Trips Added to Intersection	2037 Build (Full Build)	FUTURE BUILD PM PHF
8. US3 (DW Highway) at Parade Road / Upper Mile Pt Dr										
				Movement						
0.74	5%	12		EBL	439	1601	93	201	532	0.90
	0%	0	4%	EBT	5		0		5	
	0%	0		EBR	23		0		23	
0.67	13%	1		WBL	8		0		8	0.90
	0%	0	2%	WBT	2		0		2	
	0%	0		WBR	6		0		6	
0.80	0%	0		NBL	14		0		14	0.90
	6%	13	6%	NBT	385		0		385	
	20%	1		NBR	5		0		5	
0.93	9%	1		SBL	11		0		11	0.93
	7%	14	5%	SBT	362		0		362	
	4%	7		SBR	341		108		449	
10. US3 (DW Highway) at Roller Coaster Road / Watson Road										
				Movement						
0.72	0%	0		EBL	9	913	18	107	27	0.90
	0%	0	3%	EBT	5		0		5	
	3%	2		EBR	118		32		150	
0.50	33%	1		WBL	5		0		5	0.90
	0%	0	2%	WBT	5		0		5	
	0%	0		WBR	11		0		11	
0.89	7%	3		NBL	74		34		108	0.90
	7%	13	7%	NBT	350		-1		349	
	0%	0		NBR	2		0		2	
0.93	0%	0		SBL	2		0		2	0.93
	8%	15	8%	SBT	316		-1		315	
	0%	0		SBR	16		25		41	
11. US3 (DW Highway) at Endicott Street East										
				Movement						
0.85	9%	16		EBT	329	1041	20	46	349	0.90
	4%	4	4%	EBR	174		0		174	
0.89	4%	1		WBL	42		0		42	0.90
	7%	13	6%	WBT	341		26		367	
0.79	3%	2		NBL	130		0		130	0.90
	0%	0	2%	NBR	25		0		25	

Background Traffic Volumes - PEAK SEASONAL ADJUSTMENT
AM Peak data

Assumed growth rate: 0.01
March 2023 Seasonal Adjust: 1.56 NHDOT Group 5 Averages
June 2023 Seasonal Adjust: 1.05 NHDOT Group 5 Averages (Int #21 only)

Site Trips are not Seasonally Adjusted or Grown.

AM Peak data	Existing 2025 (Raw data) [03/06/2025]	Balance	2025	Existing 2025 w/ Seasonal Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
12. US3 (DW Highway) / Blaisdell Ave at US3Bus / US3 (DW Highway)																	
	7:45 AM		0		0.00												
Movement					0.00												
EBL	86		86	134.16	134.16	135.50	136.86	138.23	139.61	141.01	142.42	143.84	145.28	146.73	148.20	149.68	151.18
EBT	238		238	371.28	371.28	374.99	378.74	382.53	386.36	390.22	394.12	398.06	402.04	406.06	410.12	414.22	418.36
EBR	13		13	13.00	13.00	13	13	13	13	13	13	13	13	13	13	13	13
WBL	8		8	8.00	8.00	8	8	8	8	8	8	8	8	8	8	8	8
WBT	203		203	316.68	316.68	319.85	323.05	326.28	329.54	332.84	336.17	339.53	342.93	346.36	349.82	353.32	356.85
WBR	112		112	174.72	174.72	176.47	178.23	180.01	181.81	183.63	185.47	187.32	189.19	191.08	192.99	194.92	196.87
NBL	3		3	3.00	3.00	3	3	3	3	3	3	3	3	3	3	3	3
NBT	3		3	3.00	3.00	3	3	3	3	3	3	3	3	3	3	3	3
NBR	4		4	4.00	4.00	4	4	4	4	4	4	4	4	4	4	4	4
SBL	100		100	156.00	156.00	157.56	159.14	160.73	162.34	163.96	165.60	167.26	168.93	170.62	172.33	174.05	175.79
SBT	3		3	3.00	3.00	3	3	3	3	3	3	3	3	3	3	3	3
SBR	110		110	171.60	171.60	173.32	175.05	176.80	178.57	180.36	182.16	183.98	185.82	187.68	189.56	191.46	193.37
			0		0.00												
9. Parade Road at Roller Coaster Road																	
	7:15 AM		0		0.00												
Movement			0		0.00												
WBL	24		24	37.44	37.44	37.81	38.19	38.57	38.96	39.35	39.74	40.14	40.54	40.95	41.36	41.77	42.19
WBR	35		35	54.60	54.60	55.15	55.70	56.26	56.82	57.39	57.96	58.54	59.13	59.72	60.32	60.92	61.53
NBT	253		253	394.68	394.68	398.63	402.62	406.65	410.72	414.83	418.98	423.17	427.40	431.67	435.99	440.35	444.75
NBR	12		12	18.72	18.72	18.91	19.10	19.29	19.48	19.67	19.87	20.07	20.27	20.47	20.67	20.88	21.09
SBL	61		61	95.16	95.16	96.11	97.07	98.04	99.02	100.01	101.01	102.02	103.04	104.07	105.11	106.16	107.22
SBT	267		267	416.52	416.52	420.69	424.90	429.15	433.44	437.77	442.15	446.57	451.04	455.55	460.11	464.71	469.36
			0		0.00												
1. Parade Road (NH106) at Lane Rd / Severance Rd																	
	7:30 AM		0		0.00												
Movement			0		0.00												
EBL	2		2	3.12	3.12	3.15	3.18	3.21	3.24	3.27	3.30	3.33	3.36	3.39	3.42	3.45	3.48
EBT	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
EBR	0		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WBL	2		2	2.00	2.00	2	2	2	2	2	2	2	2	2	2	2	2
WBT	1		1	1.00	1.00	1	1	1	1	1	1	1	1	1	1	1	1
WBR	1		1	1.00	1.00	1	1	1	1	1	1	1	1	1	1	1	1
NBL	5		5	7.80	7.80	7.88	7.96	8.04	8.12	8.20	8.28	8.36	8.44	8.52	8.61	8.70	8.79
NBT	254		254	396.24	396.24	400.20	404.20	408.24	412.32	416.44	420.60	424.81	429.06	433.35	437.68	442.06	446.48
NBR	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
SBL	1		1	1.00	1.00	1	1	1	1	1	1	1	1	1	1	1	1
SBT	310		310	483.60	483.60	488.44	493.32	498.25	503.23	508.26	513.34	518.47	523.65	528.89	534.18	539.52	544.92
SBR	2		2	3.12	3.12	3.15	3.18	3.21	3.24	3.27	3.30	3.33	3.36	3.39	3.42	3.45	3.48

PHF	% Heavy	Counted Heavy	Calculated Heavy	AM Peak data	2037 No-Build	Intersection Total Volume	Site Trip Distribution (Full Build)	Site Trips Added to Intersection	2037 Build (Full Build)	FUTURE BUILD PM PHF
12. US3 (DW Highway) / Blaisdell Ave at US3Bus / US3 (DW Highway)										
				Movement						
0.84	7%	6	5%	EBL	151	1526	1	91	152	0.90
	4%	9		EBT	418		64		482	
	8%	1		EBR	13		0		13	
0.89	0%	0	5%	WBL	8		0		8	0.90
	3%	7		WBT	357		28		385	
	8%	9		WBR	197		-2		195	
0.63	0%	0	2%	NBL	3		0		3	0.90
	0%	0		NBT	3		0		3	
	25%	1		NBR	4		0		4	
0.87	6%	6	4%	SBL	176		-1		175	0.90
	0%	0		SBT	3		0		3	
	3%	3		SBR	193		1		194	
9. Parade Road at Roller Coaster Road										
				Movement						
0.94	8%	2	3%	WBL	42	1146	51	334	93	0.94
	0%	0		WBR	62		0		62	
0.80	6%	16	6%	NBT	445		100		545	0.90
	8%	1		NBR	21		51		72	
0.85	7%	4	3%	SBL	107		0		107	0.90
	2%	6		SBT	469		132		601	
1. Parade Road (NH106) at Lane Rd / Severance Rd										
				Movement						
0.50	0%	0	2%	EBL	3	1011	11	364	14	0.90
	0%	0		EBT	0		0		0	
	0%	0		EBR	0		0		0	
1.00	0%	0	2%	WBL	2		0		2	1.00
	100%	1		WBT	1		0		1	
	0%	0		WBR	1		0		1	
0.81	0%	0	5%	NBL	9		0		9	0.90
	6%	14		NBT	446		149		595	
	0%	0		NBR	0		0		0	
0.83	100%	1	3%	SBL	1		0		1	0.90
	3%	8		SBT	545		177		722	
	0%	0		SBR	3		27		30	

Background Traffic Volumes - PEAK SEASONAL ADJUSTMENT
PM Peak data

Assumed growth rate:0.01

March 2023 Seasonal Adjust:1.56NHDOT Group 5

June 2023 Seasonal Adjust:1.05NHDOT Group 5 (Int #21 ony)

Site Trips are not Seasonally Adjusted or Grown.

PM Peak data	Existing 2025 (Raw data) [03/06/2025]	Balance	2025	Existing 2025 w/ Seasonal Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
5. NH104 at Meredith Center Road																	
3:30 PM																	
Movement																	
EBT	363		363	566.28	566.28	571.94	577.66	583.44	589.27	595.16	601.11	607.12	613.19	619.32	625.51	631.77	638.09
EBR	166		166	258.96	258.96	261.55	264.17	266.81	269.48	272.17	274.89	277.64	280.42	283.22	286.05	288.91	291.80
WBL	0		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WBT	395		395	616.20	616.20	622.36	628.58	634.87	641.22	647.63	654.11	660.65	667.26	673.93	680.67	687.48	694.35
NBL	189		189	294.84	294.84	297.79	300.77	303.78	306.82	309.89	312.99	316.12	319.28	322.47	325.69	328.95	332.24
NBR	1		1	1.56	1.56	1.58	1.60	1.62	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80
6. [7a.] US3 (DW Highway) at NH104																	
Movement																	
NBL	78	+1	79	121.68	121.68	122.90	124.13	125.37	126.62	127.89	129.17	130.46	131.76	133.08	134.41	135.75	137.11
NBT	789	+11	800	1230.84	1230.84	1243.15	1255.58	1268.14	1280.82	1293.63	1306.57	1319.64	1332.84	1346.17	1359.63	1373.23	1386.96
SBT	484	+6	490	755.04	755.04	762.59	770.22	777.92	785.70	793.56	801.50	809.52	817.62	825.80	834.06	842.40	850.82
SBW	292		292	455.52	455.52	460.08	464.68	469.33	474.02	478.76	483.55	488.39	493.27	498.20	503.18	508.21	513.29
7. (7b.) US3 (DW Highway) at NH104																	
3:30 PM																	
Movement																	
EBL	308		308	480.48	480.48	485.28	490.13	495.03	499.98	504.98	510.03	515.13	520.28	525.48	530.73	536.04	541.40
EBR	77		77	120.12	120.12	121.32	122.53	123.76	125.00	126.25	127.51	128.79	130.08	131.38	132.69	134.02	135.36
NBT	571		571	890.76	890.76	899.67	908.67	917.76	926.94	936.21	945.57	955.03	964.58	974.23	983.97	993.81	1003.75
SBT	490		490	764.40	764.40	772.04	779.76	787.56	795.44	803.39	811.42	819.53	827.73	836.01	844.37	852.81	861.34
			0		0.00												

PHF	% Heavy	Counted Heavy	Calculated Heavy	PM Peak data	2037 No-Build	Intersection Total Volume	Site Trip Distribution (Full Build)	Site Trips Added to Intersection	2037 Build (Full Build)	FUTURE BUILD PM PHF			
5. NH104 at Meredith Center Road													
Movement													
0.90	4%	13	3%	EBT	638	1958	-16	193	622	0.90			
	2%	4		EBR	292		93		385				
0.80	0%	0	4%	WBL	0		0		0	0.90			
	4%	16		WBT	694		0		694				
0.93	1%	2	1%	NBL	332		116		448	0.93			
	0%	0		NBR	2		0		2				
6. [7a.] US3 (DW Highway) at NH104													
Movement													
0.89	4%	3	2%	NBL	137	2375	0	213	137	0.90			
	2%	15		NBT	1387		112		1499				
0.93	1%	7	2%	SBT	851		101		952	0.93			
0.79	3%	10		SBW	513		19		494	0.90			
7. (7b.) US3 (DW Highway) at NH104													
Movement													
0.94	4%	11	4%	EBL	541	2541	0	213	541	0.94			
	5%	4		EBR	135		0		135				
0.92	2%	9	2%	NBT	1004		112		1116	0.92			
0.94	2%	8	2%	SBT	861		101		962	0.94			

Background Traffic Volumes - PEAK SEASONAL ADJUSTMENT

PM Peak data

Assumed growth rate:0.01

March 2023 Seasonal Adjust:1.56NHDOT Group 5

June 2023 Seasonal Adjust:1.05NHDOT Group 5 (Int #21 ony)

Site Trips are not Seasonally Adjusted or Grown.

PM Peak data	Existing 2025 (Raw data) [03/06/2025]	Balance	2025	Existing 2025 w/ Seasonal Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
8. US3 (DW Highway) at Parade Road / Upper Mile Pt Dr																	
4:00 PM			1		0.00												
Movement			0		0.00												
EBL	227		227	354.12	354.12	357.66	361.24	364.85	368.50	372.19	375.91	379.67	383.47	387.30	391.17	395.08	399.03
EBT	10		10	10.00	10.00	10	10	10	10	10	10	10	10	10	10	10	10
EBR	8		8	12.48	12.48	12.60	12.73	12.86	12.99	13.12	13.25	13.38	13.51	13.65	13.79	13.93	14.07
WBL	2		2	2.00	2.00	2	2	2	2	2	2	2	2	2	2	2	2
WBT	11		11	11.00	11.00	11	11	11	11	11	11	11	11	11	11	11	11
WBR	20		20	20.00	20.00	20	20	20	20	20	20	20	20	20	20	20	20
NBL	14		14	21.84	21.84	22.06	22.28	22.50	22.73	22.96	23.19	23.42	23.65	23.89	24.13	24.37	24.61
NBT	295		295	460.20	460.20	464.80	469.45	474.14	478.88	483.67	488.51	493.40	498.33	503.31	508.34	513.42	518.55
NBR	4		4	4.00	4.00	4	4	4	4	4	4	4	4	4	4	4	4
SBL	16		16	16.00	16.00	16	16	16	16	16	16	16	16	16	16	16	16
SBT	285		285	444.60	444.60	449.05	453.54	458.08	462.66	467.29	471.96	476.68	481.45	486.26	491.12	496.03	500.99
SBR	221		221	344.76	344.76	348.21	351.69	355.21	358.76	362.35	365.97	369.63	373.33	377.06	380.83	384.64	388.49
			0		0.00												
10. US3 (DW Highway) at Roller Coaster Road / Watson Road																	
4:00 PM			1		0.00												
Movement			0		0.00												
EBL	10		10	15.60	15.60	15.76	15.92	16.08	16.24	16.40	16.56	16.73	16.90	17.07	17.24	17.41	17.58
EBT	6		6	9.36	9.36	9.45	9.54	9.64	9.74	9.84	9.94	10.04	10.14	10.24	10.34	10.44	10.54
EBR	82		82	127.92	127.92	129.20	130.49	131.79	133.11	134.44	135.78	137.14	138.51	139.90	141.30	142.71	144.14
WBL	3		3	4.68	4.68	4.73	4.78	4.83	4.88	4.93	4.98	5.03	5.08	5.13	5.18	5.23	5.28
WBT	2		2	3.12	3.12	3.15	3.18	3.21	3.24	3.27	3.30	3.33	3.36	3.39	3.42	3.45	3.48
WBR	14		14	21.84	21.84	22.06	22.28	22.50	22.73	22.96	23.19	23.42	23.65	23.89	24.13	24.37	24.61
NBL	62		62	96.72	96.72	97.69	98.67	99.66	100.66	101.67	102.69	103.72	104.76	105.81	106.87	107.94	109.02
NBT	230		230	358.80	358.80	362.39	366.01	369.67	373.37	377.10	380.87	384.68	388.53	392.42	396.34	400.30	404.30
NBR	1		1	1.56	1.56	1.58	1.60	1.62	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80
SBL	3		3	4.68	4.68	4.73	4.78	4.83	4.88	4.93	4.98	5.03	5.08	5.13	5.18	5.23	5.28
SBT	252		252	393.12	393.12	397.05	401.02	405.03	409.08	413.17	417.30	421.47	425.68	429.94	434.24	438.58	442.97
SBR	12		12	18.72	18.72	18.91	19.10	19.29	19.48	19.67	19.87	20.07	20.27	20.47	20.67	20.88	21.09
			0		0.00												
11. US3 (DW Highway) at Endicott Street East																	
3:15 PM			1		0.00												
Movement			0		0.00												
EBT	156		156	243.36	243.36	245.79	248.25	250.73	253.24	255.77	258.33	260.91	263.52	266.16	268.82	271.51	274.23
EBR	164		164	255.84	255.84	258.40	260.98	263.59	266.23	268.89	271.58	274.30	277.04	279.81	282.61	285.44	288.29
WBL	21		21	32.76	32.76	33.09	33.42	33.75	34.09	34.43	34.77	35.12	35.47	35.82	36.18	36.54	36.91
WBT	185		185	288.60	288.60	291.49	294.40	297.34	300.31	303.31	306.34	309.40	312.49	315.61	318.77	321.96	325.18
NBL	173		173	269.88	269.88	272.58	275.31	278.06	280.84	283.65	286.49	289.35	292.24	295.16	298.11	301.09	304.10
NBR	20		20	31.20	31.20	31.51	31.83	32.15	32.47	32.79	33.12	33.45	33.78	34.12	34.46	34.80	35.15
			0		0.00												

PHF	% Heavy	Counted Heavy	Calculated Heavy	PM Peak data	2037 No-Build	Intersection Total Volume	Site Trip Distribution (Full Build)	Site Trips Added to Intersection	2037 Build (Full Build)	FUTURE BUILD PM PHF
8. US3 (DW Highway) at Parade Road / Upper Mile Pt Dr										
				Movement						
0.89	1%	2		EBL	399	1909	112	213	511	0.90
	10%	1	1%	EBT	10		0		10	
	0%	0		EBR	14		0		14	
0.75	0%	0		WBL	2		0		2	0.90
	0%	0	2%	WBT	11		0		11	
	0%	0		WBR	20		0		20	
0.94	0%	0		NBL	25		0		25	0.94
	1%	4	1%	NBT	519		0		519	
	0%	0		NBR	4		0		4	
0.93	0%	0		SBL	16		0		16	0.93
	3%	9	4%	SBT	501		0		501	
	5%	10		SBR	388		101		489	
10. US3 (DW Highway) at Roller Coaster Road / Watson Road										
				Movement						
0.91	0%	0		EBL	18	1190	17	90	35	0.91
	0%	0	2%	EBT	11		0		11	
	0%	0		EBR	144		30		174	
0.79	33%	1		WBL	5		0		5	0.90
	0%	0	2%	WBT	3		0		3	
	0%	0		WBR	25		0		25	
0.92	0%	0		NBL	109		31		140	0.92
	1%	3	1%	NBT	404		-3		401	
	0%	0		NBR	2		0		2	
0.78	0%	0		SBL	5		0		5	0.90
	3%	7	3%	SBT	443		-3		440	
	0%	0		SBR	21		18		39	
11. US3 (DW Highway) at Endicott Street East										
				Movement						
0.93	1%	1	2%	EBT	274	1263	21	58	295	0.93
	3%	5		EBR	288		7		295	
0.88	0%	0	5%	WBL	37		0		37	0.90
	5%	10		WBT	325		19		344	
0.90	2%	4	2%	NBL	304		11		315	0.90
	15%	3		NBR	35		0		35	

Background Traffic Volumes - PEAK SEASONAL ADJUSTMENT

PM Peak data

Assumed growth rate:0.01

March 2023 Seasonal Adjust:1.56NHDOT Group 5

June 2023 Seasonal Adjust:1.05NHDOT Group 5 (Int #21 ony)

Site Trips are not Seasonally Adjusted or Grown.

PM Peak data	Existing 2025 (Raw data) [03/06/2025]	Balance	2025	Existing 2025 w/ Seasonal Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
12. US3 (DW Highway) / Blaisdell Ave at US3Bus / US3 (DW Highway)																	
4:00 PM			1		0.00												
Movement					0.00												
EBL	128		128	199.68	199.68	201.68	203.70	205.74	207.80	209.88	211.98	214.10	216.24	218.40	220.58	222.79	225.02
EBT	599		599	934.44	934.44	943.78	953.22	962.75	972.38	982.10	991.92	1001.84	1011.86	1021.98	1032.20	1042.52	1052.95
EBR	15		15	15.00	15.00	15	15	15	15	15	15	15	15	15	15	15	15
WBL	10		10	10.00	10.00	10	10	10	10	10	10	10	10	10	10	10	10
WBT	382		382	595.92	595.92	601.88	607.90	613.98	620.12	626.32	632.58	638.91	645.30	651.75	658.27	664.85	671.50
WBR	170		170	265.20	265.20	267.85	270.53	273.24	275.97	278.73	281.52	284.34	287.18	290.05	292.95	295.88	298.84
NBL	17		17	17.00	17.00	17	17	17	17	17	17	17	17	17	17	17	17
NBT	3		3	3.00	3.00	3	3	3	3	3	3	3	3	3	3	3	3
NBR	16		16	16.00	16.00	16	16	16	16	16	16	16	16	16	16	16	16
SBL	165		165	257.40	257.40	259.97	262.57	265.20	267.85	270.53	273.24	275.97	278.73	281.52	284.34	287.18	290.05
SBT	6		6	6.00	6.00	6	6	6	6	6	6	6	6	6	6	6	6
SBR	114		114	177.84	177.84	179.62	181.42	183.23	185.06	186.91	188.78	190.67	192.58	194.51	196.46	198.42	200.40
			0		0.00												
9. Parade Road at Roller Coaster Road																	
4:00 PM			1		0.00												
Movement			0		0.00												
WBL	26		26	40.56	40.56	40.97	41.38	41.79	42.21	42.63	43.06	43.49	43.92	44.36	44.80	45.25	45.70
WBR	44		44	68.64	68.64	69.33	70.02	70.72	71.43	72.14	72.86	73.59	74.33	75.07	75.82	76.58	77.35
NBT	303		303	472.68	472.68	477.41	482.18	487.00	491.87	496.79	501.76	506.78	511.85	516.97	522.14	527.36	532.63
NBR	36		36	56.16	56.16	56.72	57.29	57.86	58.44	59.02	59.61	60.21	60.81	61.42	62.03	62.65	63.28
SBL	53		53	82.68	82.68	83.51	84.35	85.19	86.04	86.90	87.77	88.65	89.54	90.44	91.34	92.25	93.17
SBT	282		282	439.92	439.92	444.32	448.76	453.25	457.78	462.36	466.98	471.65	476.37	481.13	485.94	490.80	495.71
			0		0.00												
1. Parade Road (NH106) at Lane Rd / Severance Rd																	
3:15 PM			1		0.00												
Movement			0		0.00												
EBL	0		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EBT	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
EBR	4		4	6.24	6.24	6.30	6.36	6.42	6.48	6.54	6.61	6.68	6.75	6.82	6.89	6.96	7.03
WBL	1		1	1.00	1.00	1	1	1	1	1	1	1	1	1	1	1	1
WBT	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
NBL	2		2	3.12	3.12	3.15	3.18	3.21	3.24	3.27	3.30	3.33	3.36	3.39	3.42	3.45	3.48
NBT	335		335	522.60	522.60	527.83	533.11	538.44	543.82	549.26	554.75	560.30	565.90	571.56	577.28	583.05	588.88
NBR	1		1	1.00	1.00	1	1	1	1	1	1	1	1	1	1	1	1
SBL	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
SBT	319		319	497.64	497.64	502.62	507.65	512.73	517.86	523.04	528.27	533.55	538.89	544.28	549.72	555.22	560.77
SBR	2		2	3.12	3.12	3.15	3.18	3.21	3.24	3.27	3.30	3.33	3.36	3.39	3.42	3.45	3.48

PHF	% Heavy	Counted Heavy	Calculated Heavy	PM Peak data	2037 No-Build	Intersection Total Volume	Site Trip Distribution (Full Build)	Site Trips Added to Intersection	2037 Build (Full Build)	FUTURE BUILD PM PHF
12. US3 (DW Highway) / Blaisdell Ave at US3Bus / US3 (DW Highway)										
				Movement						
0.94	0%	0		EBL	225	2806	7	112	232	0.94
	0%	0	2%	EBT	1053		48		1101	
	0%	0		EBR	15		0		15	
0.90	0%	0		WBL	10		0		10	0.90
	1%	2	2%	WBT	672		64		736	
	0%	0		WBR	299		-7		292	
0.60	0%	0		NBL	17		0		17	0.90
	0%	0	3%	NBT	3		0		3	
	6%	1		NBR	16		0		16	
0.89	3%	5		SBL	290		-2		288	0.90
	0%	0	2%	SBT	6		0		6	
	1%	1		SBR	200		2		202	
9. Parade Road at Roller Coaster Road										
				Movement						
0.80	8%	2		WBL	46	1308	50	318	96	0.90
	0%	0	3%	WBR	77		0		77	
0.94	1%	2		NBT	533		114		647	0.94
	0%	0	1%	NBR	63		49		112	
0.91	0%	0		SBL	93		0		93	0.91
	2%	5	1%	SBT	496		105		601	
1. Parade Road (NH106) at Lane Rd / Severance Rd										
				Movement						
0.33	0%	0		EBL	0	1165	22	392	22	0.90
	0%	0	2%	EBT	0		0		0	
	0%	0		EBR	7		0		7	
0.25	0%	0		WBL	1		0		1	0.90
	0%	0	2%	WBT	0		0		0	
	0%	0		WBR	0		0		0	
0.88	0%	0		NBL	3		0		3	0.90
	0%	1	2%	NBT	589		186		775	
	0%	0		NBR	1		0		1	
0.92	0%	0		SBL	0		0		0	0.92
	3%	8	2%	SBT	561		169		730	
	0%	0		SBR	3		15		18	

Background Traffic Volumes - PEAK SEASONAL ADJUSTMENT

SAT Peak data

Assumed growth rate:0.01

March 2023 Seasonal Adjust:1.56NHDOT Group 5 Averages

June 2023 Seasonal Adjust:1.05NHDOT Group 5 Averages (Int #21 ony)

Site Trips are not Seasonally Adjusted or Grown.

SAT Peak data	Existing 2025 (Raw data) [03/08/2025]	Balance	2025	Existing 2025 w/ Seasonal Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
5. NH104 at Meredith Center Road																	
11:45 AM																	
Movement																	
EBT	343		343	535.08	535.08	540.43	545.83	551.29	556.80	562.37	567.99	573.67	579.41	585.20	591.05	596.96	602.93
EBR	128		128	199.68	199.68	201.68	203.70	205.74	207.80	209.88	211.98	214.10	216.24	218.40	220.58	222.79	225.02
WBL	2		2	3.12	3.12	3.15	3.18	3.21	3.24	3.27	3.30	3.33	3.36	3.39	3.42	3.45	3.48
WBT	322		322	502.32	502.32	507.34	512.41	517.53	522.71	527.94	533.22	538.55	543.94	549.38	554.87	560.42	566.02
NBL	97		97	151.32	151.32	152.83	154.36	155.90	157.46	159.03	160.62	162.23	163.85	165.49	167.14	168.81	170.50
NBR	0		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. [7a.] US3 (DW Highway) at NH104																	
11:45 AM																	
Movement																	
NBL	84		84	131.04	131.04	132.35	133.67	135.01	136.36	137.72	139.10	140.49	141.89	143.31	144.74	146.19	147.65
NBT	750	+5	755	1170.00	1170.00	1181.70	1193.52	1205.46	1217.51	1229.69	1241.99	1254.41	1266.95	1279.62	1292.42	1305.34	1318.39
SBT	374	+5	379	583.44	583.44	589.27	595.16	601.11	607.12	613.19	619.32	625.51	631.77	638.09	644.47	650.91	657.42
SBW	261		261	407.16	407.16	411.23	415.34	419.49	423.68	427.92	432.20	436.52	440.89	445.30	449.75	454.25	458.79
7b. [7] US3 (DW Highway) at NH104																	
11:45 AM																	
Movement																	
EBL	285		285	444.60	444.60	449.05	453.54	458.08	462.66	467.29	471.96	476.68	481.45	486.26	491.12	496.03	500.99
EBR	87		87	135.72	135.72	137.08	138.45	139.83	141.23	142.64	144.07	145.51	146.97	148.44	149.92	151.42	152.93
NBT	554		554	864.24	864.24	872.88	881.61	890.43	899.33	908.32	917.40	926.57	935.84	945.20	954.65	964.20	973.84
SBT	379		379	591.24	591.24	597.15	603.12	609.15	615.24	621.39	627.60	633.88	640.22	646.62	653.09	659.62	666.22

PHF	% Heavy	Counted Heavy	Calculated Heavy	SAT Peak data	2037 No-Build	Intersection Total Volume	Site Trip Distribution (Full Build)	Site Trips Added to Intersection	2037 Build (Full Build)	FUTURE BUILD PM PHF			
5. NH104 at Meredith Center Road													
Movement													
0.87	0%	1	1%	EBT	603	1568	-14	298	589	0.90			
	4%	5		EBR	225		160		385				
0.86	0%	0	1%	WBL	3		0		3	0.90			
	1%	2		WBT	566		0		566				
0.87	0%	0	2%	NBL	171		152		323	0.90			
	0%	0		NBR	0		0		0				
6. [7a.] US3 (DW Highway) at NH104													
Movement													
0.97	0%	0	2%	NBL	148	2123	0	235	148	0.97			
	1%	4		NBT	1318		115		1433				
0.86	1%	2	1%	SBT	657		120		777	0.90			
0.87	1%	2		SBW	459		12		447	0.90			
7b. [7] US3 (DW Highway) at NH104													
Movement													
0.93	1%	3	1%	EBL	501	2294	0	235	501	0.93			
	1%	1		EBR	153		0		153				
0.98	1%	4	1%	NBT	974		115		1089	0.98			
0.89	1%	3	1%	SBT	666		120		786	0.90			

Background Traffic Volumes - PEAK SEASONAL ADJUSTMENT

SAT Peak data

Assumed growth rate:0.01

March 2023 Seasonal Adjust:1.56NHDOT Group 5 Averages

June 2023 Seasonal Adjust:1.05NHDOT Group 5 Averages (Int #21 ony)

Site Trips are not Seasonally Adjusted or Grown.

SAT Peak data	Existing 2025 (Raw data) [03/08/2025]	Balance	2025	Existing 2025 w/ Seasonal Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
8. US3 (DW Highway) at Parade Road / Upper Mile Pt Dr																	
		11:00 AM															
Movement																	
EBL	151		151	235.56	235.56	237.92	240.30	242.70	245.13	247.58	250.06	252.56	255.09	257.64	260.22	262.82	265.45
EBT	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
EBR	12		12	18.72	18.72	18.91	19.10	19.29	19.48	19.67	19.87	20.07	20.27	20.47	20.67	20.88	21.09
WBL	8		8	8.00	8.00	8	8	8	8	8	8	8	8	8	8	8	8
WBT	1		1	1.00	1.00	1	1	1	1	1	1	1	1	1	1	1	1
WBR	21		21	21.00	21.00	21	21	21	21	21	21	21	21	21	21	21	21
NBL	4		4	6.24	6.24	6.30	6.36	6.42	6.48	6.54	6.61	6.68	6.75	6.82	6.89	6.96	7.03
NBT	296		296	461.76	461.76	466.38	471.04	475.75	480.51	485.32	490.17	495.07	500.02	505.02	510.07	515.17	520.32
NBR	7		7	7.00	7.00	7	7	7	7	7	7	7	7	7	7	7	7
SBL	15		15	15.00	15.00	15	15	15	15	15	15	15	15	15	15	15	15
SBT	295		295	460.20	460.20	464.80	469.45	474.14	478.88	483.67	488.51	493.40	498.33	503.31	508.34	513.42	518.55
SBR	140		140	218.40	218.40	220.58	222.79	225.02	227.27	229.54	231.84	234.16	236.50	238.87	241.26	243.67	246.11
10. US3 (DW Highway) at Roller Coaster Road / Watson Road																	
		11:30 AM															
Movement																	
EBL	3		3	4.68	4.68	4.73	4.78	4.83	4.88	4.93	4.98	5.03	5.08	5.13	5.18	5.23	5.28
EBT	3		3	4.68	4.68	4.73	4.78	4.83	4.88	4.93	4.98	5.03	5.08	5.13	5.18	5.23	5.28
EBR	91		91	141.96	141.96	143.38	144.81	146.26	147.72	149.20	150.69	152.20	153.72	155.26	156.81	158.38	159.96
WBL	6		6	9.36	9.36	9.45	9.54	9.64	9.74	9.84	9.94	10.04	10.14	10.24	10.34	10.44	10.54
WBT	5		5	7.80	7.80	7.88	7.96	8.04	8.12	8.20	8.28	8.36	8.44	8.52	8.61	8.70	8.79
WBR	22		22	34.32	34.32	34.66	35.01	35.36	35.71	36.07	36.43	36.79	37.16	37.53	37.91	38.29	38.67
NBL	52		52	81.12	81.12	81.93	82.75	83.58	84.42	85.26	86.11	86.97	87.84	88.72	89.61	90.51	91.42
NBT	283		283	441.48	441.48	445.89	450.35	454.85	459.40	463.99	468.63	473.32	478.05	482.83	487.66	492.54	497.47
NBR	2		2	3.12	3.12	3.15	3.18	3.21	3.24	3.27	3.30	3.33	3.36	3.39	3.42	3.45	3.48
SBL	5		5	7.80	7.80	7.88	7.96	8.04	8.12	8.20	8.28	8.36	8.44	8.52	8.61	8.70	8.79
SBT	263		263	410.28	410.28	414.38	418.52	422.71	426.94	431.21	435.52	439.88	444.28	448.72	453.21	457.74	462.32
SBR	8		8	12.48	12.48	12.60	12.73	12.86	12.99	13.12	13.25	13.38	13.51	13.65	13.79	13.93	14.07
11. US3 (DW Highway) at Endicott Street East																	
		12:00 PM															
Movement																	
EBT	150		150	234.00	234.00	236.34	238.70	241.09	243.50	245.94	248.40	250.88	253.39	255.92	258.48	261.06	263.67
EBR	229		229	357.24	357.24	360.81	364.42	368.06	371.74	375.46	379.21	383.00	386.83	390.70	394.61	398.56	402.55
WBL	34		34	53.04	53.04	53.57	54.11	54.65	55.20	55.75	56.31	56.87	57.44	58.01	58.59	59.18	59.77
WBT	189		189	294.84	294.84	297.79	300.77	303.78	306.82	309.89	312.99	316.12	319.28	322.47	325.69	328.95	332.24
NBL	208		208	324.48	324.48	327.72	331.00	334.31	337.65	341.03	344.44	347.88	351.36	354.87	358.42	362.00	365.62
NBR	36		36	56.16	56.16	56.72	57.29	57.86	58.44	59.02	59.61	60.21	60.81	61.42	62.03	62.65	63.28

PHF	% Heavy	Counted Heavy	Calculated Heavy	SAT Peak data	2037 No-Build	Intersection Total Volume	Site Trip Distribution (Full Build)	Site Trips Added to Intersection	2037 Build (Full Build)	FUTURE BUILD PM PHF
8. US3 (DW Highway) at Parade Road / Upper Mile Pt Dr										
				Movement						
0.89	2%	3		EBL	265	1630	115	235	380	
	0%	0	2%	EBT	0		0		0	0.90
	8%	1		EBR	21		0		21	
0.75	0%	0		WBL	8		0		8	
	0%	0	2%	WBT	1		0		1	0.90
	0%	0		WBR	21		0		21	
0.86	0%	0		NBL	7		0		7	
	0%	1	2%	NBT	520		0		520	0.90
	0%	0		NBR	7		0		7	
0.90	0%	0		SBL	15		0		15	
	0%	0	2%	SBT	519		0		519	0.90
	1%	1		SBR	246		120		366	
10. US3 (DW Highway) at Roller Coaster Road / Watson Road										
				Movement						
0.76	0%	0		EBL	5	1305	20	103	25	
	0%	0	1%	EBT	5		0		5	0.90
	1%	1		EBR	160		33		193	
0.75	0%	0		WBL	11		0		11	
	0%	0	2%	WBT	9		0		9	0.90
	0%	0		WBR	39		0		39	
0.86	0%	0		NBL	91		35		126	
	1%	3	1%	NBT	497		-4		493	0.90
	0%	0		NBR	3		0		3	
0.91	0%	0		SBL	9		0		9	
	0%	0	2%	SBT	462		-2		460	0.91
	0%	0		SBR	14		21		35	
11. US3 (DW Highway) at Endicott Street East										
				Movement						
0.87	1%	2		EBT	264	1488	29	80	293	
	0%	1	1%	EBR	403		10		413	0.90
0.89	6%	2		WBL	60		0		60	
	0%	0	1%	WBT	332		31		363	0.90
0.89	0%	0		NBL	366		10		376	
	0%	0	2%	NBR	63		0		63	0.90

Background Traffic Volumes - PEAK SEASONAL ADJUSTMENT
SAT Peak data

Assumed growth rate: 0.01
March 2023 Seasonal Adjust: 1.56 NHDOT Group 5 Averages
June 2023 Seasonal Adjust: 1.05 NHDOT Group 5 Averages (Int #21 ony)

Site Trips are not Seasonally Adjusted or Grown.

SAT Peak data	Existing 2025 (Raw data) [03/08/2025]	Balance	2025	Existing 2025 w/ Seasonal Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
12. US3 (DW Highway) / Blaisdell Ave at US3Bus / US3 (DW Highway)																	
11:15 AM																	
Movement																	
EBL	143		143	223.08	223.08	225.31	227.56	229.84	232.14	234.46	236.80	239.17	241.56	243.98	246.42	248.88	251.37
EBT	477		477	744.12	744.12	751.56	759.08	766.67	774.34	782.08	789.90	797.80	805.78	813.84	821.98	830.20	838.50
EBR	24		24	24.00	24.00	24	24	24	24	24	24	24	24	24	24	24	24
WBL	21		21	21.00	21.00	21	21	21	21	21	21	21	21	21	21	21	21
WBT	472		472	736.32	736.32	743.68	751.12	758.63	766.22	773.88	781.62	789.44	797.33	805.30	813.35	821.48	829.69
WBR	180		180	280.80	280.80	283.61	286.45	289.31	292.20	295.12	298.07	301.05	304.06	307.10	310.17	313.27	316.40
NBL	18		18	18.00	18.00	18	18	18	18	18	18	18	18	18	18	18	18
NBT	9		9	9.00	9.00	9	9	9	9	9	9	9	9	9	9	9	9
NBR	4		4	4.00	4.00	4	4	4	4	4	4	4	4	4	4	4	4
SBL	254		254	396.24	396.24	400.20	404.20	408.24	412.32	416.44	420.60	424.81	429.06	433.35	437.68	442.06	446.48
SBT	13		13	13.00	13.00	13	13	13	13	13	13	13	13	13	13	13	13
SBR	198		198	308.88	308.88	311.97	315.09	318.24	321.42	324.63	327.88	331.16	334.47	337.81	341.19	344.60	348.05
9. Parade Road at Roller Coaster Road																	
11:30 AM																	
Movement																	
WBL	17		17	26.52	26.52	26.79	27.06	27.33	27.60	27.88	28.16	28.44	28.72	29.01	29.30	29.59	29.89
WBR	46		46	71.76	71.76	72.48	73.20	73.93	74.67	75.42	76.17	76.93	77.70	78.48	79.26	80.05	80.85
NBT	173		173	269.88	269.88	272.58	275.31	278.06	280.84	283.65	286.49	289.35	292.24	295.16	298.11	301.09	304.10
NBR	40		40	62.40	62.40	63.02	63.65	64.29	64.93	65.58	66.24	66.90	67.57	68.25	68.93	69.62	70.32
SBL	59		59	92.04	92.04	92.96	93.89	94.83	95.78	96.74	97.71	98.69	99.68	100.68	101.69	102.71	103.74
SBT	172		172	268.32	268.32	271.00	273.71	276.45	279.21	282.00	284.82	287.67	290.55	293.46	296.39	299.35	302.34
1. Parade Road (NH106) at Lane Rd / Severance Rd																	
11:30 AM																	
Movement																	
EBL	1		1	1.56	1.56	1.58	1.60	1.62	1.64	1.66	1.68	1.70	1.72	1.74	1.76	1.78	1.80
EBT	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
EBR	4		4	6.24	6.24	6.30	6.36	6.42	6.48	6.54	6.61	6.68	6.75	6.82	6.89	6.96	7.03
WBL	1		1	1.00	1.00	1	1	1	1	1	1	1	1	1	1	1	1
WBT	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
WBR	2		2	2.00	2.00	2	2	2	2	2	2	2	2	2	2	2	2
NBL	4		4	6.24	6.24	6.30	6.36	6.42	6.48	6.54	6.61	6.68	6.75	6.82	6.89	6.96	7.03
NBT	215		215	335.40	335.40	338.75	342.14	345.56	349.02	352.51	356.04	359.60	363.20	366.83	370.50	374.21	377.95
NBR	2		2	2.00	2.00	2	2	2	2	2	2	2	2	2	2	2	2
SBL	0		0	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
SBT	192		192	299.52	299.52	302.52	305.55	308.61	311.70	314.82	317.97	321.15	324.36	327.60	330.88	334.19	337.53
SBR	2		2	3.12	3.12	3.15	3.18	3.21	3.24	3.27	3.30	3.33	3.36	3.39	3.42	3.45	3.48

PHF	% Heavy	Counted Heavy	Calculated Heavy	SAT Peak data	2037 No-Build	Intersection Total Volume	Site Trip Distribution (Full Build)	Site Trips Added to Intersection	2037 Build (Full Build)	FUTURE BUILD PM PHF		
12. US3 (DW Highway) / Blaisdell Ave at US3Bus / US3 (DW Highway)												
				Movement								
0.89	0%	0		EBL	251	3119	17	132	268	0.90		
	0%	2	2%	EBT	839		52		891			
	0%	0		EBR	24		0		24			
0.94	0%	0		WBL	21				0		21	0.94
	0%	1	1%	WBT	830		60		890			
	2%	3		WBR	316		-7		309			
0.71	6%	1		NBL	18				0		18	0.90
	0%	0	3%	NBT	9		0		9			
	0%	0		NBR	4		0		4			
0.89	1%	3		SBL	446				-2		444	0.90
	0%	0	1%	SBT	13		0		13			
	1%	2		SBR	348		12		360			
9. Parade Road at Roller Coaster Road												
				Movement								
0.93	0%	0		WBL	30	891	57	383	87	0.93		
	0%	0	2%	WBR	81		0		81			
0.92	1%	1	1%	NBT	304		133		437	0.92		
	3%	1		NBR	70		54		124			
0.85	0%	0	1%	SBL	104		0		104	0.90		
	1%	2		SBT	302		139		441			
1. Parade Road (NH106) at Lane Rd / Severance Rd												
				Movement								
0.63	100%	1		EBL	2	740	38	463	40	0.90		
	0%	0	2%	EBT	0		0		0			
	0%	0		EBR	7		0		7			
0.38	0%	0		WBL	1				0		1	0.90
	0%	0	2%	WBT	0		0		0			
	0%	0		WBR	2		0		2			
0.92	0%	0		NBL	7				0		7	0.92
	0%	1	2%	NBT	378		188		566			
	0%	0		NBR	2		0		2			
0.87	0%	0		SBL	0				0		0	0.90
	1%	1	1%	SBT	338		196		534			
	0%	0		SBR	3		41		44			

ATTACHMENT B

Adjustment

Seasonal

Growth

Heavy Vehicles

Year 2023 Monthly Data

Group 5 Averages: Recreational Highways

<u>Month</u>	<u>MADT</u>	<u>Adjustment to Average</u>	<u>Adjustment to Peak</u>
January	7,742	1.27	1.63
February	8,117	1.21	1.55
March	8,048	1.22	1.56
April	8,787	1.12	1.43
May	10,554	0.93	1.19
June	11,959	0.82	1.05
July	12,587	0.78	1.00
August	12,456	0.79	1.01
September	10,687	0.92	1.18
October	10,134	0.97	1.24
November	8,747	1.13	1.44
December	8,481	1.16	1.48
Average ADT:	9,858		
Peak ADT:	12,587		

Growth

Belknap County - Group 5 Highway Station

NH 104 west of Chase Rd (by

02295022 Meredith Wickwas Lake)

VOLUME TREND ?	
Year	Annual Growth
2023	3%
2022	-1%
2021	12%
2020	-10%
2019	1%
2018	0%
2017	4%
2016	0%
2015	3%
2014	0%

Average Growth: 0.11%

Year	AADT	Annual Change
2014	11658	
2015	12020	3.11%
2016	11976	-0.37%
2017	12499	4.37%
2018	12480	-0.15%
2019	12638	1.27%
2020	11415	-9.68%
2021	12776	11.92%
2022	12632	-1.13%
2023	12997	2.89%

CAGR	1.22%
Exp	-1.00%
Avg	0.11%

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are not to be averaged into the approach value

Volumes with strikethrough are not included in weighted average

AM Peak Hour	Existing 2025 (Raw data) [03/06/2025]	AM HEAVY	AM %Heavy	CALCULATE D WEIGHTED AVERAGE	If 0% calculated, use 2%
5. NH104 at Meredith Center Road					
<u>Movement</u>					
EBT	370	25	7%	4%	4%
EBR	256	2	1%		
WBL	0	0	0%	0%	2%
WBT	318	30	9%		
NBL	143	8	6%	6%	6%
NBR	0	0	0%		
6. NH104 at Winona Road / Pease Road					
<u>Movement</u>					
EBL	21	1	5%		
EBT	401	31	8%	8%	8%
EBR	17	2	12%		
WBL	31	3	10%		
WBT	260	24	9%	0%	2%
WBR	26	0	0%		
NBL	39	1	3%		
NBT	43	1	2%	4%	4%
NBR	29	2	7%		
SBL	31	6	19%		
SBT	22	1	5%	5%	5%
SBR	47	9	19%		
7a. US3 (DW Highway) at NH104					
<u>Movement</u>					
NBL	72	9	13%	5%	5%
NBT	704	33	5%		
SBT	364	9	2%	2%	2%
SBW	210	19	9%		
7b. US3 (DW Highway) at NH104					
<u>Movement</u>					
EBL	290	20	7%	7%	7%
EBR	84	12	14%		
NBT	482	20	4%	3%	3%
SBT	362	9	2%	2%	2%

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are not to be averaged into the approach value

Volumes with strikethrough are not included in weighted average

AM Peak Hour	Existing 2025 (Raw data) [03/06/2025]	AM HEAVY	AM %Heavy	CALCULATE D WEIGHTED AVERAGE	If 0% calculated , use 2%
8. US3 (DW Highway) at Parade Road / Upper Mile Pt Dr					
<u>Movement</u>					
EBL	250	12	5%		
EBT	5	0	0%	4%	4%
EBR	13	0	0%		
WBL	8	1	13%		
WBT	2	0	0%	0%	2%
WBR	6	0	0%		
NBL	8	0	0%		
NBT	219	13	6%	6%	6%
NBR	5	1	20%		
SBL	11	1	9%		
SBT	206	14	7%	5%	5%
SBR	194	7	4%		
10. US3 (DW Highway) at Roller Coaster Road / Watson Road					
<u>Movement</u>					
EBL	5	0	0%		
EBT	3	0	0%	3%	3%
EBR	67	2	3%		
WBL	3	1	33%		
WBT	3	0	0%	0%	2%
WBR	6	0	0%		
NBL	42	3	7%		
NBT	199	13	7%	7%	7%
NBR	1	0	0%		
SBL	1	0	0%		
SBT	180	15	8%	8%	8%
SBR	9	0	0%		
11. US3 (DW Highway) at Endicott Street East					
<u>Movement</u>					
EBT	187	16	9%	4%	4%
EBR	99	4	4%		
WBL	24	1	4%	6%	6%
WBT	194	13	7%		
NBL	74	2	3%	2%	2%
NBR	14	0	0%		

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are not to be averaged into the approach value

Volumes with strikethrough are not included in weighted average

AM Peak Hour	Existing 2025 (Raw data) [03/06/2025]	AM HEAVY	AM %Heavy	CALCULATE D WEIGHTED AVERAGE	If 0% calculated , use 2%
12. US3 (DW Highway) / Blaisdell Ave at US3Bus / US3 (DW Highway)					
<u>Movement</u>					
EBL	86	6	7%		
EBT	238	9	4%	5%	5%
EBR	13	1	8%		
WBL	8	0	0%		
WBT	203	7	3%	5%	5%
WBR	112	9	8%		
NBL	3	0	0%		
NBT	3	0	0%	0%	2%
NBR	4	1	25%		
SBL	100	6	6%		
SBT	3	0	0%	4%	4%
SBR	110	3	3%		
9. Parade Road at Roller Coaster Road					
<u>Movement</u>					
WBL	24	2	8%	3%	3%
WBR	35	0	0%		
NBT	253	16	6%	6%	6%
NBR	12	1	8%		
SBL	61	4	7%	3%	3%
SBT	267	6	2%		
1. Parade Road (NH106) at Lane Rd / Severance Rd					
<u>Movement</u>					
EBL	2	0	0%		
EBT	0	0	0%	0%	2%
EBR	0	0	0%		
WBL	2	0	0%		
WBT	1	1	100%	0%	2%
WBR	1	0	0%		
NBL	5	0	0%		
NBT	254	14	6%	5%	5%
NBR	0	0	0%		
SBL	1	1	100%		
SBT	310	8	3%	3%	3%
SBR	2	0	0%		

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are not to be averaged into the approach value

Volumes with strikethrough are not included in weighted average

PM Peak Hour	Existing 2025 (Raw data) [03/06/2025]	PM HEAVY	PM %Heavy	CALCULATE D WEIGHTED AVERAGE	If 0% calculated , use 2%
5. NH104 at Meredith Center Road					
<u>Movement</u>					
EBT	363	13	4%	3%	3%
EBR	166	4	2%		
WBL	0	0	0%	4%	4%
WBT	395	16	4%		
NBL	189	2	1%	1%	1%
NBR	1	0	0%		
6. NH104 at Winona Road / Pease Road					
<u>Movement</u>					
EBL	22	2	9%		
EBT	359	12	3%	3%	3%
EBR	23	5	22%		
WBL	40	2	5%		
WBT	387	14	4%	3%	3%
WBR	38	0	0%		
NBL	36	1	3%		
NBT	22	0	0%	3%	3%
NBR	20	1	5%		
SBL	27	1	4%		
SBT	37	0	0%	3%	3%
SBR	38	2	5%		
7a. US3 (DW Highway) at NH104					
<u>Movement</u>					
NBL	78	3	4%	2%	2%
NBT	789	15	2%		
SBT	484	7	1%	2%	2%
SBW	292	10	3%		
7b. US3 (DW Highway) at NH104					
<u>Movement</u>					
EBL	308	11	4%	4%	4%
EBR	77	4	5%		
NBT	571	9	2%	2%	2%
SBT	490	8	2%	2%	2%

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are not to be averaged into the approach value

Volumes with strikethrough are not included in weighted average

PM Peak Hour	Existing 2025 (Raw data) [03/06/2025]	PM HEAVY	PM %Heavy	CALCULATE D WEIGHTED AVERAGE	If 0% calculated , use 2%
8. US3 (DW Highway) at Parade Road / Upper Mile Pt Dr					
<u>Movement</u>					
EBL	227	2	1%		
EBT	10	1	10%	1%	1%
EBR	8	0	0%		
WBL	2	0	0%		
WBT	11	0	0%	0%	2%
WBR	20	0	0%		
NBL	14	0	0%		
NBT	295	4	1%	1%	1%
NBR	4	0	0%		
SBL	16	0	0%		
SBT	285	9	3%	4%	4%
SBR	221	10	5%		
10. US3 (DW Highway) at Roller Coaster Road / Watson Road					
<u>Movement</u>					
EBL	10	0	0%		
EBT	6	0	0%	0%	2%
EBR	82	0	0%		
WBL	3	1	33%		
WBT	2	0	0%	0%	2%
WBR	14	0	0%		
NBL	62	0	0%		
NBT	230	3	1%	1%	1%
NBR	1	0	0%		
SBL	3	0	0%		
SBT	252	7	3%	3%	3%
SBR	12	0	0%		
11. US3 (DW Highway) at Endicott Street East					
<u>Movement</u>					
EBT	156	1	1%	2%	2%
EBR	164	5	3%		
WBL	21	0	0%	5%	5%
WBT	185	10	5%		
NBL	173	4	2%	2%	2%
NBR	20	3	15%		

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are not to be averaged into the approach value

Volumes with strikethrough are not included in weighted average

PM Peak Hour	Existing 2025 (Raw data) [03/06/2025]	PM HEAVY	PM %Heavy	CALCULATE D WEIGHTED AVERAGE	If 0% calculated , use 2%
12. US3 (DW Highway) / Blaisdell Ave at US3Bus / US3 (DW Highway)					
<u>Movement</u>					
EBL	128	0	0%		
EBT	599	0	0%	0%	2%
EBR	15	0	0%		
WBL	10	0	0%		
WBT	382	2	1%	0%	2%
WBR	170	0	0%		
NBL	17	0	0%		
NBT	3	0	0%	3%	3%
NBR	16	1	6%		
SBL	165	5	3%		
SBT	6	0	0%	2%	2%
SBR	114	1	1%		
9. Parade Road at Roller Coaster Road					
<u>Movement</u>					
WBL	26	2	8%	3%	3%
WBR	44	0	0%		
NBT	303	2	1%	1%	1%
NBR	36	0	0%		
SBL	53	0	0%	1%	1%
SBT	282	5	2%		
1. Parade Road (NH106) at Lane Rd / Severance Rd					
<u>Movement</u>					
EBL	0	0	0%		
EBT	0	0	0%	0%	2%
EBR	4	0	0%		
WBL	1	0	0%		
WBT	0	0	0%	0%	2%
WBR	0	0	0%		
NBL	2	0	0%		
NBT	335	1	0%	0%	2%
NBR	1	0	0%		
SBL	0	0	0%		
SBT	319	8	3%	2%	2%
SBR	2	0	0%		

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are not to be averaged into the approach value

Volumes with strikethrough are not included in weighted average

SAT Peak Hour	Existing 2025 (Raw data) [03/08/2025]	SAT HEAVY	SAT %Heavy	CALCULATE D WEIGHTED AVERAGE	If 0% calculated , use 2%
5. NH104 at Meredith Center Road					
<u>Movement</u>					
EBT	343	1	0%	1%	1%
EBR	128	5	4%		
WBL	2	0	0%	1%	1%
WBT	322	2	1%		
NBL	97	0	0%	0%	2%
NBR	0	0	0%		
6. NH104 at Winona Road / Pease Road					
<u>Movement</u>					
EBL	20	0	0%		
EBT	338	2	1%	1%	1%
EBR	11	0	0%		
WBL	20	1	5%		
WBT	331	1	0%	1%	1%
WBR	26	0	0%		
NBL	21	1	5%		
NBT	21	0	0%	2%	2%
NBR	17	0	0%		
SBL	23	0	0%		
SBT	16	0	0%	0%	2%
SBR	24	0	0%		
7a. US3 (DW Highway) at NH104					
<u>Movement</u>					
NBL	84	0	0%	0%	2%
NBT	750	4	1%		
SBT	374	2	1%	1%	1%
SBW	261	2	1%		
7b. US3 (DW Highway) at NH104					
<u>Movement</u>					
EBL	285	3	1%	1%	1%
EBR	87	1	1%		
NBT	554	4	1%	1%	1%
SBT	379	3	1%	1%	1%

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are not to be averaged into the approach value

Volumes with strikethrough are not included in weighted average

SAT Peak Hour	Existing 2025 (Raw data) [03/08/2025]	SAT HEAVY	SAT %Heavy	CALCULATE D WEIGHTED AVERAGE	If 0% calculated , use 2%
8. US3 (DW Highway) at Parade Road / Upper Mile Pt Dr					
<u>Movement</u>					
EBL	151	3	2%		
EBT	0	0	0%	2%	2%
EBR	12	1	8%		
WBL	8	0	0%		
WBT	1	0	0%	0%	2%
WBR	21	0	0%		
NBL	4	0	0%		
NBT	296	1	0%	0%	2%
NBR	7	0	0%		
SBL	15	0	0%		
SBT	295	0	0%	0%	2%
SBR	140	1	1%		
10. US3 (DW Highway) at Roller Coaster Road / Watson Road					
<u>Movement</u>					
EBL	3	0	0%		
EBT	3	0	0%	1%	1%
EBR	91	1	1%		
WBL	6	0	0%		
WBT	5	0	0%	0%	2%
WBR	22	0	0%		
NBL	52	0	0%		
NBT	283	3	1%	1%	1%
NBR	2	0	0%		
SBL	5	0	0%		
SBT	263	0	0%	0%	2%
SBR	8	0	0%		
11. US3 (DW Highway) at Endicott Street East					
<u>Movement</u>					
EBT	150	2	1%	1%	1%
EBR	229	1	0%		
WBL	34	2	6%	1%	1%
WBT	189	0	0%		
NBL	208	0	0%	0%	2%
NBR	36	0	0%		

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are not to be averaged into the approach value

Volumes with strikethrough are not included in weighted average

SAT Peak Hour	Existing 2025 (Raw data) [03/08/2025]	SAT HEAVY	SAT %Heavy	CALCULATE D WEIGHTED AVERAGE	If 0% calculated , use 2%
12. US3 (DW Highway) / Blaisdell Ave at US3Bus / US3 (DW Highway)					
<u>Movement</u>					
EBL	143	0	0%		
EBT	477	2	0%	0%	2%
EBR	24	0	0%		
WBL	21	0	0%		
WBT	472	1	0%	1%	1%
WBR	180	3	2%		
NBL	18	1	6%		
NBT	9	0	0%	3%	3%
NBR	4	0	0%		
SBL	254	3	1%		
SBT	13	0	0%	1%	1%
SBR	198	2	1%		
9. Parade Road at Roller Coaster Road					
<u>Movement</u>					
WBL	17	0	0%	0%	2%
WBR	46	0	0%		
NBT	173	1	1%	1%	1%
NBR	40	1	3%		
SBL	59	0	0%	1%	1%
SBT	172	2	1%		
1. Parade Road (NH106) at Lane Rd / Severance Rd					
<u>Movement</u>					
EBL	1	1	100%		
EBT	0	0	0%	0%	2%
EBR	4	0	0%		
WBL	1	0	0%		
WBT	0	0	0%	0%	2%
WBR	2	0	0%		
NBL	4	0	0%		
NBT	215	1	0%	0%	2%
NBR	2	0	0%		
SBL	0	0	0%		
SBT	192	1	1%	1%	1%
SBR	2	0	0%		

ATTACHMENT C

Timings

NH DOT - SEQUENCE AND TIMING CHART

8/13/2024 6:49:41 AM

CITY/TOWN: LACONIA

SIGNAL ID#: S-245-01

LOCATION: US 3 (LAKE ST)

INTERSECT: UNION AVE (MCINTYRE CIRCLE)

CABINET TYPE: P TYPE 1 GAMMATRONIX

METER NUMBER 64029096 EVERSOURCE

CONTROLLER INFO NAZTEC 980-A0200

and MFR:

INSTALL DATE: 11/8 /1991

FIRE PREEMPT TOMAR

CONTROLLER TIMINGS

	PH 1	PH 2	PH 3	PH 4	PH 5	PH 6
INITIAL	5	10	4	4	5	10
PASSAGE	4	4	3	3	4	4
YELLOW	4	4	4	4	4	4
ALL RED	2	2	2	2	2	2
MAXIMUM 1	30	35	25	20	15	35
MAXIMUM 2	30	40	25	20	15	40
MAXIMUM 3						
MAXIMUM EXT						
RECALL		MIN				MIN
WALK						
DON'T WALK						
FL YEL ARROW						
MOVEMENT	3NLT	3S	LAKE	BLAISDL	3SLT	3N
TIME TO REDUCE						
REDUCE BY						
MIN GAP						
DYN MAX LIM						
DYN MAX STEP						

NOTES:

PE1 = 1+6

PE2 = 2+5

PE3 = 3

PE4 = 4

CLP SYS

LOCAL ID 22

NO COORDINATION PROGRAMMING

CABINET TYPE: GAMMATRONIX

CONTROLLER: NAZTEC 900 SERIES V50.27

ABOVE TIMINGS VERIFIED ON 9/28/2016 G.T.

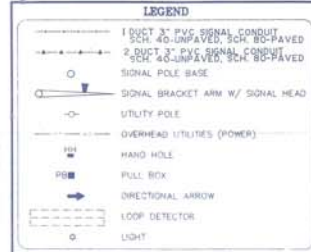
BAYSIDE CEMETERY

BM 18-5
SPIKE SET @ BASE
122 PSH 54/2
ELEV = 521.36'

NOTES:

1. SIGNALS AND ALL ASSOCIATED ITEMS TO BE PER N.H. D.O.T. SPECIFICATIONS SECTION 616 (TRAFFIC SIGNALS)
2. THE CONTRACTOR SHALL BE AWARE THAT SEVERAL OVERHEAD AND UNDERGROUND UTILITIES ARE IN THE AREA OF THE PROPOSED SIGNALS. CONTACT DIG-SAFE & PS&H PRIOR TO CONSTRUCTION.
3. TRAFFIC SIGNALS AND ASSOCIATED HARDWARE AT MONTYRE CIRCLE TO BE PROVIDED AND INSTALLED BY N.H.D.O.T. SIGNAL CONDUIT TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR.

LEGEND



PARKING AREA (PAVED)



CONDUIT TRENCH TYPICAL FOR 1 OR 2 DUCTS

FROM STATION 4+00 TO 4+40 LEFT THE CONTRACTOR SHALL UTILIZE THE OLD TEL. CONDUIT FOR THE NEW SIGNAL CONDUIT. BREAK OUT OLD TEL. CONDUIT AND ADD SWEETS AS NECESSARY FOR PROPOSED P.B. LOCATIONS.

TIMING IN SECONDS

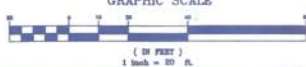
PHASE	01	02	03	04
RED	3	2	3	3
YELLOW	3	3	3	3
GREEN	3	3	3	3

SIGNAL PHASING



USE STANDARD OR NEMA PHASING LEFT PHASING

GRAPHIC SCALE



SIGNAL HEADS



NOTE: N DENOTES NEW POLE LOCATION
R DENOTES TO BE REMOVED

REVISIONS

DATE: MAY 30, 1990

SCALE: 1" = 20'

FIELD BOOK

DRAW NO.

SHEET NO.

RTE. 5, LOVELL VILLAGE, LOVELL ME. 04051

PROJECT NO. 87-15

NOV 2 6 1991

S-245-01

NH DOT - SEQUENCE AND TIMING CHART

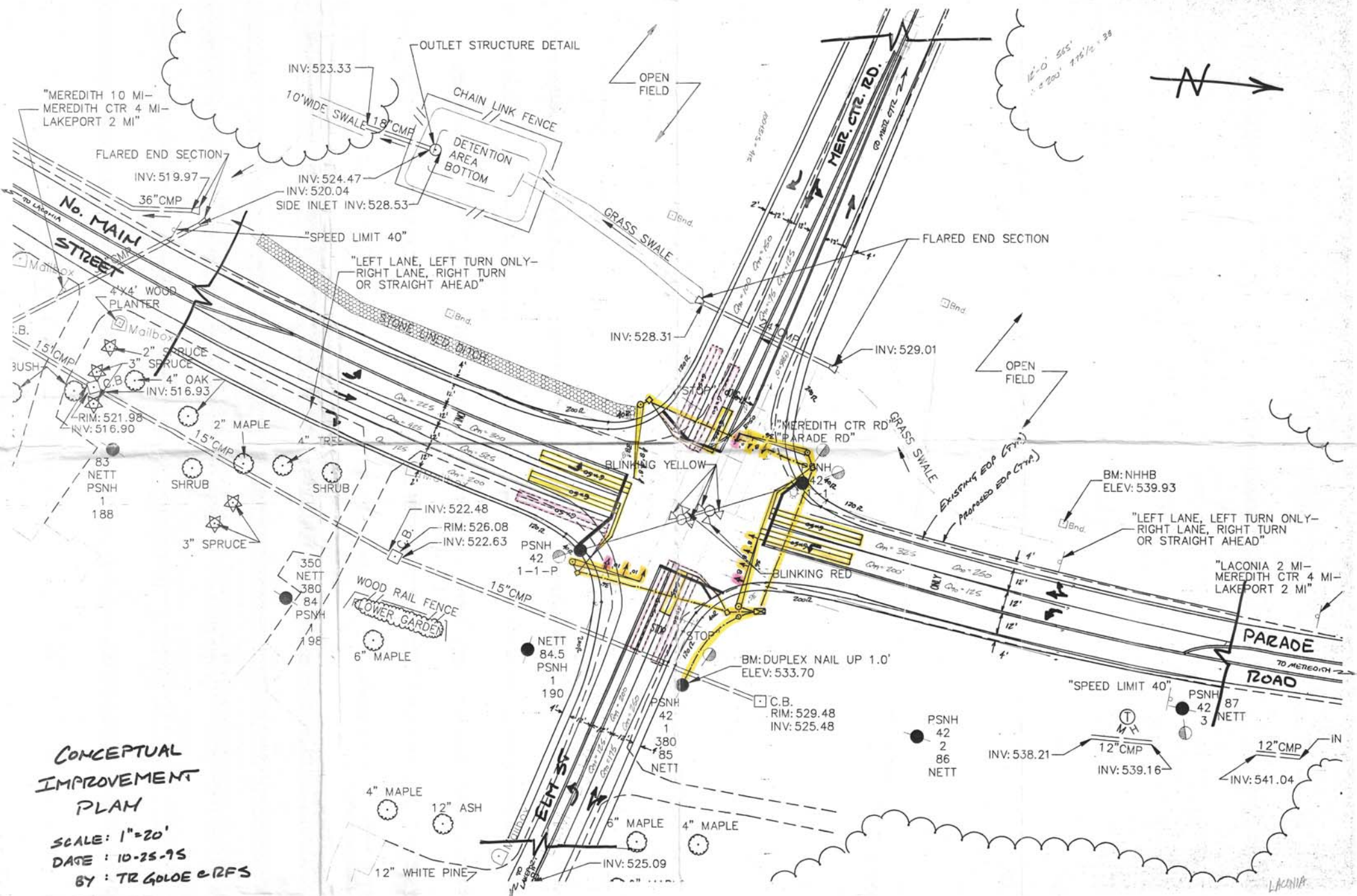
8/13/2024 6:49:41 AM

CITY/TOWN: LACONIA			SIGNAL ID#: S-245-02		
LOCATION: NH 106 (PARADE ROAD)					
INTERSECT: ELM ST					
CABINET TYPE:	P TYPE-1		METER NUMBER	74345774 EVERSOURCE	
CONTROLLER INFO	TCT/PEEK	LMD8000	and MFR:		
INSTALL DATE:	6 /6 /1996		FIRE PREEMPT		

CONTROLLER TIMINGS						
	PH 1	PH 2	PH 4	PH 5	PH 6	PH 8
INITIAL	4	8	5	4	8	5
PASSAGE	4	5	4	4	5	4
YELLOW	4	4	4	4	4	4
ALL RED	2	2	2	2	2	2
MAXIMUM 1	20	30	30	20	30	30
MAXIMUM 2	20	30	30	20	30	30
MAXIMUM 3						
MAXIMUM EXT						
RECALL	NL	ON	NL	NL	ON	NL
WALK						
DON'T WALK						
FL YEL ARROW						
MOVEMENT	106NLT	106S	MER CTR	106SLT	106N	ELM
TIME TO REDUCE						
REDUCE BY						
MIN GAP						
DYN MAX LIM						
DYN MAX STEP						

NOTES:
CABINET TYPE: TCT

ABOVE TIMINGS VERIFIED ON 9/28/2016 G.T.



NH DOT - SEQUENCE AND TIMING CHART

8/13/2024 6:49:41 AM

CITY/TOWN: LACONIA

SIGNAL ID#: S-245-03

LOCATION: US 3

INTERSECT: ROLLERCOASTER RD

CABINET TYPE: P TYPE-1

METER NUMBER 99547158 PSNH
and MFR:

CONTROLLER INFO TCT/PEEK LMD8000

INSTALL DATE: 6 /4 /1998

FIRE PREEMPT

CONTROLLER TIMINGS

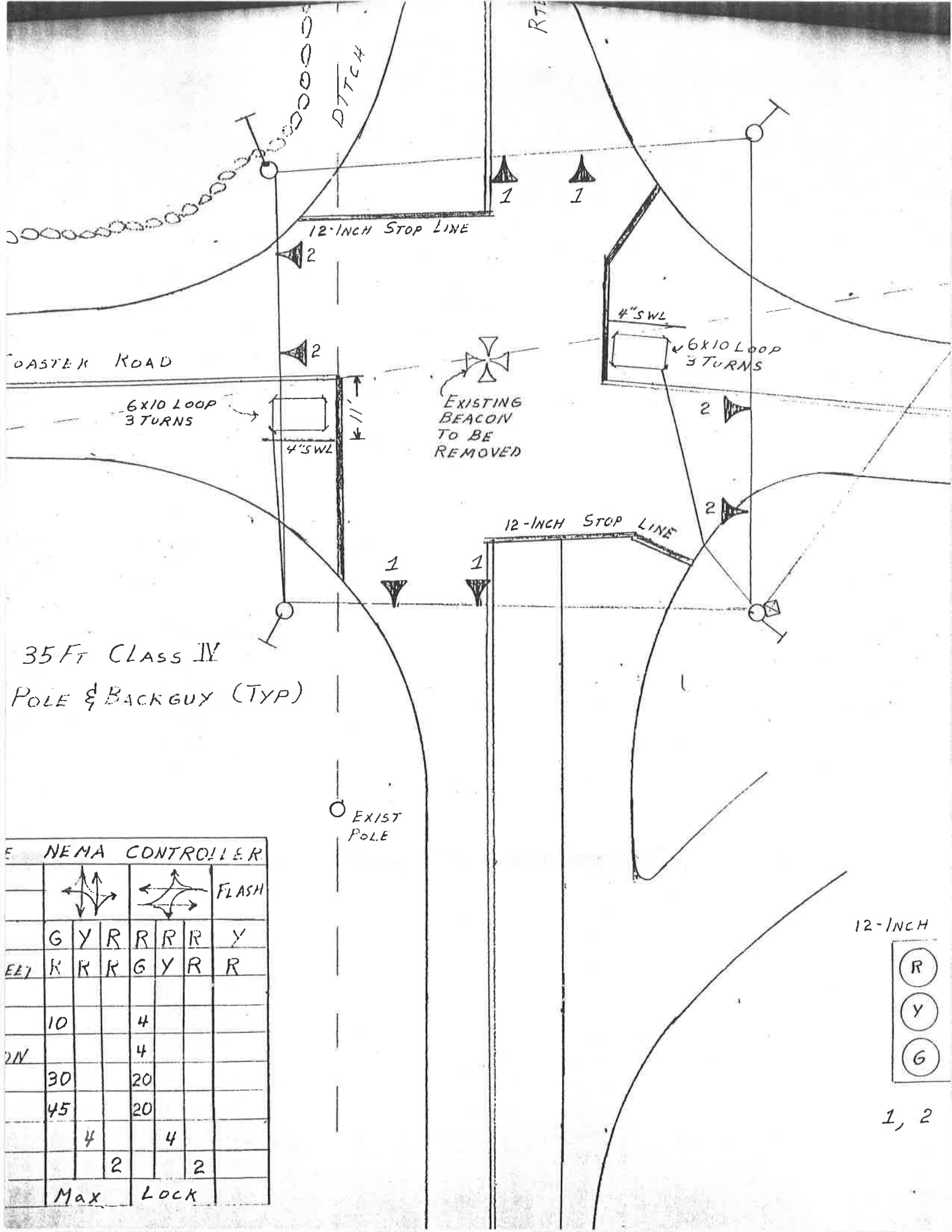
	PH 1	PH 2
INITIAL	5	5
PASSAGE	3	3
YELLOW	4	4
ALL RED	2	2
MAXIMUM 1	30	20
MAXIMUM 2	30	30
MAXIMUM 3		
MAXIMUM EXT		
RECALL	MAX	
WALK		
DON'T WALK		
FL YEL ARROW		
MOVEMENT	3NB/SB rollercoaster/Water	
TIME TO REDUCE		
REDUCE BY		
MIN GAP		
DYN MAX LIM		
DYN MAX STEP		

NOTES:

CABINET TYPE: GAMMATRONIX

Max recall is placed during bike week and coordinated with Laconia PD

ABOVE TIMINGS VERIFIED ON 9/28/2016 G.T.



35 FT CLASS IV
POLE & BACKGUY (TYP)

NEMA CONTROLLER							
							FLASH
	G	Y	R	R	R	R	Y
EL	R	R	R	G	Y	R	R
	10			4			
2N				4			
	30			20			
	45			20			
		4			4		
			2			2	
	Max			Lock			

- 12-INCH
- (R)
 - (Y)
 - (G)

1, 2

NH DOT - SEQUENCE AND TIMING CHART

8/13/2024 6:49:42 AM

CITY/TOWN: MEREDITH

SIGNAL ID#: S-295-02

LOCATION: US 3

INTERSECT: NH 104

CABINET TYPE: M TYPE-1

METER NUMBER 694711

CONTROLLER INFO NAZTEC

NT 900 TX11/CL

and MFR:

INSTALL DATE: 1 /30/1992

FIRE PREEMPT OPTICOM

*****CONTROLLER TIMINGS*****

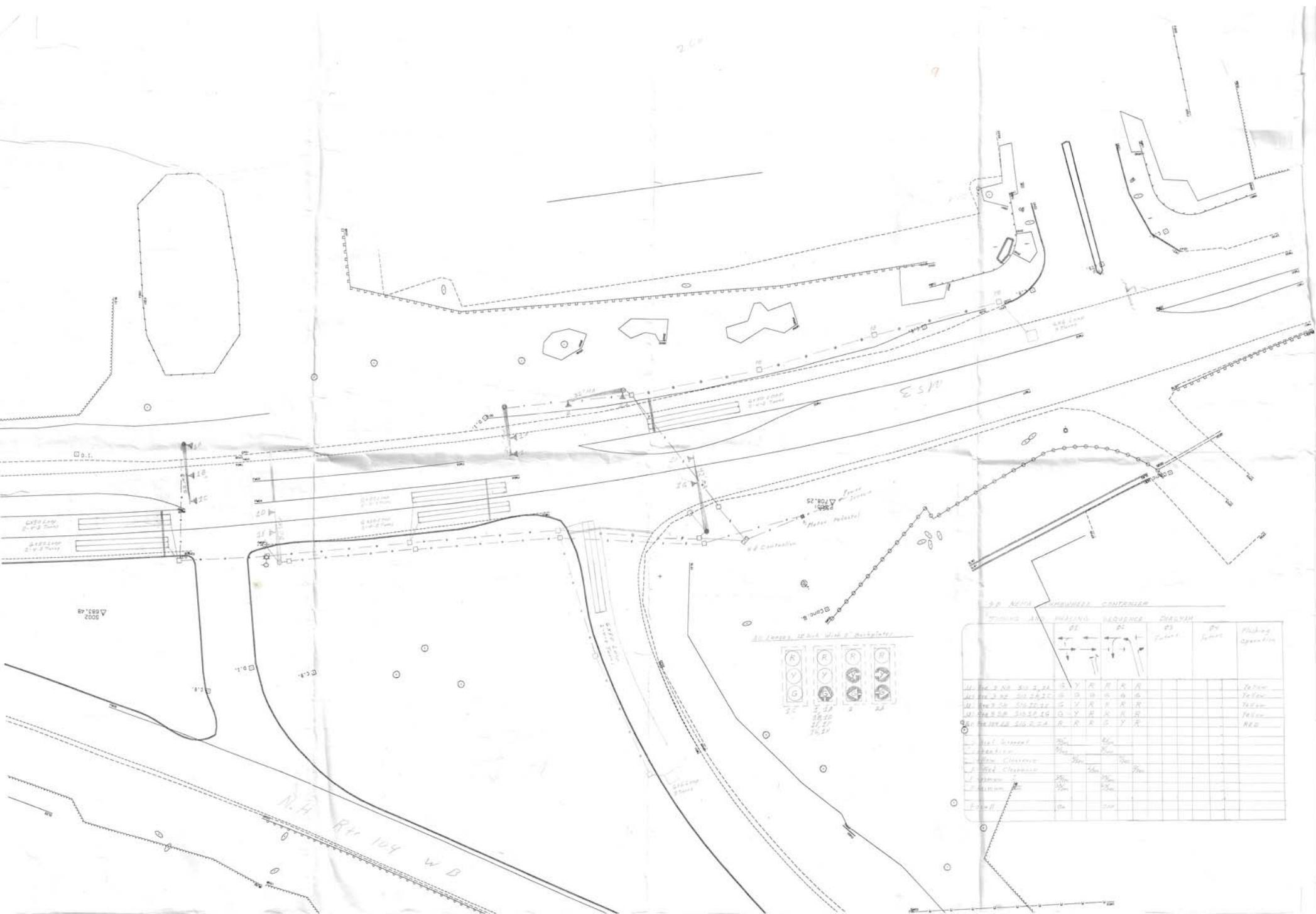
	PH 1	PH 2
INITIAL	30	5
PASSAGE	5	4
YELLOW	4	4
ALL RED	2	2
MAXIMUM 1	30	30
MAXIMUM 2	30	30
MAXIMUM 3		
MAXIMUM EXT		
RECALL	V	N
WALK		
DON'T WALK		
FL YEL ARROW		
MOVEMENT		
TIME TO REDUCE		
REDUCE BY		
MIN GAP		
DYN MAX LIM		
DYN MAX STEP		

NOTES:

OLA = 1

CABINET: GAMMATRONIX

CONTROLLER: NAZTEC 900 V14.16



ATTACHMENT D

Crash Data

Summary

NHDOT raw data

						Year				Severity			Crash Type (**Assumed to be with another vehicle)							Weather			Weekday Commuter Peak		
	Intersection	Number	Date	Day	Time	Number of Vehicles	2020	2021	2022	2023	Property Damage Only	Injury	Fatal	Pedestrian	Unknown**	Fixed Object/ DITCH	OTHER MOTOR VEHICLE	ANIMAL	Bicycle	Sun Glare	Rain/Wet	Snow/Ice	Weekday AM (7-9AM)	Weekday PM (3-6PM)	Non-Commuter Peak
	5. NH104 at Meredith Center Rd	42	1/23/2021	SAT	1158PM	1			1			1				1									1
	5. NH104 at Meredith Center Rd	35	10/3/2022	MON	725AM	2			1			1					1						1		
	5. NH104 at Meredith Center Rd	49	8/1/2021	SUN	1123PM	1			1		1					1					1				1
	5. NH104 at Meredith Center Rd	38	10/9/2023	MON	1024AM	2				1	1				1										1
	5. NH104 at Meredith Center Rd	39	2/28/2023	TUE	445PM	2				1	1						1					1		1	
5	TOTALS						0	2	1	2	0	3	2	0	0	0	1	2	2	0	0	0	1	1	3
	1. Parade Rd (NH106) at Lane Rd / Severance Rd																								
0	TOTALS						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9. Parade Rd (NH106) at Roller Coaster Rd																								
0	TOTALS						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8. US3 at Parade Rd/ Upper Mile Rd																								
0	TOTALS						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6 & 7. NH104 at US3	10	3/17/2020	TUE	720AM	2	1				1						1						1		
	6 & 7. NH104 at US3	4	8/22/2020	SAT	233PM	2	1				1						1								1
	6 & 7. NH104 at US3	44	9/3/2021	SAT	658PM	1			1		1					1					1				1
	6 & 7. NH104 at US3	46	11/4/2023	SAT	431PM	2				1	1						1								1
	6 & 7. NH104 at US3	33	8/9/2020	SUN	1029AM	2	1					1					1								1
	6 & 7. NH104 at US3	11	7/3/2021	SAT	1102AM	3			1			1					1				1				1
	6 & 7. NH104 at US3	3	5/7/2023	SUN	102PM	2				1	1						1								1
	6 & 7. NH104 at US3	48	9/26/2020	SAT	1118AM	2	1				1						1								1
	6 & 7. NH104 at US3	8	4/24/2020	FRI	526PM	2	1					1					1						1		
	6 & 7. NH104 at US3	25	4/7/2022	THUR	248PM	2			1		1						1								1
	6 & 7. NH104 at US3	41	12/22/2020	TUE	926AM	2	1				1						1				1				1
	6 & 7. NH104 at US3	34	3/1/2021	MON	950PM	2			1		1						1					1			1
12	TOTALS						6	4	0	2	0	9	3	0	0	0	1	11	0	0	2	2	1	1	10

OBJECT ID *	CRASH DATE	DAY OF THE WEEK	CRASH TIME	ROUTENO_ STREETNAME	FATAL INDICATOR	TOTAL INJURED	VEHICLES COUNT	CRASH TYPE	FIXED OBJECT STRUCK	FIRST HARMFUL EVENT	ROAD SURFACE CONDITION	WEATHER CONDITION	SEVERITY
1	6/30/2022	Thursday	828	173 NH RTE 104	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
2	8/14/2023	Monday	1010	233 DANIEL WEBSTER HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
3	5/7/2023	Sunday	1302	208 DANIEL WEBSTER HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
4	8/22/2020	Saturday	1433	208 DANIEL WEBSTER HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
5	11/14/2022	Monday	1554	204 DANIEL WEBSTER HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
6	2/16/2022	Wednesday	1836	381 NH ROUTE 104	No	0	1	Animal(Other)	Value not provided	<Null>	Dry	Clear	No Apparent Injury
7	8/1/2023	Tuesday	1717	209 DANIEL WEBSTER HWY	No	0	1	Fixed Object	Building/Wall	<Null>	Dry	Clear	No Apparent Injury
8	4/24/2020	Friday	1726	208 DANIEL WEBSTER HWY	No	1	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Cloudy	No Apparent Injury
9	8/30/2020	Sunday	1339	233 DANIEL WEBSTER HWY	No	1	2	Bicyclist	Value not provided	<Null>	Dry	Clear	Possible Injury
10	3/17/2020	Tuesday	720	208 DANIEL WEBSTER HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Ice	Cloudy	No Apparent Injury
11	7/3/2021	Saturday	1102	209 DANIEL WEBSTER HWY	No	1	3	Other Motor Vehicle	Value not provided	<Null>	Wet	Rain	Possible Injury
12	6/14/2022	Tuesday	1510	NH ROUTE 104 AT PEASE RD AT WINONA RD	No	<Null>	3	<Null>	<Null>	Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
13	11/7/2023	Tuesday	1200	173 NH ROUTE 104	No	<Null>	2	<Null>	<Null>	Motor Vehicle in Transport	Dry	Cloudy	No Apparent Injury
14	10/1/2020	Thursday	1256	209 DANIEL WEBSTER HWY	No	1	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	Possible Injury
15	3/11/2021	Thursday	1248	173 NH ROUTE 104	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
16	11/9/2021	Tuesday	1342	180 NH RT 104	No	1	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	Suspected Minor Injury
17	7/4/2022	Monday	1507	17 PEASE RD	No	1	1	Spill (2 Wheel Vehicle)	Value not provided	<Null>	Dry	Clear	Suspected Serious Injury
18	6/23/2022	Thursday	1453	3 WINONA RD	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
19	9/15/2023	Friday	2027	233 DANIEL WEBSTER HWY	No	2	1	Fixed Object	Building/Wall	<Null>	Dry	Cloudy	No Apparent Injury
20	11/2/2020	Monday	803	233 DANIEL WEBSTER HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Cloudy	No Apparent Injury
21	6/16/2020	Tuesday	1800	209 DANIEL WEBSTER HWY	No	0	1	Fixed Object	Building/Wall	<Null>	Dry	Clear	No Apparent Injury
22	1/3/2020	Friday	1757	173 NH ROUTE 104	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
23	6/8/2021	Tuesday	735	19 NH ROUTE 104	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
24	1/15/2022	Saturday	1551	208 DANIEL WEBSTER HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
25	4/7/2022	Thursday	1448	208 DANIEL WEBSTER HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
26	3/2/2023	Thursday	1714	173 NH ROUTE 104	No	0	1	Fixed Object	Other	<Null>	Dry	Cloudy	No Apparent Injury
27	10/4/2023	Wednesday	1822	209 DANIEL WEBSTER HWY	No	0	1	Fixed Object	Embankment/Ditch/Curb	<Null>	Dry	Clear	No Apparent Injury
28	7/12/2023	Wednesday	1204	233 DANIEL WEBSTER HWY	No	0	1	Fixed Object	Building/Wall	<Null>	Dry	Clear	No Apparent Injury
29	1/26/2023	Thursday	1929	233 DANIEL WEBSTER HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Wet	Clear	No Apparent Injury

209 DANIEL WEBSTER													
30	11/21/2023	Tuesday	2354	HWY	No	<Null>	1	<Null>	<Null>	Other Non-Fixed Object	Snow	Snow	No Apparent Injury
31	6/16/2023	Friday	1352	173 NH ROUTE 104	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
32	12/11/2020	Friday	838	17 PEASE RD	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
208 DANIEL WEBSTER													
33	8/9/2020	Sunday	1029	HWY	No	1	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
34	3/1/2021	Monday	2150	1 NH ROUTE 104	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Snow	Snow	No Apparent Injury
35	10/3/2022	Monday	725	371 NH RTE 104	No	1	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	Possible Injury
36	9/25/2022	Sunday	1938	371 RT 104	No	0	1	Fixed Object	Sign Post	<Null>	Wet	Rain	No Apparent Injury
37	10/9/2022	Sunday	1800	DANIEL WEBSTER HWY	No	0	1	Fixed Object	Guard Rail	<Null>	Dry	Clear	No Apparent Injury
1 MEREDITH CENTER													
38	10/9/2023	Monday	1024	RD	No	0	2	Other	Value not provided	<Null>	Dry	Cloudy	No Apparent Injury
1 MEREDITH CENTER													
39	2/28/2023	Tuesday	1645	RD	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Snow	Snow	No Apparent Injury
40	4/10/2023	Monday	757	173 NH ROUTE 104	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
209 DANIEL WEBSTER													
41	12/22/2020	Tuesday	926	HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Wet	Cloudy	No Apparent Injury
42	1/23/2021	Saturday	2358	371 NH ROUTE 104	No	1	1	Fixed Object	Sign Post	<Null>	Dry	Clear	Possible Injury
233 DANIEL WEBSTER													
43	9/3/2021	Friday	1535	HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
208 DANIEL WEBSTER													
44	1/29/2022	Saturday	1858	HWY	No	0	1	Other	Other	<Null>	Snow	Snow	No Apparent Injury
209 DANIEL WEBSTER													
45	11/3/2023	Friday	1615	HWY	No	<Null>	2	<Null>	<Null>	Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
DANIEL WEBSTER													
46	11/4/2023	Saturday	1631	HWY	No	<Null>	2	<Null>	<Null>	Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
47	6/16/2023	Friday	541	WINONA RD	No	0	1	Fixed Object	Tree	<Null>	Dry	Clear	No Apparent Injury
208 DANIEL WEBSTER													
48	9/26/2020	Saturday	1118	HWY	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
49	8/1/2021	Sunday	2323	371 NH ROUTE 104	No	0	1	Fixed Object	Median	<Null>	Wet	Rain	No Apparent Injury
50	7/15/2021	Thursday	1025	173 NH ROUTE 104	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury
51	7/23/2022	Saturday	1604	1NH RT 104	No	0	2	Other Motor Vehicle	Value not provided	<Null>	Dry	Clear	No Apparent Injury

OBJECT ID	CRASH DATE	DAY OF THE WEEK	CRASH TIME	ROUTENO_ STREETNAME	POSTED SPEED	FATAL INDICATOR	TOTAL INJURED	VEHICLES COUNT	CRASH TYPE	FIXED OBJECT STRUCK	FIRST HARMFUL EVENT	ROAD SURFACE CONDITION	WEATHER CONDITION	SEVERITY
1	2/22/2020	Saturday	2217	VETERANS SQ	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
2	9/23/2020	Wednesday	1641	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
3	12/19/2020	Saturday	1214	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Wet	Clear	No Apparent Injury
4	6/20/2020	Saturday	2122	855 UNION AVE	30	No	0	2	Parked Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
5	8/13/2020	Thursday	1729	ROLLER COASTER RD	50	No	2	2	Other Motor Vehicle	Value not provided		Dry	Clear	Suspected Minor Injury
6	3/1/2021	Monday	1339	UNION AVE	30	No	2	2	Other Motor Vehicle	Value not provided		Wet	Cloudy	Possible Injury
7	8/19/2022	Friday	1427	UNION AVE	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Cloudy	No Apparent Injury
8	7/17/2022	Sunday	1301	WEIRS BLVD	30	No	1	1			Overturn/Rollover(Non Collision)	Dry	Clear	Suspected Serious Injury
9	7/28/2022	Thursday	1920	ENDICOTT NORTH ST	30	No	1	1			Curb(Collision with Fixed Object)	Wet	Rain	Suspected Minor Injury
10	7/30/2023	Sunday	330	ELM ST	30	No		1			Utility Pole/Light Support(Collision with Fixed Object)	Dry	Clear	No Apparent Injury
11	10/28/2020	Wednesday	814	NORTH MAIN ST	35	No	1	1	Pedestrian	Value not provided		Wet	Rain	No Apparent Injury
12	10/28/2020	Wednesday	1422	UNION AVE	30	No	0	1	Fixed Object	Telephone/Electric Pole		Wet	Cloudy	No Apparent Injury
13	1/12/2021	Tuesday	1612	NORTH MAIN ST	30	No	1	2	Other Motor Vehicle	Value not provided		Dry	Clear	Possible Injury
14	12/29/2021	Wednesday	1743	CHURCH ST	30	No	0	2	Other Motor Vehicle	Value not provided		Wet	No Adverse Conditions	No Apparent Injury
15	4/2/2021	Friday	841	423 SOUTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
16	7/6/2021	Tuesday	1106	297 UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
17	3/3/2022	Thursday	1627	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury

18	11/28/2023	Tuesday	1030	N MAIN ST		No	1	2		Motor Vehicle in Transport	Unknown	Unknown	Suspected Serious Injury
19	8/31/2023	Thursday	1023	OAK ST		No	2	3		Pedestrian	Dry	Clear	No Apparent Injury
20	2/8/2023	Wednesday	1545	UNION AVE	30	No	2	3		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Possible Injury
21	11/1/2023	Wednesday	1551	CHURCH ST		No	1	2		Motor Vehicle in Transport	Dry	Clear	Suspected Minor Injury
22	6/8/2023	Thursday	1104	CHURCH ST	30	No	1	2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Cloudy	Possible Injury
23	4/9/2023	Sunday	1521	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Unknown
24	3/25/2020	Wednesday	851	VETERANS SQ	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
25	8/5/2020	Wednesday	1525	NORTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
26	10/1/2020	Thursday	1823	NORTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
27	10/5/2020	Monday	1445	MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
28	3/26/2021	Friday	1307	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
29	7/18/2021	Sunday	735	N MAIN ST	35	No	1	1	Fixed Object	Telephone/Electric Pole	Wet	Rain	Suspected Minor Injury
30	6/23/2021	Wednesday	1556	S MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
31	12/14/2021	Tuesday	1652	NORTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
32	8/3/2021	Tuesday	1315	MAIN ST	30	No	0	2	Parked Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
33	7/7/2021	Wednesday	1307	COURT ST	30	No	1	2	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury

34	10/26/2023	Thursday	1453	GILFORD AVE		No	2	2		Motor Vehicle in Transport	Dry	Clear	Suspected Minor Injury
35	2/13/2023	Monday	1740	653 MAIN ST	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
36	4/11/2023	Tuesday	1954	N MAIN ST	30	No	1	2		Unknown	Dry	Clear	Suspected Minor Injury
37	5/26/2020	Tuesday	1113	VETERANS SQ	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
38	10/28/2020	Wednesday	1156	CHURCH ST	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury
39	3/8/2020	Sunday	1220	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	No Adverse Conditions	No Apparent Injury
40	7/7/2021	Wednesday	1157	BEACON WEST ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
41	4/13/2021	Tuesday	1409	S MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
42	2/8/2022	Tuesday	1809	UNION AVE	30	No	1	2	Pedestrian	Value not provided	Wet	Cloudy	Suspected Minor Injury
43	12/6/2020	Sunday	1205	435 UNION AVE	30	No	1	3	Other Motor Vehicle	Value not provided	Wet	Cloudy	Suspected Minor Injury
44	2/9/2020	Sunday	1258	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
45	6/14/2020	Sunday	1332	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	No Adverse Conditions	No Apparent Injury
46	7/6/2020	Monday	1243	UNION AVE	30	No	0	3	Parked Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
47	12/9/2020	Wednesday	1142	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Cloudy	No Apparent Injury
48	8/23/2020	Sunday	1216	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
49	10/21/2020	Wednesday	1928	N MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
50	9/17/2021	Friday	1515	UNION AVE	30	No	0	3	Other Motor Vehicle	Value not provided	Dry	Cloudy	No Apparent Injury
51	3/4/2022	Friday	2148	MESSER ST	30	No	1	1	Fixed Object	Other	Dry	Clear	Suspected Minor Injury

52	7/25/2022	Monday	934	ROLLER COASTER RD	50	No	1	2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Rain	Suspected Minor Injury
53	4/18/2022	Monday	634	UNION AVE	30	No	2	2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Suspected Minor Injury
54	7/3/2023	Monday	1635	UNION AVE	30	No	1	2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Suspected Minor Injury
55	7/18/2023	Tuesday	1648	261 UNION AVE		No		1			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
56	1/24/2023	Tuesday	1722	245 UNION AVE	30	No		2			Parked Motor Vehicle(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Cloudy	No Apparent Injury
57	9/25/2020	Friday	1428	UNION AVE	30	No	0	3	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
58	9/10/2021	Friday	1613	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
59	5/30/2021	Sunday	1602	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Wet	Rain	No Apparent Injury
60	6/19/2021	Saturday	20	endicott north st	40	No	2	1	Overturn/Rollover	Embankment/Ditch/Curb		Dry	Clear	Suspected Minor Injury
61	5/29/2022	Sunday	1552	UNION AVE	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
62	12/22/2022	Thursday	1332	UNION AVE	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury

63	12/16/2022	Friday	1144	N MAIN ST	35	No		1		Traffic Sign Support(Collision with Fixed Object)	Snow	Snow	No Apparent Injury
64	3/1/2022	Tuesday	948	MAIN ST	25	No	1	2	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury
65	10/21/2022	Friday	1210	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
66	3/28/2023	Tuesday	1446	COURT ST	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
67	8/29/2020	Saturday	1153	UNION AVE	0	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury
68	9/8/2021	Wednesday	1708	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
69	10/31/2021	Sunday	23	ENDICOTT NORTH ST	30	No	0	1	Fixed Object	Sign Post	Wet	Rain	No Apparent Injury
70	9/12/2021	Sunday	1227	SOUTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
71	9/26/2022	Monday	858	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
72	9/7/2023	Thursday	1619	UNION AVE		No		2		Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
73	3/15/2023	Wednesday	1325	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
74	5/13/2020	Wednesday	1427	NORTH MAIN ST	30	No	1	2	Other Motor Vehicle	Value not provided	Dry	Clear	Possible Injury
75	1/8/2020	Wednesday	1715	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Snow	Snow	No Apparent Injury
76	1/6/2020	Monday	1605	NORTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Ice	Clear	No Apparent Injury

77	8/18/2020	Tuesday	1450	PARADE RD	40	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
78	1/12/2021	Tuesday	1002	UNION AVE	30	No	1	2	Other Motor Vehicle	Value not provided	Wet	Clear	Possible Injury
79	6/15/2021	Tuesday	1248	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
80	5/9/2021	Sunday	1332	ENDICOTT NORTH ST	40	No	1	1	Fixed Object	Telephone/Electric Pole	Dry	Clear	Suspected Minor Injury
81	8/17/2021	Tuesday	1321	OAK ST	30	No	1	2	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury
82	11/21/2021	Sunday	2033	MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
83	9/11/2020	Friday	1724	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
84	3/19/2020	Thursday	1718	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury
85	1/13/2020	Monday	1338	GILFORD AVE	30	No	0	3	Other Motor Vehicle	Value not provided	Ice	Rain	No Apparent Injury
86	2/8/2020	Saturday	1032	NORTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
87	4/2/2020	Thursday	1722	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury
88	10/6/2020	Tuesday	1656	GILFORD AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
89	3/2/2020	Monday	1310	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
90	1/4/2020	Saturday	1016	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury
91	4/20/2020	Monday	1301	GILFORD AVE	30	No	2	3	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury
92	8/16/2020	Sunday	1708	SOUTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
93	2/4/2021	Thursday	1541	ELM ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
94	2/19/2021	Friday	1113	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Snow	No Apparent Injury
95	3/10/2021	Wednesday	1423	VETERANS SQ	30	No	2	2	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury

96	3/21/2021	Sunday	1158	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
97	3/9/2021	Tuesday	1223	ENDICOTT EAST ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
98	2/22/2021	Monday	1715	CLINTON ST	30	No	0	2	Other Motor Vehicle	Value not provided	Snow	Snow	No Apparent Injury
99	2/24/2021	Wednesday	1731	NORTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
100	1/4/2021	Monday	1653	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
101	3/23/2021	Tuesday	1046	ELM ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
102	6/17/2021	Thursday	1136	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
103	7/14/2021	Wednesday	1525	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
104	8/29/2021	Sunday	1331	UNION AVE	30	No	0	2	Pedal Cycle/Moped	Value not provided	Dry	Clear	No Apparent Injury
105	8/24/2021	Tuesday	1420	MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
106	8/19/2021	Thursday	909	NORTH MAIN ST	30	No	1	2	Other Motor Vehicle	Value not provided	Dry	Cloudy	Suspected Minor Injury
107	7/20/2021	Tuesday	2248	NORTH MAIN ST	30	No	0	1	Fixed Object	Other	Wet	Rain	No Apparent Injury
108	11/9/2021	Tuesday	1611	UNION AVE	30	No	1	2	Other Motor Vehicle	Value not provided	Dry	Clear	Possible Injury
109	6/21/2021	Monday	1650	LAKE ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
110	5/6/2021	Thursday	1050	PARADE RD	35	No	1	2	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury
111	5/22/2021	Saturday	2054	NORTH MAIN ST	30	No	0	1	Fixed Object	RR Crossing Device	Dry	Clear	No Apparent Injury
112	12/28/2022	Wednesday	1714	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury

113	11/22/2022	Tuesday	1711	UNION AVE	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
114	7/26/2022	Tuesday	1001	695 N MAIN ST	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
115	7/5/2022	Tuesday	1442	N MAIN ST	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Rain	No Apparent Injury
116	6/1/2022	Wednesday	1622	N MAIN ST	30	No		2			Other Non-Collision(Non-Collision)	Dry	Clear	No Apparent Injury
117	1/30/2022	Sunday	949	ENDICOTT EAST ST	30	No	0	2	Other Motor Vehicle	Value not provided		Snow	Clear	No Apparent Injury
118	9/17/2022	Saturday	1756	ENDICOTT NORTH ST	40	No	1	3			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Suspected Minor Injury
119	7/27/2022	Wednesday	1526	OAK ST	30	No	1	2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Suspected Minor Injury
120	6/17/2022	Friday	106	WATSON RD	30	No	1	1			Overturn/Rollover(Non Collision)	Dry	Clear	Suspected Minor Injury
121	4/26/2023	Wednesday	2043	855 UNION AVE		No		1			Other Fixed Object (wall, building, tunnel, etc)(Collision with Fixed Object)	Dry	Clear	No Apparent Injury
122	6/16/2023	Friday	1306	765 UNION AVE		No		1			Curb(Collision with Fixed Object)	Dry	Clear	No Apparent Injury
123	6/6/2023	Tuesday	1156	UNION AVE	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury

124	8/16/2023	Wednesday	1421	S MAIN ST		No	2	Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
125	7/10/2023	Monday	1438	UNION AVE	30	No	2	Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Rain	No Apparent Injury
126	5/8/2023	Monday	1459	S MAIN ST	30	No	2	Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Unknown
127	5/14/2023	Sunday	1517	PARADE RD	40	No	2	Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
128	3/31/2023	Friday	1008	N MAIN ST	30	No	2	Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
129	2/24/2023	Friday	1159	PARADE RD	40	No	2	Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Clear	No Apparent Injury
130	3/31/2023	Friday	2229	ELM ST	30	No	2	Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Snow	Snow	No Apparent Injury
131	12/3/2023	Sunday	941	UNION AVE		No	1	Other Post, Pole, or Support	Dry	Clear	No Apparent Injury
132	9/8/2023	Friday	1821	765 UNION AVE		No	2	Parked Motor Vehicle	Dry	Clear	No Apparent Injury
133	12/20/2023	Wednesday	531	N MAIN ST		No	2	Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
134	7/21/2023	Friday	1239	653 MAIN ST	30	No	2	Parked Motor Vehicle(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury

135	6/11/2023	Sunday	1307	45 COURT ST	30	No	1	3			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Possible Injury
136	4/28/2023	Friday	1506	855 UNION AVE		No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
137	2/26/2023	Sunday	1013	ENDICOTT EAST ST	30	No	1	2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Snow	Snow	Possible Injury
138	3/29/2023	Wednesday	1111	OAK ST	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
139	10/14/2020	Wednesday	2253	MESSER ST	30	No	1	2	Bicyclist	Value not provided		Dry	Clear	Possible Injury
140	7/29/2020	Wednesday	1035	BEACON EAST ST	0	No	1	2	Bicyclist	Value not provided		Dry	Clear	No Apparent Injury
141	3/20/2020	Friday	1300	ELM ST	35	No	1	2	Other Motor Vehicle	Value not provided		Dry	Cloudy	Suspected Minor Injury
142	10/19/2021	Tuesday	1609	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
143	8/22/2021	Sunday	1705	CHURCH ST	30	No	0	4	Other Motor Vehicle	Value not provided		Wet	Rain	No Apparent Injury
144	7/28/2021	Wednesday	1353	UNION AVE	30	No	1	2	Other Motor Vehicle	Value not provided		Dry	Clear	Suspected Minor Injury
145	6/13/2021	Sunday	1908	PARADE RD	40	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
146	6/12/2021	Saturday	2244	ENDICOTT NORTH ST	40	No	2	3	Other Motor Vehicle	Value not provided		Dry	Clear	Suspected Minor Injury
147	8/21/2021	Saturday	2218	LAKE ST	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Cloudy	No Apparent Injury
148	7/31/2021	Saturday	1158	ENDICOTT NORTH ST	30	No	0	1	Fixed Object	Tree		Dry	Clear	No Apparent Injury
149	7/29/2021	Thursday	2154	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Wet	Rain	Unknown

150	8/2/2021	Monday	1054	PARADE RD	40	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
151	6/17/2021	Thursday	1113	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
152	1/8/2022	Saturday	1906	MESSER ST	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
153	5/23/2022	Monday	1707	UNION AVE	30	No		2			Other Non-Collision(Non-Collision)	Dry	Clear	No Apparent Injury
154	10/9/2022	Sunday	1959	799 UNION AVE		No		2			Other Non-motorist(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
155	6/29/2022	Wednesday	1509	UNION AVE	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
156	10/24/2022	Monday	1640	UNION AVE	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
157	1/7/2022	Friday	829	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Snow	Snow	No Apparent Injury
158	6/25/2022	Saturday	1810	MAIN ST	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
159	8/13/2023	Sunday	1608	UNION AVE		No		2			Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
160	10/11/2023	Wednesday	1012	25 UNION AVE		No		2			Parked Motor Vehicle	Dry	Clear	No Apparent Injury
161	6/5/2020	Friday	1126	UNION AVE	30	No	2	3	Other Motor Vehicle	Value not provided		Dry	Clear	Suspected Minor Injury
162	8/26/2020	Wednesday	1608	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
163	2/6/2020	Thursday	2000	LANE RD	40	No	0	1	Fixed Object	Embankment/Ditch/Curb		Ice	Sleet,Hail,Freeze,Rail,Drizzle	No Apparent Injury

164	1/17/2021	Sunday	1027	N MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
165	3/19/2021	Friday	1228	VETERANS SQ	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
166	11/6/2021	Saturday	1742	GILFORD AVE	30	No	0	1	Fixed Object	Traffic Signal	Dry	Clear	No Apparent Injury
167	10/26/2021	Tuesday	1107	PLEASANT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Cloudy	No Apparent Injury
168	12/6/2021	Monday	1715	BEACON WEST ST	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Cloudy	No Apparent Injury
169	8/26/2021	Thursday	2244	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
170	7/29/2021	Thursday	2158	UNION AVE	30	No	0	1	Fixed Object	Median	Wet	Rain	No Apparent Injury
171	9/11/2021	Saturday	1155	UNION AVE	30	No	1	2	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury
172	7/12/2022	Tuesday	1211	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
173	1/30/2022	Sunday	832	PARADE RD	40	No	0	2	Other Motor Vehicle	Value not provided	Snow	Clear	No Apparent Injury
174	1/23/2022	Sunday	1241	PARADE RD	40	No	0	2	Other Motor Vehicle	Value not provided	Dry	No Adverse Conditions	No Apparent Injury
175	4/1/2022	Friday	1436	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Cloudy	No Apparent Injury
176	8/16/2022	Tuesday	1831	765 UNION AVE		No		2		Parked Motor Vehicle(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
177	11/5/2022	Saturday	1121	UNION AVE	30	No	1	2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Suspected Minor Injury
178	3/24/2022	Thursday	1714	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury

179	9/10/2022	Saturday	1233	FAIR ST	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
180	3/16/2022	Wednesday	725	GILFORD AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Cloudy	No Apparent Injury
181	1/18/2022	Tuesday	1637	GILFORD AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	No Adverse Conditions	No Apparent Injury
182	8/30/2022	Tuesday	1835	N MAIN ST	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
183	3/10/2023	Friday	1544	LEXINGTON DR	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
184	5/17/2023	Wednesday	1203	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
185	4/10/2023	Monday	1611	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
186	3/1/2023	Wednesday	1530	COURT ST	30	No		1		Traffic Sign Support(Collision with Fixed Object)	Dry	Clear	No Apparent Injury
187	12/21/2023	Thursday	1536	PARADE RD		No	1	2		Motor Vehicle in Transport	Dry	Clear	Suspected Minor Injury
188	10/26/2023	Thursday	730	UNION AVE		No		2		Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
189	10/19/2023	Thursday	1507	COURT ST		No	1	2		Motor Vehicle in Transport	Dry	Clear	Suspected Serious Injury
190	3/24/2023	Friday	907	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Cloudy	No Apparent Injury

191	7/27/2023	Thursday	1647	UNION AVE	30	No	3			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
192	5/10/2023	Wednesday	707	N MAIN ST	30	No	2	2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Possible Injury
193	12/29/2020	Tuesday	1333	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
194	2/18/2020	Tuesday	1000	BEACON WEST ST	30	No	0	3	Other Motor Vehicle	Value not provided	Wet	Snow	No Apparent Injury
195	12/25/2020	Friday	24	ENDICOTT EAST ST	30	No	1	1	Fixed Object	Median	Wet	Rain	Possible Injury
196	6/7/2020	Sunday	1502	VETERANS SQ	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
197	5/26/2020	Tuesday	953	CHURCH ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
198	9/11/2020	Friday	2343	MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
199	11/25/2020	Wednesday	1047	PARADE RD	40	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
200	12/4/2020	Friday	1456	NORTH MAIN ST	35	No	0	2	Other Motor Vehicle	Value not provided	Dry	Cloudy	No Apparent Injury
201	10/28/2021	Thursday	1652	VETERAN'S SQ	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
202	10/1/2021	Friday	2302	MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
203	4/27/2021	Tuesday	1354	UNION AVE	30	No	0	2	Other Motor Vehicle	Traffic Signal	Dry	Clear	No Apparent Injury
204	8/5/2021	Thursday	1504	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
205	12/31/2021	Friday	1837	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury

206	6/23/2022	Thursday	1624	COURT ST	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
207	5/16/2022	Monday	731	ELM ST	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
208	8/17/2022	Wednesday	1022	MAIN ST	30	No	1	2		Pedalcycle(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
209	5/2/2022	Monday	1410	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
210	1/26/2022	Wednesday	1053	ELM ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
211	1/15/2022	Saturday	1037	CHURCH ST	30	No	0	3	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
212	1/7/2022	Friday	1829	FAIR ST	30	No	0	2	Other Motor Vehicle	Value not provided	Ice	No Adverse Conditions	No Apparent Injury
213	9/5/2022	Monday	847	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Rain	No Apparent Injury
214	2/21/2023	Tuesday	1526	COURT ST	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Cloudy	No Apparent Injury
215	2/23/2023	Thursday	1217	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Snow	Snow	No Apparent Injury
216	12/20/2023	Wednesday	1526	ROLLER COASTER RD		No		2		Motor Vehicle in Transport	Dry	Clear	No Apparent Injury

217	1/13/2023	Friday	1332	UNION AVE	30	No	1	2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Rain	Possible Injury
218	11/22/2023	Wednesday	1917	UNION AVE		No		2			Motor Vehicle in Transport	Wet	Clear	No Apparent Injury
219	6/22/2023	Thursday	631	OAK ST	30	No	1	2			Pedalcycle(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
220	8/29/2023	Tuesday	1305	S MAIN ST		No		2			Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
221	7/24/2020	Friday	1218	GILFORD AVE	30	No	1	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
222	11/27/2020	Friday	926	ELM ST	30	No	0	1	Animal(Other)	Value not provided		Dry	Clear	
223	11/1/2020	Sunday	2004	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Wet	Rain	No Apparent Injury
224	5/23/2020	Saturday	1138	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
225	10/15/2020	Thursday	1839	ELM ST	35	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
226	1/30/2021	Saturday	1340	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
227	2/26/2021	Friday	1912	799 UNION AVE	0	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
228	2/18/2021	Thursday	1611	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
229	8/7/2021	Saturday	2313	UNION AVE	30	No	1	2	Other Motor Vehicle	Value not provided		Dry	Clear	Possible Injury
230	10/21/2021	Thursday	1215	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
231	10/31/2022	Monday	1144	MAIN ST		No	1	2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury

232	12/1/2022	Thursday	820	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Cloudy	No Apparent Injury
233	2/2/2022	Wednesday	657	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Cloudy	No Apparent Injury
234	8/5/2022	Friday	1622	855 UNION AVE		No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
235	4/18/2022	Monday	659	BEACON WEST ST	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
236	9/15/2022	Thursday	1807	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
237	9/22/2022	Thursday	1654	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Rain	No Apparent Injury
238	3/17/2022	Thursday	1637	UNION AVE	0	No	0	2	Pedestrian	Value not provided	Dry	Cloudy	No Apparent Injury
239	8/1/2023	Tuesday	1625	COURT ST	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
240	7/10/2023	Monday	1015	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Rain	No Apparent Injury
241	11/26/2023	Sunday	1045	PARADE RD		No	1	1		Overturn/Rollover	Dry	Clear	Suspected Minor Injury
242	10/8/2023	Sunday	1703	736 UNION AVE		No		1		Other Post, Pole, or Support	Dry	Clear	No Apparent Injury

243	7/19/2023	Wednesday	1510	CHURCH ST	25	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
244	1/22/2020	Wednesday	703	NORTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
245	6/26/2020	Friday	1542	BEACON WEST ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
246	11/3/2021	Wednesday	1732	ELM ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
247	11/4/2021	Thursday	1751	GILFORD AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
248	6/10/2021	Thursday	1624	725 UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
249	7/18/2021	Sunday	1453	WATSON RD	30	No	0	3	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
250	7/30/2021	Friday	104	LAKE ST	35	No	0	1	Other	Value not provided	Wet	Cloudy	No Apparent Injury
251	1/8/2022	Saturday	1649	COURT ST	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Cloudy	No Apparent Injury
252	12/4/2023	Monday	1337	17 LEXINGTON DR		No		2		Parked Motor Vehicle	Dry	Clear	Unknown
253	6/10/2023	Saturday	1414	WATSON RD	30	No		1		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Unknown
254	6/11/2023	Sunday	1228	UNION AVE	30	No	2	2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	Possible Injury
255	3/17/2020	Tuesday	913	PARADE RD	50	No	0	1	Fixed Object	Tree	Ice	Snow	No Apparent Injury
256	9/27/2020	Sunday	1509	COURT ST	30	No	2	1	Fixed Object	Telephone/Electric Pole	Dry	Cloudy	Possible Injury
257	5/10/2020	Sunday	1055	PARADE RD	40	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury

258	3/6/2020	Friday	1356	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury
259	8/28/2020	Friday	1628	NORTH MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
260	6/12/2021	Saturday	1758	ENDICOTT NORTH ST	30	No	2	2	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury
261	8/9/2021	Monday	1649	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
262	10/25/2022	Tuesday	1715	COURT ST	30	No	1	2		Pedalcycle(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Cloudy	No Apparent Injury
263	7/23/2022	Saturday	1052	UNION AVE	39	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
264	8/16/2022	Tuesday	2021	736 UNION AVE	30	No		2		Parked Motor Vehicle(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
265	5/8/2022	Sunday	1631	COURT ST	30	No		1		Traffic Sign Support(Collision with Fixed Object)	Dry	Clear	No Apparent Injury
266	3/2/2023	Thursday	655	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Snow	Snow	No Apparent Injury
267	7/26/2023	Wednesday	1132	PARADE RD	50	No		2		Pedalcycle(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
268	12/11/2023	Monday	1724	UNION AVE		No		2		Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
269	6/17/2020	Wednesday	1653	MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
270	1/22/2020	Wednesday	836	BEACON EAST ST	25	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
271	12/15/2021	Wednesday	1856	GILFORD AVE	30	No	1	2	Other Motor Vehicle	Value not provided	Dry	Cloudy	Possible Injury

272	7/9/2021	Friday	2237	FAIR ST	30	No	1	2	Bicyclist	Value not provided	Dry	Clear	Possible Injury
273	4/30/2021	Friday	1639	CLINTON ST	0	No	0	2	Other Motor Vehicle	Value not provided	Dry	Cloudy	No Apparent Injury
274	6/23/2022	Thursday	1618	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
275	1/21/2022	Friday	757	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
276	12/19/2022	Monday	1352	COURT ST	30	No		1		Curb(Collision with Fixed Object)	Dry	Cloudy	No Apparent Injury
277	9/29/2022	Thursday	1328	UNION AVE	30	No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
278	10/26/2022	Wednesday	1517	45 COURT ST		No		1		Parked Motor Vehicle(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Rain	Unknown
279	3/7/2022	Monday	715	CLINTON ST	30	No	1	2	Other Motor Vehicle	Value not provided	Dry	Rain	Suspected Minor Injury
280	6/1/2022	Wednesday	851	COURT ST	30	No		3		Other Non-motorist(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Cloudy	No Apparent Injury
281	7/2/2023	Sunday	1853	ENDICOTT NORTH ST	40	No	4	2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Wet	Cloudy	Suspected Minor Injury
282	8/1/2023	Tuesday	1615	UNION AVE	30	No	1	2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
283	8/23/2023	Wednesday	1353	PARADE RD		No	1	2		Motor Vehicle in Transport	Dry	Clear	Suspected Minor Injury
284	9/30/2023	Saturday	656	OAK ST		No		1		Traffic Sign Support	Dry	Clear	No Apparent Injury

285	6/15/2023	Thursday	1700	PARADE RD	50	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
286	3/29/2023	Wednesday	721	855 UNION AVE		No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
287	9/16/2022	Friday	2301	N MAIN ST	30	No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
288	3/31/2021	Wednesday	1556	UNION AVE	30	No	1	2	Other Motor Vehicle	Value not provided		Dry	Clear	Suspected Minor Injury
289	6/12/2022	Sunday	1904	PARADE RD	40	No		1			Embankment(Collision with Fixed Object)	Dry	Clear	No Apparent Injury
290	3/31/2020	Tuesday	1930	WINTER ST	30	No	0	2	Parked Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
291	4/9/2021	Friday	1345	WINTER ST	30	No	0	1	Fixed Object	Telephone/Electric Pole		Dry	Clear	No Apparent Injury
292	9/29/2021	Wednesday	1149	WINTER ST	25	No	0	2	Parked Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
293	6/23/2023	Friday	1645	288 UNION AVE		No		2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
294	3/17/2023	Friday	1412	288 UNION AVE		No		2			Other Non-Collision(Non-Collision)	Dry	Cloudy	No Apparent Injury
295	7/18/2022	Monday	2000	17 GILFORD AVE	30	No		1			Curb(Collision with Fixed Object)	Dry	Rain	Unknown
296	11/2/2023	Thursday	1215	GILFORD AVE		No		2			Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
297	10/5/2020	Monday	1515	UNION AVE	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
298	3/8/2021	Monday	1601	311 UNION AVE	30	No	1	2	Other Motor Vehicle	Value not provided		Dry	Clear	Possible Injury
299	2/7/2020	Friday	1934	UNION AVE	30	No	0	1	Fixed Object	Telephone/Electric Pole		Snow	Snow	No Apparent Injury

300	8/1/2020	Saturday	509	GILFORD AVE	30	No	0	1	Fixed Object	Telephone/Electric Pole		Dry	Clear	No Apparent Injury
301	8/21/2022	Sunday	1050	45 COURT ST	30	No		2		Other Non-motorist(Collision with person, motor vehicle, or Non-Fixed Object)		Dry	Clear	No Apparent Injury
302	10/21/2020	Wednesday	540	45 COURT ST	0	No	0	1	Fixed Object	Light Pole		Wet	Rain	No Apparent Injury
303	2/9/2022	Wednesday	1210	45 COURT ST	0	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
304	10/5/2023	Thursday	934	174 COURT ST		No		2			Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
305	10/6/2023	Friday	1940	161 COURT ST		No		2			Parked Motor Vehicle	Dry	Cloudy	No Apparent Injury
306	5/16/2022	Monday	1537	161 COURT ST		No	1	2			Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Cloudy	Suspected Minor Injury
307	9/1/2022	Thursday	636	28 LEXINGTON DR		No		2			Parked Motor Vehicle(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
308	7/7/2020	Tuesday	1540	LEXINGTON DR	30	No	0	2	Other Motor Vehicle	Value not provided		Dry	Clear	No Apparent Injury
309	8/28/2020	Friday	414	PARADE RD	50	No	0	1	Fixed Object	Embankment/Ditch/Curb		Dry	Clear	No Apparent Injury
310	12/4/2020	Friday	1522	PARADE RD	40	No	0	1	Overturn/Rollover	Embankment/Ditch/Curb		Dry	Clear	No Apparent Injury
311	12/8/2020	Tuesday	1223	PARADE RD	50	No	0	1	Fixed Object	Culvert/Headwall		Dry	Clear	No Apparent Injury
312	2/11/2021	Thursday	1009	FAIR ST	30	No	0	2	Other Motor Vehicle	Value not provided		Wet	No Adverse Conditions	No Apparent Injury
313	1/16/2021	Saturday	1233	COURT ST	30	No	0	1	Fixed Object	Sign Post		Wet	Cloudy	No Apparent Injury
314	4/28/2020	Tuesday	411	SOUTH MAIN ST	30	No	0	1	Fixed Object	Other		Dry	Clear	No Apparent Injury

315	10/26/2023	Thursday	1631	45 COURT ST		No		2		Motor Vehicle in Transport	Dry	Clear	No Apparent Injury
316	11/21/2020	Saturday	1545	MAIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
317	9/28/2021	Tuesday	1230	480 MAIN ST	25	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
318	3/22/2021	Monday	1417	423 SOUTH MAIN ST	0	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
319	11/15/2020	Sunday	1642	SOUTH MAIN ST	30	No	1	2	Other Motor Vehicle	Value not provided	Wet	Rain	Suspected Minor Injury
320	4/26/2020	Sunday	1605	BALDWIN ST	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	No Adverse Conditions	No Apparent Injury
321	8/10/2023	Thursday	1550	173 COURT ST		No		2		Motor Vehicle in Transport	Dry	Cloudy	No Apparent Injury
322	12/2/2023	Saturday	1157	9 VETERAN'S SQ		No		2		Parked Motor Vehicle	Dry	Clear	Unknown
323	3/15/2023	Wednesday	932	480 MAIN ST		No		2		Motor vehicle in Transport(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
324	10/31/2021	Sunday	854	UNION AVE	0	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury
325	11/3/2021	Wednesday	1549	UNION AVE	30	No	0	2	Parked Motor Vehicle	Value not provided	Dry	Cloudy	No Apparent Injury
326	6/18/2021	Friday	2117	ROLLER COASTER RD	30	No	1	2	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury
327	11/15/2021	Monday	1505	ELM ST	30	No	0	2	Pedestrian	Value not provided	Dry	Clear	No Apparent Injury
328	6/12/2021	Saturday	1708	WATSON RD	30	No	0	2	Other Motor Vehicle	Value not provided	Dry	Clear	No Apparent Injury
329	6/13/2021	Sunday	1351	PARADE RD	50	No	1	2	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury
330	7/9/2021	Friday	1229	union ave	30	No	0	2	Other Motor Vehicle	Value not provided	Wet	Rain	No Apparent Injury
331	9/8/2022	Thursday	1129	1367 UNION AVE		No		2		Parked Motor Vehicle(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury

332	2/1/2023	Wednesday	1840	1367 UNION AVE	30	No		2		Ditch(Collision with Fixed Object)	Dry	Clear	No Apparent Injury
333	5/27/2020	Wednesday	1216	UNION AVE	30	No	1	4	Other Motor Vehicle	Value not provided	Dry	Clear	Suspected Minor Injury
334	5/13/2020	Wednesday	532	MEREDITH CENTER RD	40	No	0	1	Animal(Other)	Value not provided	Dry	Clear	No Apparent Injury
335	6/10/2022	Friday	742	PARADE RD	40	No		1		Animal (live)(Collision with person, motor vehicle, or Non-Fixed Object)	Dry	Clear	No Apparent Injury
336	6/16/2022	Thursday	640	PARADE RD	40	No		2		Unknown	Dry	Cloudy	No Apparent Injury
337	11/12/2021	Friday	37	MEREDITH CENTER RD	40	No	1	1	Fixed Object	Embankment/Ditch/Curb	Dry	Clear	Possible Injury
338	12/2/2021	Thursday	936	MEREDITH CENTER RD	40	No	0	1	Fixed Object	Embankment/Ditch/Curb	Snow	Sleet and Fog	No Apparent Injury

ATTACHMENT E

Intersection #5: Synchro (AM/PM/SAT)

2037 No-Build

2037 Build

2037 Build Mit

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

AM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	650	450	0	559	251	0
Future Volume (vph)	650	450	0	559	251	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	30			30	30	
Link Distance (ft)	500			779	419	
Travel Time (s)	11.4			17.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	2%	2%	6%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	722	500	0	621	279	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

5: Meredith Center Rd & NH104

AM 2037 NB
Timing Plan: NHDOT/City

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	650	450	0	559	251	0
Future Volume (Veh/h)	650	450	0	559	251	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	722	500	0	621	279	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			722		1343	722
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			722		1343	722
tC, single (s)			4.1		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		0	100
cM capacity (veh/h)			880		164	420
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	722	500	621	279		
Volume Left	0	0	0	279		
Volume Right	0	500	0	0		
cSH	1700	1700	880	164		
Volume to Capacity	0.42	0.29	0.00	1.70		
Queue Length 95th (ft)	0	0	0	492		
Control Delay (s)	0.0	0.0	0.0	387.7		
Lane LOS				F		
Approach Delay (s)	0.0		0.0	387.7		
Approach LOS				F		
Intersection Summary						
Average Delay			51.0			
Intersection Capacity Utilization			64.0%	ICU Level of Service	B	
Analysis Period (min)			15			

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

PM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	638	292	0	694	332	2
Future Volume (vph)	638	292	0	694	332	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	30			30	30	
Link Distance (ft)	500			779	419	
Travel Time (s)	11.4			17.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.93	0.93
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	709	324	0	771	359	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

5: Meredith Center Rd & NH104

PM 2037 NB
Timing Plan: NHDOT/City

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	638	292	0	694	332	2
Future Volume (Veh/h)	638	292	0	694	332	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.93	0.93
Hourly flow rate (vph)	709	324	0	771	357	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)						
pX, platoon unblocked						
vC, conflicting volume			709		1480	709
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			709		1480	709
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		0	100
cM capacity (veh/h)			881		139	436
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	709	324	771	359		
Volume Left	0	0	0	357		
Volume Right	0	324	0	2		
cSH	1700	1700	881	139		
Volume to Capacity	0.42	0.19	0.00	2.57		
Queue Length 95th (ft)	0	0	0	792		
Control Delay (s)	0.0	0.0	0.0	778.9		
Lane LOS				F		
Approach Delay (s)	0.0		0.0	778.9		
Approach LOS				F		
Intersection Summary						
Average Delay			129.3			
Intersection Capacity Utilization			61.7%	ICU Level of Service		B
Analysis Period (min)			15			

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

SAT 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	603	225	3	566	171	0
Future Volume (vph)	603	225	3	566	171	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	30			30	30	
Link Distance (ft)	500			779	419	
Travel Time (s)	11.4			17.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	670	250	0	632	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

5: Meredith Center Rd & NH104

SAT 2037 NB
Timing Plan: NHDOT/City

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	603	225	3	566	171	0
Future Volume (Veh/h)	603	225	3	566	171	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	670	250	3	629	190	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			670		1305	670
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			670		1305	670
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		0	100
cM capacity (veh/h)			925		176	457
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	670	250	632	190		
Volume Left	0	0	3	190		
Volume Right	0	250	0	0		
cSH	1700	1700	925	176		
Volume to Capacity	0.39	0.15	0.00	1.08		
Queue Length 95th (ft)	0	0	0	234		
Control Delay (s)	0.0	0.0	0.1	144.4		
Lane LOS			A	F		
Approach Delay (s)	0.0		0.1	144.4		
Approach LOS				F		
Intersection Summary						
Average Delay			15.8			
Intersection Capacity Utilization			50.6%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

AM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	645	579	0	559	331	0
Future Volume (vph)	645	579	0	559	331	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	30			30	30	
Link Distance (ft)	500			779	419	
Travel Time (s)	11.4			17.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	2%	2%	6%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	717	643	0	621	368	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

5: Meredith Center Rd & NH104

AM 2037 B
Timing Plan: NHDOT/City

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	645	579	0	559	331	0
Future Volume (Veh/h)	645	579	0	559	331	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	717	643	0	621	368	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			717		1338	717
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			717		1338	717
tC, single (s)			4.1		6.5	6.3
tC, 2 stage (s)						
tF (s)			2.2		3.6	3.4
p0 queue free %			100		0	100
cM capacity (veh/h)			884		165	423
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	717	643	621	368		
Volume Left	0	0	0	368		
Volume Right	0	643	0	0		
cSH	1700	1700	884	165		
Volume to Capacity	0.42	0.38	0.00	2.22		
Queue Length 95th (ft)	0	0	0	748		
Control Delay (s)	0.0	0.0	0.0	615.0		
Lane LOS				F		
Approach Delay (s)	0.0		0.0	615.0		
Approach LOS				F		
Intersection Summary						
Average Delay			96.3			
Intersection Capacity Utilization			71.9%		ICU Level of Service	C
Analysis Period (min)			15			

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

PM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	622	385	0	694	448	2
Future Volume (vph)	622	385	0	694	448	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	30			30	30	
Link Distance (ft)	500			779	419	
Travel Time (s)	11.4			17.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.93	0.93
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	691	428	0	771	484	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

5: Meredith Center Rd & NH104

PM 2037 B
Timing Plan: NHDOT/City

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	622	385	0	694	448	2
Future Volume (Veh/h)	622	385	0	694	448	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.93	0.93
Hourly flow rate (vph)	691	428	0	771	482	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)						
pX, platoon unblocked						
vC, conflicting volume			691		1462	691
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			691		1462	691
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		0	100
cM capacity (veh/h)			895		143	446
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	691	428	771	484		
Volume Left	0	0	0	482		
Volume Right	0	428	0	2		
cSH	1700	1700	895	143		
Volume to Capacity	0.41	0.25	0.00	3.39		
Queue Length 95th (ft)	0	0	0	Err		
Control Delay (s)	0.0	0.0	0.0	Err		
Lane LOS				F		
Approach Delay (s)	0.0		0.0	Err		
Approach LOS				F		
Intersection Summary						
Average Delay			2038.5			
Intersection Capacity Utilization			68.1%	ICU Level of Service		C
Analysis Period (min)			15			

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

SAT 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	589	385	3	566	323	0
Future Volume (vph)	589	385	3	566	323	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Link Speed (mph)	30			30	30	
Link Distance (ft)	500			779	419	
Travel Time (s)	11.4			17.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	654	428	0	632	359	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

5: Meredith Center Rd & NH104

SAT 2037 B
Timing Plan: NHDOT/City

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	589	385	3	566	323	0
Future Volume (Veh/h)	589	385	3	566	323	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	654	428	3	629	359	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			654		1289	654
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			654		1289	654
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		0	100
cM capacity (veh/h)			938		180	467
Direction, Lane #	EB 1	EB 2	WB 1	NB 1		
Volume Total	654	428	632	359		
Volume Left	0	0	3	359		
Volume Right	0	428	0	0		
cSH	1700	1700	938	180		
Volume to Capacity	0.38	0.25	0.00	1.99		
Queue Length 95th (ft)	0	0	0	682		
Control Delay (s)	0.0	0.0	0.1	509.1		
Lane LOS			A	F		
Approach Delay (s)	0.0		0.1	509.1		
Approach LOS				F		
Intersection Summary						
Average Delay			88.2			
Intersection Capacity Utilization			60.5%	ICU Level of Service		B
Analysis Period (min)			15			

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

AM 2037 B-MIT

Timing Plan: MIT

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	645	579	0	559	331	0
Future Volume (vph)	645	579	0	559	331	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	500			779	422	
Travel Time (s)	11.4			17.7	9.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	2%	2%	6%	6%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	717	643	0	621	368	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Turn Type	NA	Free		NA	Prot	
Protected Phases	2			6	3	
Permitted Phases		Free	6			
Detector Phase	2		6	6	3	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	8.0	
Minimum Split (s)	16.0		16.0	16.0	14.0	
Total Split (s)	36.0		36.0	36.0	24.0	
Total Split (%)	60.0%		60.0%	60.0%	40.0%	
Maximum Green (s)	30.0		30.0	30.0	18.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0			-2.0	-2.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Min		None	None	Min	
v/c Ratio	0.77	0.41		0.65	0.66	
Control Delay	17.3	0.8		13.5	22.6	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	17.3	0.8		13.5	22.6	
Queue Length 50th (ft)	175	0		138	106	
Queue Length 95th (ft)	304	0		237	193	
Internal Link Dist (ft)	420			699	342	
Turn Bay Length (ft)		380				

Lanes, Volumes, Timings 5: Meredith Center Rd & NH104

AM 2037 B-MIT
Timing Plan: MIT

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Base Capacity (vph)	1181	1553		1204	688	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.61	0.41		0.52	0.53	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 51.7
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Meredith Center Rd & NH104

→ Ø2	↖ Ø3
36 s	24 s
← Ø6	
36 s	

HCM Signalized Intersection Capacity Analysis

5: Meredith Center Rd & NH104

AM 2037 B-MIT
Timing Plan: MIT

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	645	579	0	559	331	0
Future Volume (vph)	645	579	0	559	331	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	2.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1827	1553		1863	1703	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1827	1553		1863	1703	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	717	643	0	621	368	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	717	643	0	621	368	0
Heavy Vehicles (%)	4%	4%	2%	2%	6%	6%
Turn Type	NA	Free		NA	Prot	
Protected Phases	2			6	3	
Permitted Phases		Free	6			
Actuated Green, G (s)	24.3	51.2		24.3	14.9	
Effective Green, g (s)	26.3	51.2		26.3	16.9	
Actuated g/C Ratio	0.51	1.00		0.51	0.33	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	938	1553		956	562	
v/s Ratio Prot	c0.39			0.33	c0.22	
v/s Ratio Perm		0.41				
v/c Ratio	0.76	0.41		0.65	0.65	
Uniform Delay, d1	10.0	0.0		9.1	14.7	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.8	0.8		1.5	2.7	
Delay (s)	13.7	0.8		10.6	17.4	
Level of Service	B	A		B	B	
Approach Delay (s)	7.6			10.6	17.4	
Approach LOS	A			B	B	
Intersection Summary						
HCM 2000 Control Delay			9.9		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.72			
Actuated Cycle Length (s)			51.2		Sum of lost time (s)	8.0
Intersection Capacity Utilization			59.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

PM 2037 B-MIT

Timing Plan: MIT

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	622	385	0	694	448	2
Future Volume (vph)	622	385	0	694	448	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	500			779	422	
Travel Time (s)	11.4			17.7	9.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.93	0.93
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	691	428	0	771	484	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Turn Type	NA	Free		NA	Prot	
Protected Phases	2			6	3	
Permitted Phases		Free	6			
Detector Phase	2		6	6	3	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	8.0	
Minimum Split (s)	16.0		16.0	16.0	14.0	
Total Split (s)	36.0		36.0	36.0	24.0	
Total Split (%)	60.0%		60.0%	60.0%	40.0%	
Maximum Green (s)	30.0		30.0	30.0	18.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0			-2.0	-2.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Min		None	None	Min	
v/c Ratio	0.73	0.27		0.82	0.80	
Control Delay	16.0	0.4		20.6	30.2	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	16.0	0.4		20.6	30.2	
Queue Length 50th (ft)	169	0		204	157	
Queue Length 95th (ft)	282	0		#409	#303	
Internal Link Dist (ft)	420			699	342	
Turn Bay Length (ft)		380				

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

PM 2037 B-MIT
Timing Plan: MIT

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Base Capacity (vph)	1077	1568		1066	653	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.64	0.27		0.72	0.74	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 55.8

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

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

Splits and Phases: 5: Meredith Center Rd & NH104

→ Ø2	↖ Ø3
36 s	24 s
← Ø6	
36 s	

HCM Signalized Intersection Capacity Analysis

5: Meredith Center Rd & NH104

PM 2037 B-MIT
Timing Plan: MIT

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	622	385	0	694	448	2
Future Volume (vph)	622	385	0	694	448	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	2.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1845	1568		1827	1791	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1845	1568		1827	1791	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.93	0.93
Adj. Flow (vph)	691	428	0	771	482	2
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	691	428	0	771	484	0
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Turn Type	NA	Free		NA	Prot	
Protected Phases	2			6	3	
Permitted Phases		Free	6			
Actuated Green, G (s)	26.7	55.6		26.7	16.9	
Effective Green, g (s)	28.7	55.6		28.7	18.9	
Actuated g/C Ratio	0.52	1.00		0.52	0.34	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	952	1568		943	608	
v/s Ratio Prot	0.37			c0.42	c0.27	
v/s Ratio Perm		0.27				
v/c Ratio	0.73	0.27		0.82	0.80	
Uniform Delay, d1	10.4	0.0		11.3	16.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	0.4		5.6	7.1	
Delay (s)	13.2	0.4		16.8	23.7	
Level of Service	B	A		B	C	
Approach Delay (s)	8.3			16.8	23.7	
Approach LOS	A			B	C	
Intersection Summary						
HCM 2000 Control Delay			14.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.81			
Actuated Cycle Length (s)			55.6		Sum of lost time (s)	8.0
Intersection Capacity Utilization			68.1%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

SAT 2037 B-MIT

Timing Plan: MIT

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	589	385	3	566	323	0
Future Volume (vph)	589	385	3	566	323	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	500			779	422	
Travel Time (s)	11.4			17.7	9.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	654	428	0	632	359	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		60	60		60	60
Turn Type	NA	Free	Perm	NA	Prot	
Protected Phases	2			6	3	
Permitted Phases		Free	6			
Detector Phase	2		6	6	3	
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	8.0	
Minimum Split (s)	16.0		16.0	16.0	14.0	
Total Split (s)	36.0		36.0	36.0	24.0	
Total Split (%)	60.0%		60.0%	60.0%	40.0%	
Maximum Green (s)	30.0		30.0	30.0	18.0	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0			-2.0	-2.0	
Total Lost Time (s)	4.0			4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	Min		None	None	Min	
v/c Ratio	0.70	0.27		0.68	0.61	
Control Delay	14.6	0.4		14.0	20.3	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	14.6	0.4		14.0	20.3	
Queue Length 50th (ft)	135	0		129	88	
Queue Length 95th (ft)	255	0		241	184	
Internal Link Dist (ft)	420			699	342	
Turn Bay Length (ft)		380				

Lanes, Volumes, Timings
5: Meredith Center Rd & NH104

SAT 2037 B-MIT
Timing Plan: MIT

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Base Capacity (vph)	1291	1599		1288	759	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.51	0.27		0.49	0.47	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 49.1
Natural Cycle: 45
Control Type: Actuated-Uncoordinated

Splits and Phases: 5: Meredith Center Rd & NH104

→ Ø2	↖ Ø3
36 s	24 s
↙ Ø6	
36 s	

HCM Signalized Intersection Capacity Analysis

5: Meredith Center Rd & NH104

SAT 2037 B-MIT

Timing Plan: MIT

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	589	385	3	566	323	0
Future Volume (vph)	589	385	3	566	323	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	2.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	1.00	1.00		1.00	0.95	
Satd. Flow (prot)	1881	1599		1881	1770	
Flt Permitted	1.00	1.00		1.00	0.95	
Satd. Flow (perm)	1881	1599		1876	1770	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	654	428	3	629	359	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	654	428	0	632	359	0
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Turn Type	NA	Free	Perm	NA	Prot	
Protected Phases	2			6	3	
Permitted Phases		Free	6			
Actuated Green, G (s)	22.3	48.5		22.3	14.2	
Effective Green, g (s)	24.3	48.5		24.3	16.2	
Actuated g/C Ratio	0.50	1.00		0.50	0.33	
Clearance Time (s)	6.0			6.0	6.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	942	1599		939	591	
v/s Ratio Prot	c0.35				c0.20	
v/s Ratio Perm		0.27		0.34		
v/c Ratio	0.69	0.27		0.67	0.61	
Uniform Delay, d1	9.3	0.0		9.1	13.5	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.4		1.9	1.8	
Delay (s)	11.5	0.4		11.0	15.3	
Level of Service	B	A		B	B	
Approach Delay (s)	7.1			11.0	15.3	
Approach LOS	A			B	B	
Intersection Summary						
HCM 2000 Control Delay			9.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.66			
Actuated Cycle Length (s)			48.5		Sum of lost time (s)	8.0
Intersection Capacity Utilization			56.7%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

ATTACHMENT F

Intersection #1: Synchro (AM/PM/SAT)

2037 No-Build

2037 Build

Lanes, Volumes, Timings
1: Parade Rd (NH106) & Lane Rd/Severance Rd

AM 2037 NB
Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	0	2	1	1	9	446	0	1	545	3
Future Volume (vph)	3	0	0	2	1	1	9	446	0	1	545	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2772			1707			2280			15520	
Travel Time (s)		63.0			38.8			51.8			352.7	
Peak Hour Factor	0.90	0.90	0.90	1.00	1.00	1.00	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	4	0	0	506	0	0	610	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

1: Parade Rd (NH106) & Lane Rd/Severance Rd

AM 2037 NB
Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	0	2	1	1	9	446	0	1	545	3
Future Volume (Veh/h)	3	0	0	2	1	1	9	446	0	1	545	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	1.00	1.00	1.00	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	3	0	0	2	1	1	10	496	0	1	606	3
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	1127	1126	608	1126	1127	496	609			496		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1127	1126	608	1126	1127	496	609			496		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	99	100	100	99			100		
cM capacity (veh/h)	179	203	496	181	202	574	955			1063		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	3	4	506	610								
Volume Left	3	2	10	1								
Volume Right	0	1	0	3								
cSH	179	225	955	1063								
Volume to Capacity	0.02	0.02	0.01	0.00								
Queue Length 95th (ft)	1	1	1	0								
Control Delay (s)	25.4	21.3	0.3	0.0								
Lane LOS	D	C	A	A								
Approach Delay (s)	25.4	21.3	0.3	0.0								
Approach LOS	D	C										
Intersection Summary												
Average Delay			0.3									
Intersection Capacity Utilization			40.3%		ICU Level of Service					A		
Analysis Period (min)			15									

Lanes, Volumes, Timings
1: Parade Rd (NH106) & Lane Rd/Severance Rd

PM 2037 NB
Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	7	1	0	0	3	589	1	0	561	3
Future Volume (vph)	0	0	7	1	0	0	3	589	1	0	561	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2772			1707			2280			15520	
Travel Time (s)		63.0			38.8			51.8			352.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	0	1	0	0	658	0	0	613	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

1: Parade Rd (NH106) & Lane Rd/Severance Rd

PM 2037 NB
Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	7	1	0	0	3	589	1	0	561	3
Future Volume (Veh/h)	0	0	7	1	0	0	3	589	1	0	561	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	8	1	0	0	3	654	1	0	610	3
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	1272	1272	612	1280	1274	654	613			655		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1272	1272	612	1280	1274	654	613			655		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	98	99	100	100	100			100		
cM capacity (veh/h)	144	167	493	140	167	466	966			932		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	8	1	658	613								
Volume Left	0	1	3	0								
Volume Right	8	0	1	3								
cSH	493	140	966	932								
Volume to Capacity	0.02	0.01	0.00	0.00								
Queue Length 95th (ft)	1	1	0	0								
Control Delay (s)	12.4	30.9	0.1	0.0								
Lane LOS	B	D	A									
Approach Delay (s)	12.4	30.9	0.1	0.0								
Approach LOS	B	D										
Intersection Summary												
Average Delay			0.1									
Intersection Capacity Utilization			43.4%		ICU Level of Service					A		
Analysis Period (min)			15									

Lanes, Volumes, Timings

1: Parade Rd (NH106) & Lane Rd/Severance Rd

SAT 2037 NB

Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	7	1	0	2	7	378	2	0	338	3
Future Volume (vph)	2	0	7	1	0	2	7	378	2	0	338	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2772			1707			2280			15520	
Travel Time (s)		63.0			38.8			51.8			352.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	3	0	0	421	0	0	379	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

1: Parade Rd (NH106) & Lane Rd/Severance Rd

SAT 2037 NB
Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	7	1	0	2	7	378	2	0	338	3
Future Volume (Veh/h)	2	0	7	1	0	2	7	378	2	0	338	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	2	0	8	1	0	2	8	411	2	0	376	3
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	808	806	378	814	807	412	379			413		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	808	806	378	814	807	412	379			413		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	99	100	100	100	99			100		
cM capacity (veh/h)	297	313	669	292	313	640	1179			1151		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	10	3	421	379								
Volume Left	2	1	8	0								
Volume Right	8	2	2	3								
cSH	535	458	1179	1151								
Volume to Capacity	0.02	0.01	0.01	0.00								
Queue Length 95th (ft)	1	0	1	0								
Control Delay (s)	11.9	12.9	0.2	0.0								
Lane LOS	B	B	A									
Approach Delay (s)	11.9	12.9	0.2	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			0.3									
Intersection Capacity Utilization			35.6%		ICU Level of Service					A		
Analysis Period (min)			15									

Lanes, Volumes, Timings

AM 2037 B

1: Parade Rd (NH106) & Lane Rd/Severance Rd

Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	0	0	2	1	1	9	595	0	1	722	30
Future Volume (vph)	14	0	0	2	1	1	9	595	0	1	722	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2772			1707			2280			15520	
Travel Time (s)		63.0			38.8			51.8			352.7	
Peak Hour Factor	0.90	0.90	0.90	1.00	1.00	1.00	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	4	0	0	671	0	0	836	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

AM 2037 B

1: Parade Rd (NH106) & Lane Rd/Severance Rd

Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	0	2	1	1	9	595	0	1	722	30
Future Volume (Veh/h)	14	0	0	2	1	1	9	595	0	1	722	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	1.00	1.00	1.00	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	16	0	0	2	1	1	10	661	0	1	802	33
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	1503	1502	818	1502	1518	661	835			661		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1503	1502	818	1502	1518	661	835			661		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	100	98	99	100	99			100		
cM capacity (veh/h)	98	120	376	99	117	462	786			923		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	16	4	671	836								
Volume Left	16	2	10	1								
Volume Right	0	1	0	33								
cSH	98	130	786	923								
Volume to Capacity	0.16	0.03	0.01	0.00								
Queue Length 95th (ft)	14	2	1	0								
Control Delay (s)	48.8	33.7	0.3	0.0								
Lane LOS	E	D	A	A								
Approach Delay (s)	48.8	33.7	0.3	0.0								
Approach LOS	E	D										
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization			50.4%		ICU Level of Service					A		
Analysis Period (min)			15									

Lanes, Volumes, Timings

PM 2037 B

1: Parade Rd (NH106) & Lane Rd/Severance Rd

Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	0	7	1	0	0	3	775	1	0	730	18
Future Volume (vph)	22	0	7	1	0	0	3	775	1	0	730	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2772			1707			2280			15520	
Travel Time (s)		63.0			38.8			51.8			352.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	1	0	0	865	0	0	813	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

PM 2037 B

1: Parade Rd (NH106) & Lane Rd/Severance Rd

Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	7	1	0	0	3	775	1	0	730	18
Future Volume (Veh/h)	22	0	7	1	0	0	3	775	1	0	730	18
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Hourly flow rate (vph)	24	0	8	1	0	0	3	861	1	0	793	20
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	1670	1671	803	1678	1680	862	813			862		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1670	1671	803	1678	1680	862	813			862		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	100	98	99	100	100	100			100		
cM capacity (veh/h)	76	96	383	74	94	355	814			780		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	32	1	865	813								
Volume Left	24	1	3	0								
Volume Right	8	0	1	20								
cSH	95	74	814	780								
Volume to Capacity	0.34	0.01	0.00	0.00								
Queue Length 95th (ft)	33	1	0	0								
Control Delay (s)	60.9	54.6	0.1	0.0								
Lane LOS	F	F	A									
Approach Delay (s)	60.9	54.6	0.1	0.0								
Approach LOS	F	F										
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			53.2%		ICU Level of Service					A		
Analysis Period (min)			15									

Lanes, Volumes, Timings

1: Parade Rd (NH106) & Lane Rd/Severance Rd

SAT 2037 B

Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	0	7	1	0	2	7	566	2	0	534	44
Future Volume (vph)	40	0	7	1	0	2	7	566	2	0	534	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2772			1707			2280			15520	
Travel Time (s)		63.0			38.8			51.8			352.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	52	0	0	3	0	0	625	0	0	642	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

1: Parade Rd (NH106) & Lane Rd/Severance Rd

SAT 2037 B

Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	7	1	0	2	7	566	2	0	534	44
Future Volume (Veh/h)	40	0	7	1	0	2	7	566	2	0	534	44
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	44	0	8	1	0	2	8	615	2	0	593	49
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	1252	1250	618	1258	1274	616	642			617		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1252	1250	618	1258	1274	616	642			617		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	70	100	98	99	100	100	99			100		
cM capacity (veh/h)	148	171	490	144	166	491	943			968		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	52	3	625	642								
Volume Left	44	1	8	0								
Volume Right	8	2	2	49								
cSH	165	273	943	968								
Volume to Capacity	0.31	0.01	0.01	0.00								
Queue Length 95th (ft)	32	1	1	0								
Control Delay (s)	36.4	18.3	0.2	0.0								
Lane LOS	E	C	A									
Approach Delay (s)	36.4	18.3	0.2	0.0								
Approach LOS	E	C										
Intersection Summary												
Average Delay			1.6									
Intersection Capacity Utilization			48.0%		ICU Level of Service					A		
Analysis Period (min)			15									

ATTACHMENT G

Intersection #9: Synchro (AM/PM/SAT)

2037 No-Build

2037 Build

2037 Build Mit

Lanes, Volumes, Timings
9: Parade Rd (NH106) & Roller Coaster Rd

AM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	42	62	445	21	107	469
Future Volume (vph)	42	62	445	21	107	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		30			30
Link Distance (ft)	6390		15520			11474
Travel Time (s)	145.2		352.7			260.8
Peak Hour Factor	0.94	0.94	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	517	0	0	640
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

9: Parade Rd (NH106) & Roller Coaster Rd

AM 2037 NB
Timing Plan: NHDOT/City

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	42	62	445	21	107	469
Future Volume (Veh/h)	42	62	445	21	107	469
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	45	66	494	23	119	521
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	1264	506			517	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1264	506			517	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	73	88			89	
cM capacity (veh/h)	165	565			1044	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	111	517	640			
Volume Left	45	0	119			
Volume Right	66	23	0			
cSH	285	1700	1044			
Volume to Capacity	0.39	0.30	0.11			
Queue Length 95th (ft)	44	0	10			
Control Delay (s)	25.5	0.0	2.8			
Lane LOS	D		A			
Approach Delay (s)	25.5	0.0	2.8			
Approach LOS	D					
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			71.4%	ICU Level of Service		C
Analysis Period (min)			15			

Lanes, Volumes, Timings
9: Parade Rd (NH106) & Roller Coaster Rd

PM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	46	77	533	63	93	496
Future Volume (vph)	46	77	533	63	93	496
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		30			30
Link Distance (ft)	6390		15520			11474
Travel Time (s)	145.2		352.7			260.8
Peak Hour Factor	0.90	0.90	0.94	0.94	0.91	0.91
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	137	0	634	0	0	647
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

9: Parade Rd (NH106) & Roller Coaster Rd

PM 2037 NB
Timing Plan: NHDOT/City

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	46	77	533	63	93	496
Future Volume (Veh/h)	46	77	533	63	93	496
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.94	0.94	0.91	0.91
Hourly flow rate (vph)	51	86	567	67	102	545
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	1350	600			634	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1350	600			634	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	65	83			89	
cM capacity (veh/h)	148	499			954	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	137	634	647			
Volume Left	51	0	102			
Volume Right	86	67	0			
cSH	264	1700	954			
Volume to Capacity	0.52	0.37	0.11			
Queue Length 95th (ft)	69	0	9			
Control Delay (s)	32.4	0.0	2.7			
Lane LOS	D		A			
Approach Delay (s)	32.4	0.0	2.7			
Approach LOS	D					
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			80.4%	ICU Level of Service		D
Analysis Period (min)			15			

Lanes, Volumes, Timings
9: Parade Rd (NH106) & Roller Coaster Rd

SAT 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	81	304	70	104	302
Future Volume (vph)	30	81	304	70	104	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		30			30
Link Distance (ft)	6390		15520			11474
Travel Time (s)	145.2		352.7			260.8
Peak Hour Factor	0.93	0.93	0.92	0.92	0.90	0.90
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	0	406	0	0	452
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

9: Parade Rd (NH106) & Roller Coaster Rd

SAT 2037 NB
Timing Plan: NHDOT/City

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	81	304	70	104	302
Future Volume (Veh/h)	30	81	304	70	104	302
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.92	0.92	0.90	0.90
Hourly flow rate (vph)	32	87	330	76	116	336
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	936	368			406	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	936	368			406	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	87			90	
cM capacity (veh/h)	265	677			1158	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	119	406	452			
Volume Left	32	0	116			
Volume Right	87	76	0			
cSH	477	1700	1158			
Volume to Capacity	0.25	0.24	0.10			
Queue Length 95th (ft)	24	0	8			
Control Delay (s)	15.0	0.0	3.0			
Lane LOS	C		A			
Approach Delay (s)	15.0	0.0	3.0			
Approach LOS	C					
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			58.5%	ICU Level of Service		B
Analysis Period (min)			15			

Lanes, Volumes, Timings
9: Parade Rd (NH106) & Roller Coaster Rd

AM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	93	62	545	72	107	601
Future Volume (vph)	93	62	545	72	107	601
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		30			30
Link Distance (ft)	6390		15520			11474
Travel Time (s)	145.2		352.7			260.8
Peak Hour Factor	0.94	0.94	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	0	686	0	0	787
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

9: Parade Rd (NH106) & Roller Coaster Rd

AM 2037 B
Timing Plan: NHDOT/City

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	93	62	545	72	107	601
Future Volume (Veh/h)	93	62	545	72	107	601
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	99	66	606	80	119	668
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	1552	646			686	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1552	646			686	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	8	86			87	
cM capacity (veh/h)	108	470			903	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	165	686	787			
Volume Left	99	0	119			
Volume Right	66	80	0			
cSH	156	1700	903			
Volume to Capacity	1.06	0.40	0.13			
Queue Length 95th (ft)	211	0	11			
Control Delay (s)	147.0	0.0	3.2			
Lane LOS	F		A			
Approach Delay (s)	147.0	0.0	3.2			
Approach LOS	F					
Intersection Summary						
Average Delay			16.4			
Intersection Capacity Utilization			89.5%	ICU Level of Service		E
Analysis Period (min)			15			

Lanes, Volumes, Timings
9: Parade Rd (NH106) & Roller Coaster Rd

PM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	96	77	647	112	93	601
Future Volume (vph)	96	77	647	112	93	601
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		30			30
Link Distance (ft)	6390		15520			11474
Travel Time (s)	145.2		352.7			260.8
Peak Hour Factor	0.90	0.90	0.94	0.94	0.91	0.91
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	193	0	807	0	0	762
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

9: Parade Rd (NH106) & Roller Coaster Rd

PM 2037 B
Timing Plan: NHDOT/City

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	96	77	647	112	93	601
Future Volume (Veh/h)	96	77	647	112	93	601
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.94	0.94	0.91	0.91
Hourly flow rate (vph)	107	86	688	119	102	660
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	1612	748			807	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1612	748			807	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	79			88	
cM capacity (veh/h)	100	411			822	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	193	807	762			
Volume Left	107	0	102			
Volume Right	86	119	0			
cSH	151	1700	822			
Volume to Capacity	1.28	0.47	0.12			
Queue Length 95th (ft)	288	0	11			
Control Delay (s)	224.7	0.0	3.1			
Lane LOS	F		A			
Approach Delay (s)	224.7	0.0	3.1			
Approach LOS	F					
Intersection Summary						
Average Delay			25.9			
Intersection Capacity Utilization			97.7%	ICU Level of Service		F
Analysis Period (min)			15			

Lanes, Volumes, Timings
9: Parade Rd (NH106) & Roller Coaster Rd

SAT 2037 B
Timing Plan: NHDOT/City

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	87	81	437	124	104	441
Future Volume (vph)	87	81	437	124	104	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30		30			30
Link Distance (ft)	6390		15520			11474
Travel Time (s)	145.2		352.7			260.8
Peak Hour Factor	0.93	0.93	0.92	0.92	0.90	0.90
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	181	0	610	0	0	606
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

9: Parade Rd (NH106) & Roller Coaster Rd

SAT 2037 B
Timing Plan: NHDOT/City

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	87	81	437	124	104	441
Future Volume (Veh/h)	87	81	437	124	104	441
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.92	0.92	0.90	0.90
Hourly flow rate (vph)	94	87	475	135	116	490
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	1264	542			610	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1264	542			610	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	43	84			88	
cM capacity (veh/h)	165	540			974	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	181	610	606			
Volume Left	94	0	116			
Volume Right	87	135	0			
cSH	247	1700	974			
Volume to Capacity	0.73	0.36	0.12			
Queue Length 95th (ft)	127	0	10			
Control Delay (s)	51.1	0.0	3.0			
Lane LOS	F		A			
Approach Delay (s)	51.1	0.0	3.0			
Approach LOS	F					
Intersection Summary						
Average Delay			7.9			
Intersection Capacity Utilization			79.3%	ICU Level of Service		D
Analysis Period (min)			15			

Lanes, Volumes, Timings
9: Parade Rd (NH106) & Roller Coaster Rd

AM 2037 B-MIT
Timing Plan: MIT

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	93	62	545	72	107	601
Future Volume (vph)	93	62	545	72	107	601
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	275		290	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				75	
Link Speed (mph)	30		30			30
Link Distance (ft)	6390		15520			11598
Travel Time (s)	145.2		352.7			263.6
Peak Hour Factor	0.94	0.94	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	6%	6%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	66	606	80	119	668
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

9: Parade Rd (NH106) & Roller Coaster Rd

AM 2037 B-MIT
Timing Plan: MIT

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	93	62	545	72	107	601
Future Volume (Veh/h)	93	62	545	72	107	601
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	99	66	606	80	119	668
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		11				
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1512	606			686	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1512	606			686	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	13	87			87	
cM capacity (veh/h)	114	495			903	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	165	606	80	119	668	
Volume Left	99	0	0	119	0	
Volume Right	66	0	80	0	0	
cSH	190	1700	1700	903	1700	
Volume to Capacity	0.87	0.36	0.05	0.13	0.39	
Queue Length 95th (ft)	161	0	0	11	0	
Control Delay (s)	78.4	0.0	0.0	9.6	0.0	
Lane LOS	F			A		
Approach Delay (s)	78.4	0.0		1.5		
Approach LOS	F					
Intersection Summary						
Average Delay			8.6			
Intersection Capacity Utilization			49.8%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
9: Parade Rd (NH106) & Roller Coaster Rd

PM 2037 B-MIT
Timing Plan: MIT

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	96	77	647	112	93	601
Future Volume (vph)	96	77	647	112	93	601
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	275		290	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				75	
Link Speed (mph)	30		30			30
Link Distance (ft)	6390		15520			11598
Travel Time (s)	145.2		352.7			263.6
Peak Hour Factor	0.90	0.90	0.94	0.94	0.91	0.91
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	107	86	688	119	102	660
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

9: Parade Rd (NH106) & Roller Coaster Rd

PM 2037 B-MIT
Timing Plan: MIT

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	96	77	647	112	93	601
Future Volume (Veh/h)	96	77	647	112	93	601
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.94	0.94	0.91	0.91
Hourly flow rate (vph)	107	86	688	119	102	660
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		11				
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1552	688			807	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1552	688			807	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	2	81			88	
cM capacity (veh/h)	109	445			822	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	193	688	119	102	660	
Volume Left	107	0	0	102	0	
Volume Right	86	0	119	0	0	
cSH	196	1700	1700	822	1700	
Volume to Capacity	0.98	0.40	0.07	0.12	0.39	
Queue Length 95th (ft)	208	0	0	11	0	
Control Delay (s)	92.9	0.0	0.0	10.0	0.0	
Lane LOS	F			A		
Approach Delay (s)	92.9	0.0		1.3		
Approach LOS	F					
Intersection Summary						
Average Delay			10.8			
Intersection Capacity Utilization			54.5%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
9: Parade Rd (NH106) & Roller Coaster Rd

SAT 2037 B-MIT
Timing Plan: MIT

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	87	81	437	124	104	441
Future Volume (vph)	87	81	437	124	104	441
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	275		290	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				75	
Link Speed (mph)	30		30			30
Link Distance (ft)	6390		15520			11598
Travel Time (s)	145.2		352.7			263.6
Peak Hour Factor	0.93	0.93	0.92	0.92	0.90	0.90
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	87	475	135	116	490
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60		60	60	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

HCM Unsignalized Intersection Capacity Analysis

9: Parade Rd (NH106) & Roller Coaster Rd

SAT 2037 B-MIT

Timing Plan: MIT

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	87	81	437	124	104	441
Future Volume (Veh/h)	87	81	437	124	104	441
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.92	0.92	0.90	0.90
Hourly flow rate (vph)	94	87	475	135	116	490
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		11				
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1197	475			610	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1197	475			610	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	48	85			88	
cM capacity (veh/h)	181	590			974	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	181	475	135	116	490	
Volume Left	94	0	0	116	0	
Volume Right	87	0	135	0	0	
cSH	348	1700	1700	974	1700	
Volume to Capacity	0.52	0.28	0.08	0.12	0.29	
Queue Length 95th (ft)	71	0	0	10	0	
Control Delay (s)	29.0	0.0	0.0	9.2	0.0	
Lane LOS	D			A		
Approach Delay (s)	29.0	0.0		1.8		
Approach LOS	D					
Intersection Summary						
Average Delay			4.5			
Intersection Capacity Utilization			43.6%	ICU Level of Service		A
Analysis Period (min)			15			

ATTACHMENT H

Intersection #8: SIDRA (AM/PM/SAT)

2037 No-Build

2037 Build

TFM SIDRA REPORT



Site: [8] 8-Parade Rd Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

NA

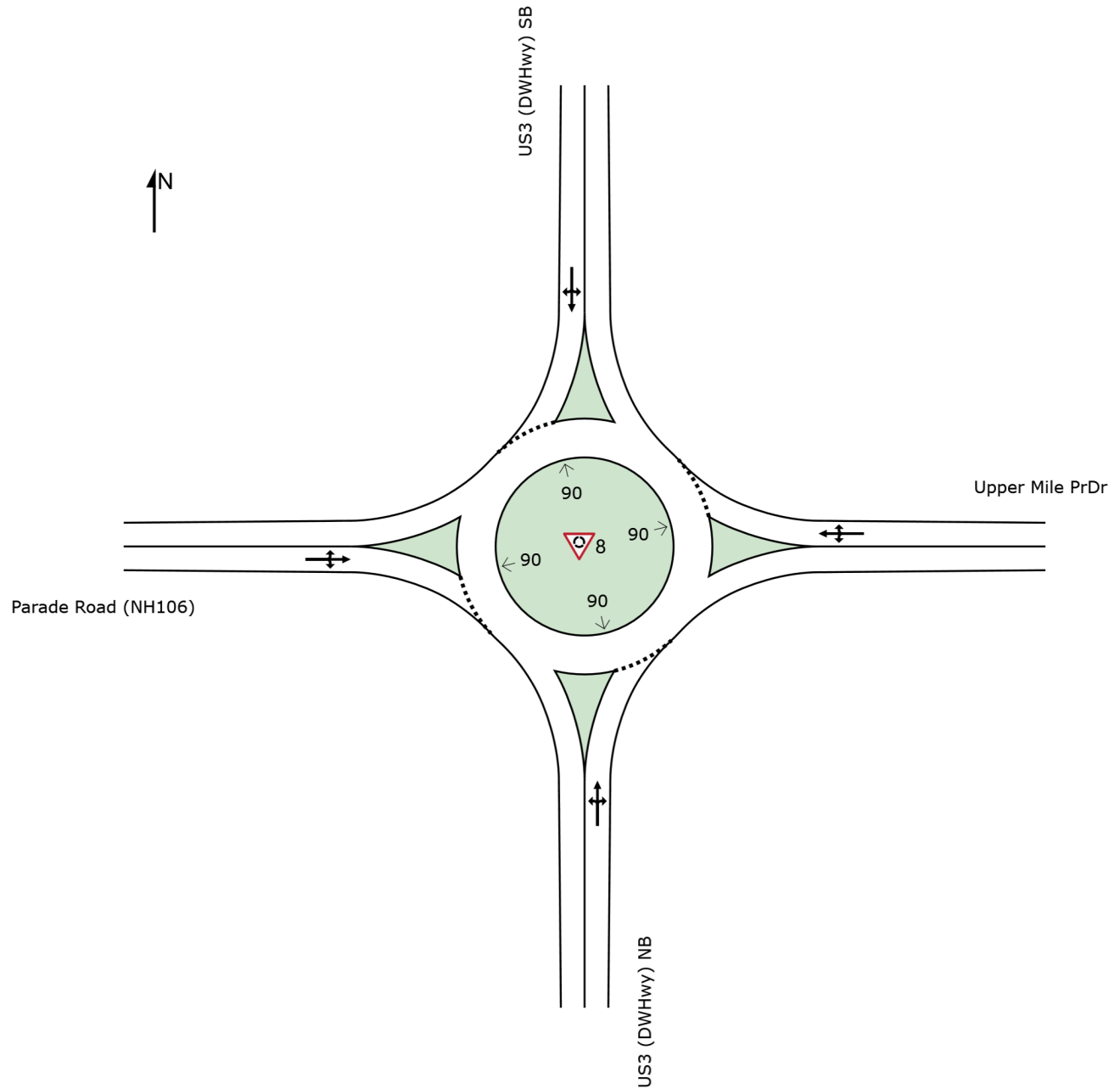
Site Category: (None)

Roundabout

Site Scenario: 5 | AM 2037 NB - 8 STATE

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total	HV]	[Total	HV]						[Veh	Dist]				
	veh/h	%	veh/h	%						veh/h	v/c				
South: US3 (DWHwy) NB															
Lane 1 ^d	505	6.0	505	6.0	656	0.770	100	24.8	LOS C	8.0	209.8	Full	1600	0.0	0.0
Approach	505	6.0	505	6.0		0.770		24.8	LOS C	8.0	209.8				
East: Upper Mile PrDr															
Lane 1 ^d	24	2.0	24	2.0	409	0.058	100	9.6	LOS A	0.2	5.0	Full	1600	0.0	0.0
Approach	24	2.0	24	2.0		0.058		9.6	LOS A	0.2	5.0				
North: US3 (DWHwy) SB															
Lane 1 ^d	768	5.0	768	5.0	1273	0.603	100	8.7	LOS A	5.8	149.9	Full	1600	0.0	0.0
Approach	768	5.0	768	5.0		0.603		8.7	LOS A	5.8	149.9				
West: Parade Road (NH106)															
Lane 1 ^d	631	4.0	631	4.0	840	0.751	100	19.3	LOS C	10.8	277.8	Full	1600	0.0	0.0
Approach	631	4.0	631	4.0		0.751		19.3	LOS C	10.8	277.8				
All Vehicles	1928	4.9	1928	4.9		0.770		16.4	LOS C	10.8	277.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

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Project: F:\TFM Projects\96126 Legacy at Laconia - Laconia, NH\96126-01 Pillsbury - NH State School Due Diligence\Traffic\SIDRA\96126-01 ROUNDABOUT.sipx

TFM SIDRA REPORT



Site: [8] 8-Parade Rd Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

NA

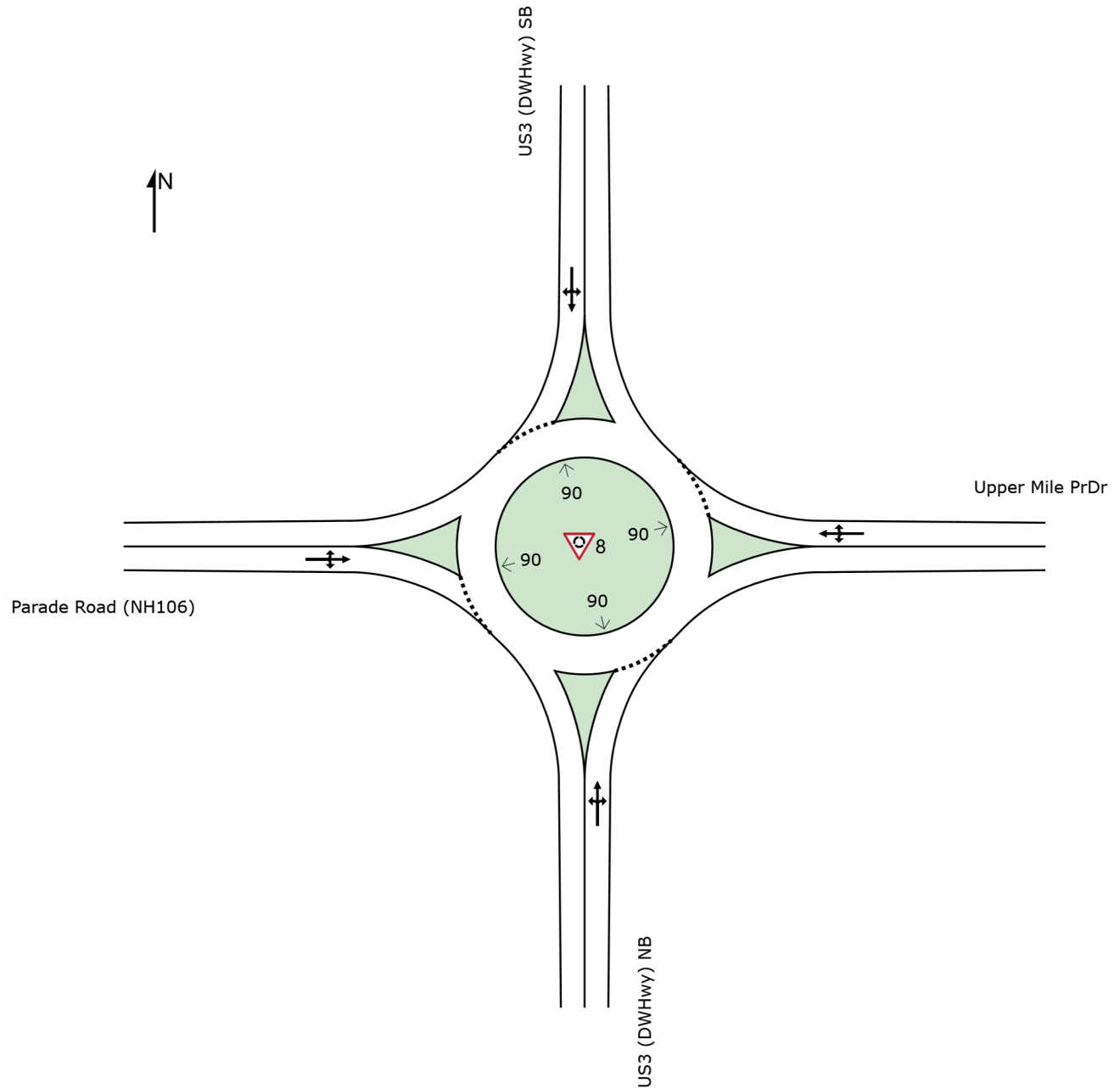
Site Category: (None)

Roundabout

Site Scenario: 6 | PM 2037 NB - 8 STATE

Site Layout

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Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total	HV]	[Total	HV]						[Veh	Dist]				
	veh/h	%	veh/h	%	veh/h	v/c	%	sec			ft		ft	%	%
South: US3 (DWHwy) NB															
Lane 1 ^d	583	1.0	583	1.0	832	0.701	100	17.0	LOS C	8.2	205.9	Full	1600	0.0	0.0
Approach	583	1.0	583	1.0		0.701		17.0	LOS C	8.2	205.9				
East: Upper Mile PrDr															
Lane 1 ^d	44	2.0	44	2.0	458	0.096	100	9.1	LOS A	0.3	8.6	Full	1600	0.0	0.0
Approach	44	2.0	44	2.0		0.096		9.1	LOS A	0.3	8.6				
North: US3 (DWHwy) SB															
Lane 1 ^d	973	4.0	973	4.0	1270	0.766	100	12.6	LOS B	11.5	296.5	Full	1600	0.0	0.0
Approach	973	4.0	973	4.0		0.766		12.6	LOS B	11.5	296.5				
West: Parade Road (NH106)															
Lane 1 ^d	475	1.0	475	1.0	751	0.633	100	15.6	LOS C	5.6	142.1	Full	1600	0.0	0.0
Approach	475	1.0	475	1.0		0.633		15.6	LOS C	5.6	142.1				
All Vehicles	2075	2.4	2075	2.4		0.766		14.4	LOS B	11.5	296.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

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Project: F:\TFM Projects\96126 Legacy at Laconia - Laconia, NH\96126-01 Pillsbury - NH State School Due Diligence\Traffic\SIDRA\96126-01 ROUNDABOUT.sipx

USER REPORT FOR SITE

TFM SIDRA REPORT



Site: [8] 8-Parade Rd Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

NA

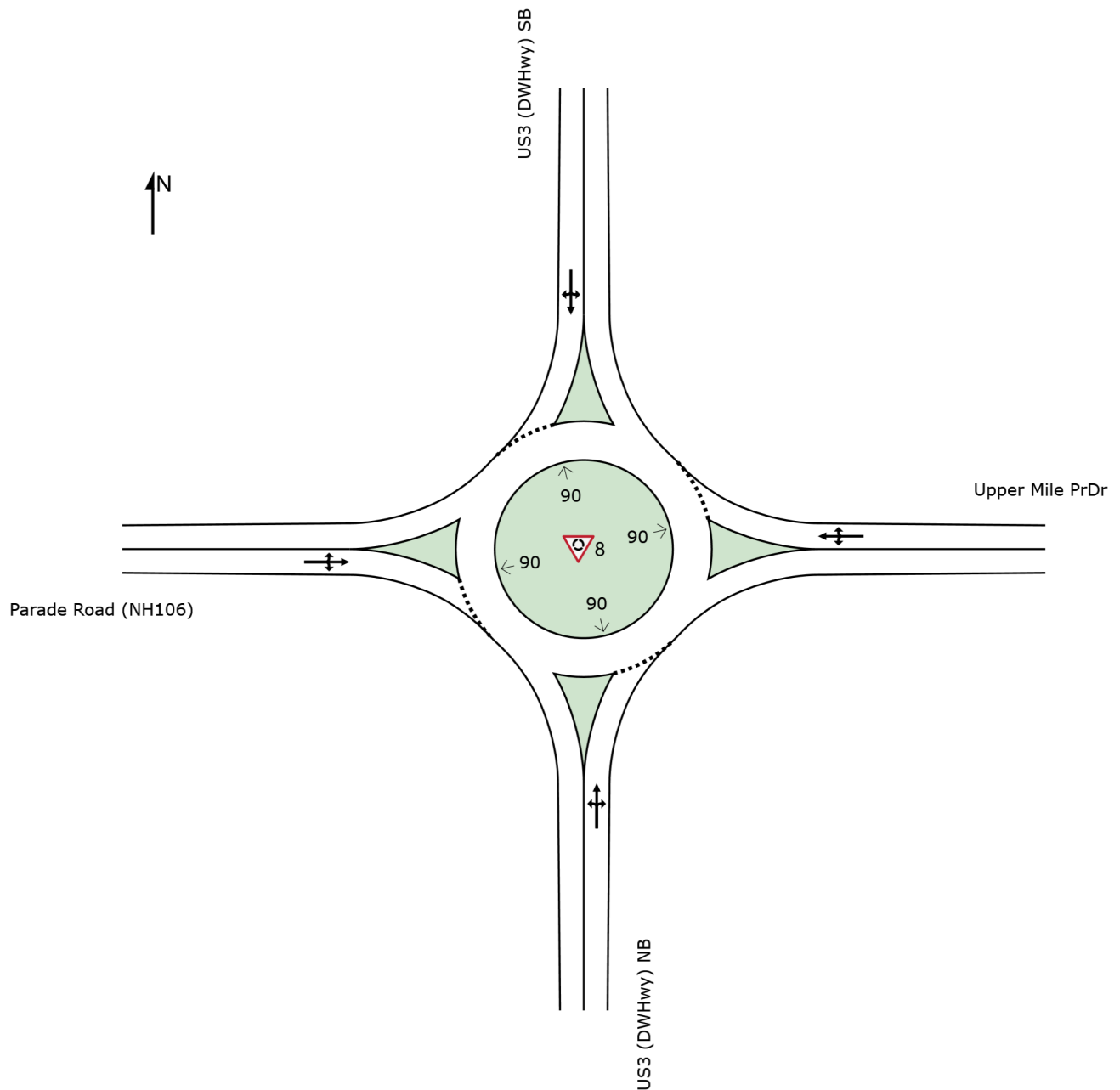
Site Category: (None)

Roundabout

Site Scenario: 7 | SAT 2037 NB - 8 STATE

Site Layout

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Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg.	Lane	Aver.	Level of	95% Back Of		Lane	Lane	Cap.	Prob.
	[Total	HV]	[Total	HV]		Satn	Util.	Delay	Service	Queue	Dist]	Config	Length	Adj.	Block.
	veh/h	%	veh/h	%		veh/h	v/c	%	sec		[Veh	ft		ft	%
South: US3 (DWHwy) NB															
Lane 1 ^d	621	2.0	621	2.0	969	0.641	100	13.0	LOS B	7.5	190.5	Full	1600	0.0	0.0
Approach	621	2.0	621	2.0		0.641		13.0	LOS B	7.5	190.5				
East: Upper Mile PrDr															
Lane 1 ^d	40	2.0	40	2.0	514	0.078	100	8.0	LOS A	0.3	7.1	Full	1600	0.0	0.0
Approach	40	2.0	40	2.0		0.078		8.0	LOS A	0.3	7.1				
North: US3 (DWHwy) SB															
Lane 1 ^d	867	2.0	867	2.0	1327	0.653	100	8.6	LOS A	7.5	189.3	Full	1600	0.0	0.0
Approach	867	2.0	867	2.0		0.653		8.6	LOS A	7.5	189.3				
West: Parade Road (NH106)															
Lane 1 ^d	322	2.0	322	2.0	713	0.452	100	11.3	LOS B	2.7	68.3	Full	1600	0.0	0.0
Approach	322	2.0	322	2.0		0.452		11.3	LOS B	2.7	68.3				
All Vehicles	1850	2.0	1850	2.0		0.653		10.5	LOS B	7.5	190.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

USER REPORT FOR SITE

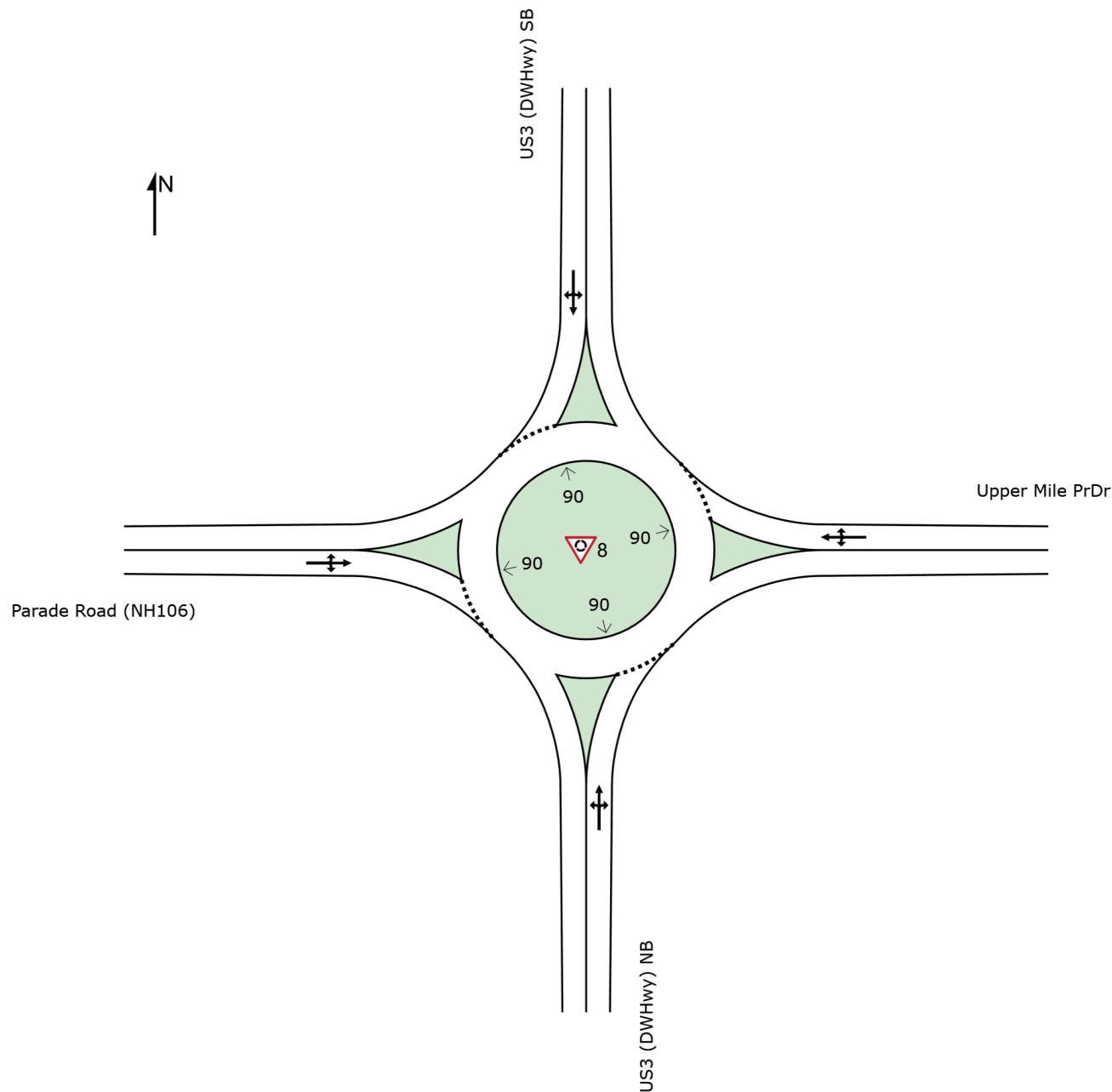
TFM SIDRA REPORT

 **Site: [8] Parade Rd Roundabout (STATE ROUNDABOUTS)**
Output produced by SIDRA INTERSECTION Version: 10.0.3.210

NA
Site Category: (None)
Roundabout
Site Scenario: 2 | AM 2037 BUILD - 8 STATE

Site Layout

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Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total	HV]	[Total	HV]						[Veh	Dist]				
	veh/h	%	veh/h	%						veh/h	v/c				
South: US3 (DWHwy) NB															
Lane 1 ^d	505	6.0	505	6.0	569	0.888	100	40.9	LOS E	10.7	281.1	Full	1600	0.0	0.0
Approach	505	6.0	505	6.0		0.888		40.9	LOS E	10.7	281.1				
East: Upper Mile PrDr															
Lane 1 ^d	24	2.0	24	2.0	356	0.067	100	11.1	LOS B	0.2	5.7	Full	1600	0.0	0.0
Approach	24	2.0	24	2.0		0.067		11.1	LOS B	0.2	5.7				
North: US3 (DWHwy) SB															
Lane 1 ^d	884	5.0	884	5.0	1273	0.694	100	10.3	LOS B	8.4	218.8	Full	1600	0.0	0.0
Approach	884	5.0	884	5.0		0.694		10.3	LOS B	8.4	218.8				
West: Parade Road (NH106)															
Lane 1 ^d	757	4.0	757	4.0	840	0.901	100	32.4	LOS D	21.6	556.5	Full	1600	0.0	0.0
Approach	757	4.0	757	4.0		0.901		32.4	LOS D	21.6	556.5				
All Vehicles	2170	4.9	2170	4.9		0.901		25.1	LOS D	21.6	556.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

USER REPORT FOR SITE

TFM SIDRA REPORT



Site: [8] Parade Rd Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

NA

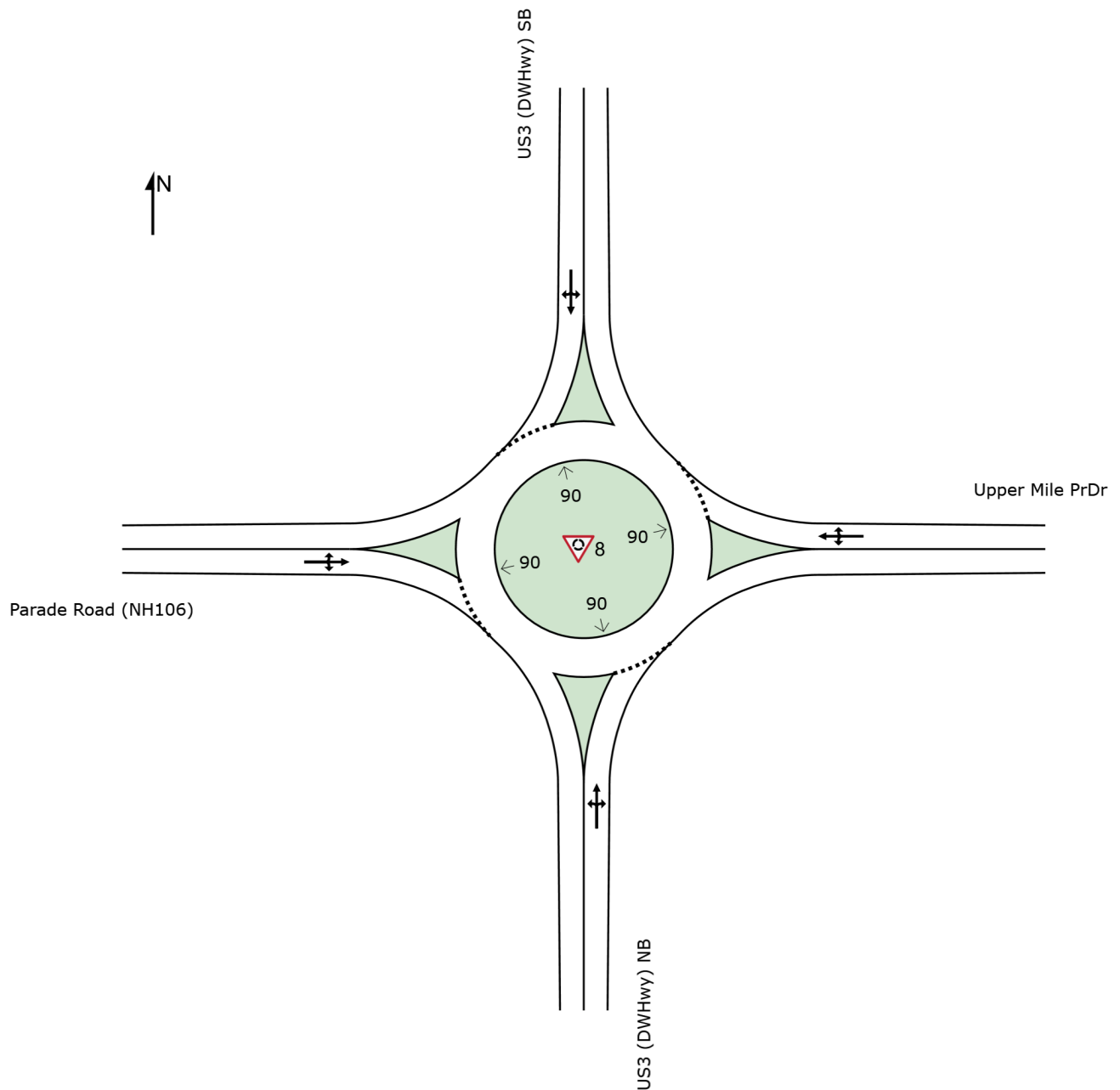
Site Category: (None)

Roundabout

Site Scenario: 3 | PM 2037 BUILD - 8 STATE

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total	HV]	[Total	HV]						[Veh	Dist]				
	veh/h	%	veh/h	%						veh/h	v/c				
South: US3 (DWHwy) NB															
Lane 1 ^d	583	1.0	583	1.0	730	0.798	100	24.9	LOS C	10.1	253.9	Full	1600	0.0	0.0
Approach	583	1.0	583	1.0		0.798		24.9	LOS C	10.1	253.9				
East: Upper Mile PrDr															
Lane 1 ^d	44	2.0	44	2.0	401	0.110	100	10.6	LOS B	0.4	9.6	Full	1600	0.0	0.0
Approach	44	2.0	44	2.0		0.110		10.6	LOS B	0.4	9.6				
North: US3 (DWHwy) SB															
Lane 1 ^d	1081	4.0	1081	4.0	1270	0.851	100	15.6	LOS C	18.3	471.9	Full	1600	0.0	0.0
Approach	1081	4.0	1081	4.0		0.851		15.6	LOS C	18.3	471.9				
West: Parade Road (NH106)															
Lane 1 ^d	601	1.0	601	1.0	752	0.799	100	24.4	LOS C	10.7	270.6	Full	1600	0.0	0.0
Approach	601	1.0	601	1.0		0.799		24.4	LOS C	10.7	270.6				
All Vehicles	2309	2.4	2309	2.4		0.851		20.1	LOS C	18.3	471.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

USER REPORT FOR SITE

TFM SIDRA REPORT



Site: [8] 8-Parade Rd Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

NA

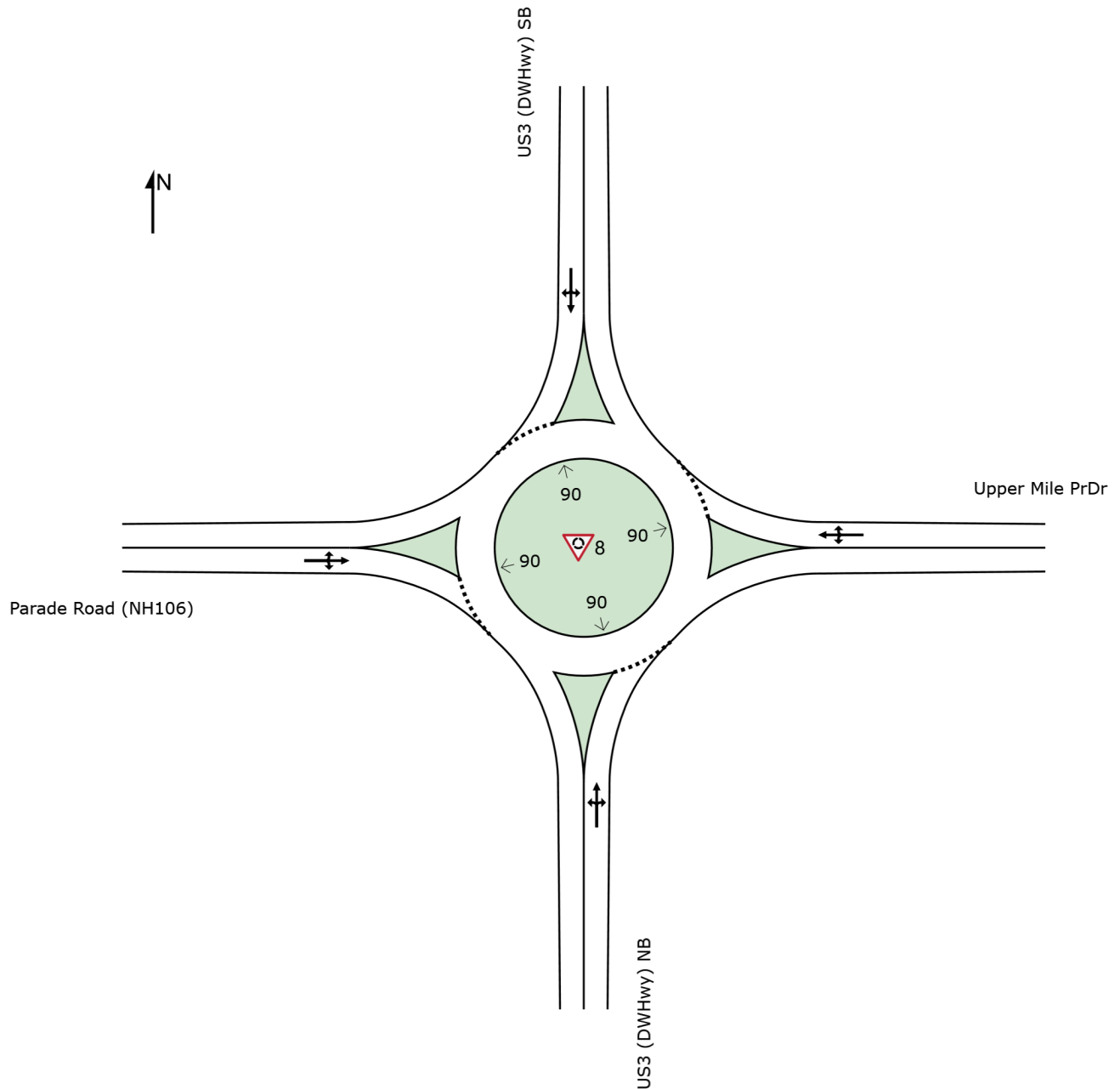
Site Category: (None)

Roundabout

Site Scenario: 4 | SAT 2037 BUILD - 8 STATE

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Lane Use and Performance															
	Demand Flows		Arrival Flows		Cap.	Deg.	Lane	Aver.	Level of	95% Back Of		Lane	Lane	Cap.	Prob.
	[Total	HV]	[Total	HV]		Satn	Util.	Delay	Service	Queue	Dist]	Config	Length	Adj.	Block.
	veh/h	%	veh/h	%		veh/h	v/c	%	sec		[Veh	ft		ft	%
South: US3 (DWHwy) NB															
Lane 1 ^d	621	2.0	621	2.0	845	0.735	100	18.4	LOS C	9.7	246.4	Full	1600	0.0	0.0
Approach	621	2.0	621	2.0		0.735		18.4	LOS C	9.7	246.4				
East: Upper Mile PrDr															
Lane 1 ^d	40	2.0	40	2.0	447	0.089	100	9.3	LOS A	0.3	8.0	Full	1600	0.0	0.0
Approach	40	2.0	40	2.0		0.089		9.3	LOS A	0.3	8.0				
North: US3 (DWHwy) SB															
Lane 1 ^d	1000	2.0	1000	2.0	1327	0.754	100	10.1	LOS B	11.8	300.5	Full	1600	0.0	0.0
Approach	1000	2.0	1000	2.0		0.754		10.1	LOS B	11.8	300.5				
West: Parade Road (NH106)															
Lane 1 ^d	452	2.0	452	2.0	713	0.633	100	16.3	LOS C	5.4	138.2	Full	1600	0.0	0.0
Approach	452	2.0	452	2.0		0.633		16.3	LOS C	5.4	138.2				
All Vehicles	2113	2.0	2113	2.0		0.754		13.8	LOS B	11.8	300.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

ATTACHMENT I

Intersection #6 & #7: Synchro (AM/PM/SAT)

2037 No-Build

2037 Build

2037 Build Mit

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

AM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	127	1238	640	0
Future Volume (vph)	0	0	127	1238	640	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	1213			210	900	
Travel Time (s)	27.6			4.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	141	1376	711	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Detector Phase			2		1	
Switch Phase						
Minimum Initial (s)			8.0		10.0	
Minimum Split (s)			14.0		16.0	
Total Split (s)			41.0		41.0	
Total Split (%)			50.0%		50.0%	
Maximum Green (s)			35.0		35.0	
Yellow Time (s)			4.0		4.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-2.0		-2.0	
Total Lost Time (s)			4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			5.0		5.0	
Recall Mode			Min		C-Min	
v/c Ratio			0.19	0.76	0.26	
Control Delay			0.6	1.1	3.1	
Queue Delay			0.1	0.0	0.1	
Total Delay			0.7	1.1	3.2	
Queue Length 50th (ft)			0	0	38	
Queue Length 95th (ft)			m0	m0	67	
Internal Link Dist (ft)	1133			130	820	
Turn Bay Length (ft)						
Base Capacity (vph)			1115	1810	2721	
Starvation Cap Reductn			265	0	0	
Spillback Cap Reductn			0	0	934	

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

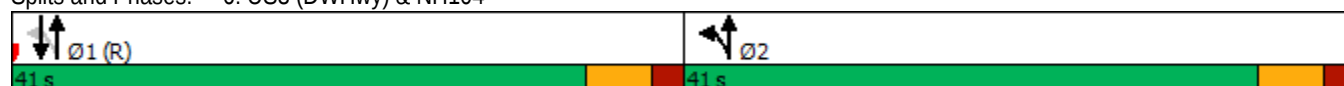
AM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.17	0.76	0.40	

Intersection Summary

Area Type: Other
 Cycle Length: 82
 Actuated Cycle Length: 82
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

6: US3 (DWHwy) & NH104

AM 2037 NB
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	127	1238	640	0
Future Volume (vph)	0	0	127	1238	640	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	
Lane Util. Factor			1.00	1.00	0.95	
Frt			1.00	1.00	1.00	
Flt Protected			0.95	1.00	1.00	
Satd. Flow (prot)			1719	1810	3539	
Flt Permitted			0.38	1.00	1.00	
Satd. Flow (perm)			680	1810	3539	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	141	1376	711	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	141	1376	711	0
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Actuated Green, G (s)			70.0	82.0	61.1	
Effective Green, g (s)			74.0	82.0	63.1	
Actuated g/C Ratio			0.90	1.00	0.77	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			5.0		5.0	
Lane Grp Cap (vph)			751	1810	2723	
v/s Ratio Prot			0.02	c0.76	0.20	
v/s Ratio Perm			0.14			
v/c Ratio			0.19	0.76	0.26	
Uniform Delay, d1			0.4	0.0	2.7	
Progression Factor			2.29	1.00	1.00	
Incremental Delay, d2			0.0	0.2	0.2	
Delay (s)			1.0	0.2	3.0	
Level of Service			A	A	A	
Approach Delay (s)	0.0			0.3	3.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			1.1	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.84			
Actuated Cycle Length (s)			82.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			108.6%	ICU Level of Service		G
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

AM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	510	148	0	847	636	0
Future Volume (vph)	510	148	0	847	636	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	575	600	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	75		25			
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	850			300	210	
Travel Time (s)	19.3			6.8	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	567	164	0	941	707	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			-10	12	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	60	60	60			60
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Detector Phase	2			1	1	
Switch Phase						
Minimum Initial (s)	8.0	8.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		16.0	16.0	
Total Split (s)	41.0	41.0		41.0	41.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Recall Mode	Min	Min		C-Min	C-Min	
v/c Ratio	0.87	0.25		1.20	0.47	
Control Delay	36.5	4.7		128.4	23.9	
Queue Delay	0.0	0.0		0.1	4.2	
Total Delay	36.5	4.7		128.5	28.0	
Queue Length 50th (ft)	245	7		~614	176	
Queue Length 95th (ft)	#435	41		#838	217	
Internal Link Dist (ft)	770			220	130	
Turn Bay Length (ft)	575	600				

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

AM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Base Capacity (vph)	684	664		781	1499	
Starvation Cap Reductn	0	0		0	694	
Spillback Cap Reductn	0	0		16	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.83	0.25		1.23	0.88	

Intersection Summary

Area Type: CBD

Cycle Length: 82

Actuated Cycle Length: 82

Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

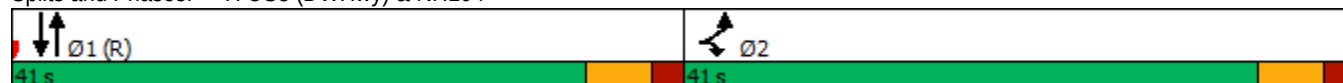
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 7: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

7: US3 (DWHwy) & NH104

AM 2037 NB
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	510	148	0	847	636	0
Future Volume (vph)	510	148	0	847	636	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1518	1358		1660	3185	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1518	1358		1660	3185	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	567	164	0	941	707	0
RTOR Reduction (vph)	0	78	0	0	0	0
Lane Group Flow (vph)	567	86	0	941	707	0
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Actuated Green, G (s)	33.4	33.4		36.6	36.6	
Effective Green, g (s)	35.4	35.4		38.6	38.6	
Actuated g/C Ratio	0.43	0.43		0.47	0.47	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	655	586		781	1499	
v/s Ratio Prot	c0.37	0.06		c0.57	0.22	
v/s Ratio Perm						
v/c Ratio	0.87	0.15		1.20	0.47	
Uniform Delay, d1	21.1	14.1		21.7	14.8	
Progression Factor	1.00	1.00		1.00	1.48	
Incremental Delay, d2	12.5	0.2		104.2	1.0	
Delay (s)	33.6	14.4		125.9	22.9	
Level of Service	C	B		F	C	
Approach Delay (s)	29.3			125.9	22.9	
Approach LOS	C			F	C	
Intersection Summary						
HCM 2000 Control Delay			65.6		HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.04			
Actuated Cycle Length (s)			82.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization		108.6%			ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

PM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	137	1387	851	0
Future Volume (vph)	0	0	137	1387	851	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	1213			210	900	
Travel Time (s)	27.6			4.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	152	1541	915	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Detector Phase			2		1	
Switch Phase						
Minimum Initial (s)			8.0		10.0	
Minimum Split (s)			14.0		16.0	
Total Split (s)			66.0		41.0	
Total Split (%)			61.7%		38.3%	
Maximum Green (s)			60.0		35.0	
Yellow Time (s)			4.0		4.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-2.0		-2.0	
Total Lost Time (s)			4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			5.0		5.0	
Recall Mode			Min		C-Min	
v/c Ratio			0.22	0.83	0.33	
Control Delay			1.2	6.1	4.2	
Queue Delay			0.1	0.0	0.8	
Total Delay			1.3	6.1	5.0	
Queue Length 50th (ft)			0	355	79	
Queue Length 95th (ft)			m0	m256	130	
Internal Link Dist (ft)	1133			130	820	
Turn Bay Length (ft)						
Base Capacity (vph)			1236	1863	2757	
Starvation Cap Reductn			299	0	0	
Spillback Cap Reductn			0	0	1433	
Storage Cap Reductn			0	0	0	

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

PM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Reduced v/c Ratio			0.16	0.83	0.69	

Intersection Summary

Area Type: Other
 Cycle Length: 107
 Actuated Cycle Length: 107
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

6: US3 (DWHwy) & NH104

PM 2037 NB
Timing Plan: NHDOT/City

												
Movement	EBL	EBR	NBL	NBT	SBT	SBR						
Lane Configurations												
Traffic Volume (vph)	0	0	137	1387	851	0						
Future Volume (vph)	0	0	137	1387	851	0						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900						
Total Lost time (s)			4.0	4.0	4.0							
Lane Util. Factor			1.00	1.00	0.95							
Frt			1.00	1.00	1.00							
Flt Protected			0.95	1.00	1.00							
Satd. Flow (prot)			1770	1863	3539							
Flt Permitted			0.29	1.00	1.00							
Satd. Flow (perm)			549	1863	3539							
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.93	0.93						
Adj. Flow (vph)	0	0	152	1541	915	0						
RTOR Reduction (vph)	0	0	0	0	0	0						
Lane Group Flow (vph)	0	0	152	1541	915	0						
Turn Type			pm+pt	NA	NA							
Protected Phases			2	1 2	1							
Permitted Phases			1 2									
Actuated Green, G (s)			95.0	107.0	81.4							
Effective Green, g (s)			99.0	107.0	83.4							
Actuated g/C Ratio			0.93	1.00	0.78							
Clearance Time (s)			6.0		6.0							
Vehicle Extension (s)			5.0		5.0							
Lane Grp Cap (vph)			685	1863	2758							
v/s Ratio Prot			0.03	c0.83	0.26							
v/s Ratio Perm			0.17									
v/c Ratio			0.22	0.83	0.33							
Uniform Delay, d1			0.5	0.0	3.5							
Progression Factor			5.90	1.00	1.00							
Incremental Delay, d2			0.0	0.3	0.3							
Delay (s)			2.8	0.3	3.8							
Level of Service			A	A	A							
Approach Delay (s)	0.0			0.6	3.8							
Approach LOS	A			A	A							
Intersection Summary												
HCM 2000 Control Delay			1.7		HCM 2000 Level of Service	A						
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			107.0		Sum of lost time (s)	8.0						
Intersection Capacity Utilization			125.5%		ICU Level of Service	H						
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

PM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	541	135	0	1004	861	0
Future Volume (vph)	541	135	0	1004	861	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	575	600	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	75		25			
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	850			300	210	
Travel Time (s)	19.3			6.8	4.8	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.94	0.94
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	576	144	0	1091	916	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			-10	12	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	60	60	60			60
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Detector Phase	2			1	1	
Switch Phase						
Minimum Initial (s)	8.0	8.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		16.0	16.0	
Total Split (s)	66.0	66.0		41.0	41.0	
Total Split (%)	61.7%	61.7%		38.3%	38.3%	
Maximum Green (s)	60.0	60.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Recall Mode	Min	Min		C-Min	C-Min	
v/c Ratio	0.76	0.21		1.47	0.65	
Control Delay	29.1	11.5		246.4	30.7	
Queue Delay	0.0	0.0		0.6	3.9	
Total Delay	29.1	11.5		246.9	34.7	
Queue Length 50th (ft)	304	41		~1046	305	
Queue Length 95th (ft)	368	65		#1394	397	
Internal Link Dist (ft)	770			220	130	
Turn Bay Length (ft)	575	600				

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

PM 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Base Capacity (vph)	905	690		741	1409	
Starvation Cap Reductn	0	0		0	398	
Spillback Cap Reductn	0	0		65	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.64	0.21		1.61	0.91	

Intersection Summary

Area Type: CBD

Cycle Length: 107

Actuated Cycle Length: 107

Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 7: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

7: US3 (DWHwy) & NH104

PM 2037 NB
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	541	135	0	1004	861	0
Future Volume (vph)	541	135	0	1004	861	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1562	1398		1676	3185	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1562	1398		1676	3185	
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.94	0.94
Adj. Flow (vph)	576	144	0	1091	916	0
RTOR Reduction (vph)	0	16	0	0	0	0
Lane Group Flow (vph)	576	128	0	1091	916	0
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Actuated Green, G (s)	49.6	49.6		45.4	45.4	
Effective Green, g (s)	51.6	51.6		47.4	47.4	
Actuated g/C Ratio	0.48	0.48		0.44	0.44	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	753	674		742	1410	
v/s Ratio Prot	c0.37	0.09		c0.65	0.29	
v/s Ratio Perm						
v/c Ratio	0.76	0.19		1.47	0.65	
Uniform Delay, d1	22.7	15.8		29.8	23.3	
Progression Factor	1.00	1.00		1.00	1.11	
Incremental Delay, d2	5.5	0.3		219.0	2.2	
Delay (s)	28.2	16.1		248.8	28.2	
Level of Service	C	B		F	C	
Approach Delay (s)	25.8			248.8	28.2	
Approach LOS	C			F	C	
Intersection Summary						
HCM 2000 Control Delay		115.8		HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio		1.10				
Actuated Cycle Length (s)		107.0		Sum of lost time (s)	8.0	
Intersection Capacity Utilization		125.5%		ICU Level of Service	H	
Analysis Period (min)		15				
c Critical Lane Group						

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

SAT 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	148	1318	657	0
Future Volume (vph)	0	0	148	1318	657	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	1213			210	900	
Travel Time (s)	27.6			4.8	20.5	
Peak Hour Factor	0.90	0.90	0.97	0.97	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	153	1359	730	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Detector Phase			2		1	
Switch Phase						
Minimum Initial (s)			8.0		10.0	
Minimum Split (s)			14.0		16.0	
Total Split (s)			41.0		41.0	
Total Split (%)			50.0%		50.0%	
Maximum Green (s)			35.0		35.0	
Yellow Time (s)			4.0		4.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-2.0		-2.0	
Total Lost Time (s)			4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			5.0		5.0	
Recall Mode			Min		C-Min	
v/c Ratio			0.20	0.73	0.27	
Control Delay			0.6	1.1	3.3	
Queue Delay			0.1	0.0	0.2	
Total Delay			0.6	1.1	3.4	
Queue Length 50th (ft)			0	0	42	
Queue Length 95th (ft)			m0	m0	72	
Internal Link Dist (ft)	1133			130	820	
Turn Bay Length (ft)						
Base Capacity (vph)			1140	1863	2732	
Starvation Cap Reductn			270	0	0	
Spillback Cap Reductn			0	0	996	

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

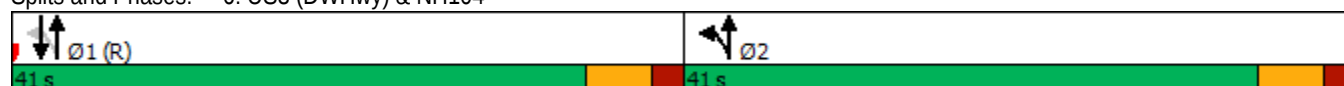
SAT 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.18	0.73	0.42	

Intersection Summary

Area Type: Other
 Cycle Length: 82
 Actuated Cycle Length: 82
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

6: US3 (DWHwy) & NH104

SAT 2037 NB
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	148	1318	657	0
Future Volume (vph)	0	0	148	1318	657	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	
Lane Util. Factor			1.00	1.00	0.95	
Frt			1.00	1.00	1.00	
Flt Protected			0.95	1.00	1.00	
Satd. Flow (prot)			1770	1863	3574	
Flt Permitted			0.37	1.00	1.00	
Satd. Flow (perm)			683	1863	3574	
Peak-hour factor, PHF	0.90	0.90	0.97	0.97	0.90	0.90
Adj. Flow (vph)	0	0	153	1359	730	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	153	1359	730	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Actuated Green, G (s)			70.0	82.0	60.7	
Effective Green, g (s)			74.0	82.0	62.7	
Actuated g/C Ratio			0.90	1.00	0.76	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			5.0		5.0	
Lane Grp Cap (vph)			766	1863	2732	
v/s Ratio Prot			0.03	c0.73	0.20	
v/s Ratio Perm			0.15			
v/c Ratio			0.20	0.73	0.27	
Uniform Delay, d1			0.4	0.0	2.9	
Progression Factor			2.17	1.00	1.00	
Incremental Delay, d2			0.0	0.2	0.2	
Delay (s)			1.0	0.2	3.1	
Level of Service			A	A	A	
Approach Delay (s)	0.0			0.2	3.1	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			1.2	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.81			
Actuated Cycle Length (s)			82.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			116.0%	ICU Level of Service		H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

SAT 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	501	153	0	974	666	0
Future Volume (vph)	501	153	0	974	666	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	575	600	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	75		25			
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	850			300	210	
Travel Time (s)	19.3			6.8	4.8	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	539	165	0	994	740	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			-10	12	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	9	15			9
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Detector Phase	2			1	1	
Switch Phase						
Minimum Initial (s)	8.0	8.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		16.0	16.0	
Total Split (s)	41.0	41.0		41.0	41.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Recall Mode	None	None		C-Min	C-Min	
v/c Ratio	0.81	0.25		1.20	0.47	
Control Delay	31.4	5.4		127.7	22.8	
Queue Delay	0.0	0.0		0.1	3.0	
Total Delay	31.4	5.4		127.9	25.8	
Queue Length 50th (ft)	224	11		~656	183	
Queue Length 95th (ft)	347	45		#891	227	
Internal Link Dist (ft)	770			220	130	
Turn Bay Length (ft)	575	600				

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

SAT 2037 NB
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Base Capacity (vph)	725	669		825	1568	
Starvation Cap Reductn	0	0		0	694	
Spillback Cap Reductn	0	0		17	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.74	0.25		1.23	0.85	

Intersection Summary

Area Type: CBD

Cycle Length: 82

Actuated Cycle Length: 82

Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

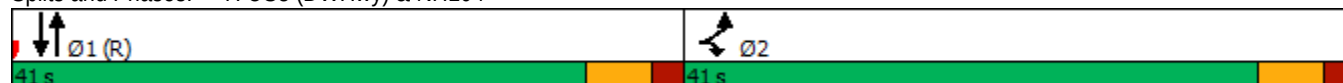
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 7: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

7: US3 (DWHwy) & NH104

SAT 2037 NB
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	501	153	0	974	666	0
Future Volume (vph)	501	153	0	974	666	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1608	1439		1693	3217	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1608	1439		1693	3217	
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.90	0.90
Adj. Flow (vph)	539	165	0	994	740	0
RTOR Reduction (vph)	0	73	0	0	0	0
Lane Group Flow (vph)	539	92	0	994	740	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Actuated Green, G (s)	32.0	32.0		38.0	38.0	
Effective Green, g (s)	34.0	34.0		40.0	40.0	
Actuated g/C Ratio	0.41	0.41		0.49	0.49	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	666	596		825	1569	
v/s Ratio Prot	c0.34	0.06		c0.59	0.23	
v/s Ratio Perm						
v/c Ratio	0.81	0.15		1.20	0.47	
Uniform Delay, d1	21.1	15.0		21.0	14.0	
Progression Factor	1.00	1.00		1.00	1.46	
Incremental Delay, d2	8.2	0.3		103.6	1.0	
Delay (s)	29.3	15.3		124.6	21.4	
Level of Service	C	B		F	C	
Approach Delay (s)	26.0			124.6	21.4	
Approach LOS	C			F	C	
Intersection Summary						
HCM 2000 Control Delay			64.8		HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.02			
Actuated Cycle Length (s)			82.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization		116.0%			ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

AM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	127	1331	748	0
Future Volume (vph)	0	0	127	1331	748	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	1213			210	900	
Travel Time (s)	27.6			4.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	141	1479	831	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Detector Phase			2		1	
Switch Phase						
Minimum Initial (s)			8.0		10.0	
Minimum Split (s)			14.0		16.0	
Total Split (s)			41.0		41.0	
Total Split (%)			50.0%		50.0%	
Maximum Green (s)			35.0		35.0	
Yellow Time (s)			4.0		4.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-2.0		-2.0	
Total Lost Time (s)			4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			5.0		5.0	
Recall Mode			Min		C-Min	
v/c Ratio			0.20	0.82	0.31	
Control Delay			0.6	2.8	3.4	
Queue Delay			0.0	0.0	0.3	
Total Delay			0.6	2.8	3.7	
Queue Length 50th (ft)			0	15	50	
Queue Length 95th (ft)			m0	m0	84	
Internal Link Dist (ft)	1133			130	820	
Turn Bay Length (ft)						
Base Capacity (vph)			1071	1810	2706	
Starvation Cap Reductn			199	0	0	
Spillback Cap Reductn			0	0	1104	

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

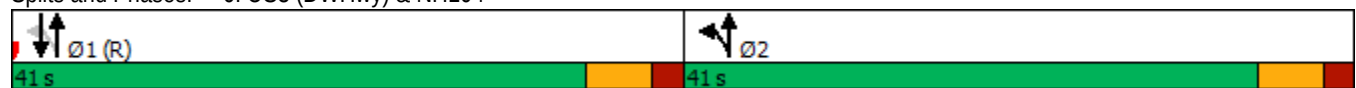
AM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.16	0.82	0.52	

Intersection Summary

Area Type: Other
 Cycle Length: 82
 Actuated Cycle Length: 82
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

6: US3 (DWHwy) & NH104

AM 2037 B
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	127	1331	748	0
Future Volume (vph)	0	0	127	1331	748	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	
Lane Util. Factor			1.00	1.00	0.95	
Frt			1.00	1.00	1.00	
Flt Protected			0.95	1.00	1.00	
Satd. Flow (prot)			1719	1810	3539	
Flt Permitted			0.33	1.00	1.00	
Satd. Flow (perm)			592	1810	3539	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	141	1479	831	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	141	1479	831	0
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Actuated Green, G (s)			70.0	82.0	60.7	
Effective Green, g (s)			74.0	82.0	62.7	
Actuated g/C Ratio			0.90	1.00	0.76	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			5.0		5.0	
Lane Grp Cap (vph)			689	1810	2706	
v/s Ratio Prot			0.03	0.82	0.23	
v/s Ratio Perm			0.16			
v/c Ratio			0.20	0.82	0.31	
Uniform Delay, d1			0.5	0.0	3.0	
Progression Factor			1.97	1.00	1.00	
Incremental Delay, d2			0.0	0.3	0.3	
Delay (s)			0.9	0.3	3.3	
Level of Service			A	A	A	
Approach Delay (s)	0.0			0.4	3.3	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			1.4	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.91			
Actuated Cycle Length (s)			82.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			117.0%	ICU Level of Service		H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

AM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	510	148	0	940	744	0
Future Volume (vph)	510	148	0	940	744	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	575	600	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	75		25			
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	850			300	210	
Travel Time (s)	19.3			6.8	4.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	567	164	0	1044	827	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			-10	12	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	60	60	60			60
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Detector Phase	2			1	1	
Switch Phase						
Minimum Initial (s)	8.0	8.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		16.0	16.0	
Total Split (s)	41.0	41.0		41.0	41.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Recall Mode	Min	Min		C-Min	C-Min	
v/c Ratio	0.87	0.26		1.34	0.55	
Control Delay	36.5	7.4		183.9	23.0	
Queue Delay	0.0	0.0		0.4	3.7	
Total Delay	36.5	7.4		184.2	26.7	
Queue Length 50th (ft)	245	19		~726	207	
Queue Length 95th (ft)	#435	55		#956	243	
Internal Link Dist (ft)	770			220	130	
Turn Bay Length (ft)	575	600				

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

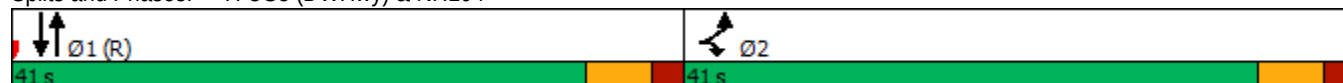
AM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Base Capacity (vph)	684	640		781	1499	
Starvation Cap Reductn	0	0		0	566	
Spillback Cap Reductn	0	0		45	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.83	0.26		1.42	0.89	

Intersection Summary

Area Type: CBD
 Cycle Length: 82
 Actuated Cycle Length: 82
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 7: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

7: US3 (DWHwy) & NH104

AM 2037 B
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	510	148	0	940	744	0
Future Volume (vph)	510	148	0	940	744	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1518	1358		1660	3185	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1518	1358		1660	3185	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	567	164	0	1044	827	0
RTOR Reduction (vph)	0	55	0	0	0	0
Lane Group Flow (vph)	567	109	0	1044	827	0
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Actuated Green, G (s)	33.4	33.4		36.6	36.6	
Effective Green, g (s)	35.4	35.4		38.6	38.6	
Actuated g/C Ratio	0.43	0.43		0.47	0.47	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	655	586		781	1499	
v/s Ratio Prot	c0.37	0.08		c0.63	0.26	
v/s Ratio Perm						
v/c Ratio	0.87	0.19		1.34	0.55	
Uniform Delay, d1	21.1	14.4		21.7	15.5	
Progression Factor	1.00	1.00		1.00	1.33	
Incremental Delay, d2	12.5	0.3		160.2	1.4	
Delay (s)	33.6	14.7		181.9	22.0	
Level of Service	C	B		F	C	
Approach Delay (s)	29.4			181.9	22.0	
Approach LOS	C			F	C	
Intersection Summary						
HCM 2000 Control Delay			88.2		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.11			
Actuated Cycle Length (s)			82.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization		117.0%			ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

PM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	137	1499	952	0
Future Volume (vph)	0	0	137	1499	952	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	1213			210	900	
Travel Time (s)	27.6			4.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	152	1666	1024	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Detector Phase			2		1	
Switch Phase						
Minimum Initial (s)			8.0		10.0	
Minimum Split (s)			14.0		16.0	
Total Split (s)			66.0		41.0	
Total Split (%)			61.7%		38.3%	
Maximum Green (s)			60.0		35.0	
Yellow Time (s)			4.0		4.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-2.0		-2.0	
Total Lost Time (s)			4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			5.0		5.0	
Recall Mode			Min		C-Min	
v/c Ratio			0.24	0.89	0.37	
Control Delay			2.1	9.7	4.5	
Queue Delay			0.0	0.0	1.1	
Total Delay			2.1	9.7	5.6	
Queue Length 50th (ft)			0	735	93	
Queue Length 95th (ft)			m0	m234	150	
Internal Link Dist (ft)	1133			130	820	
Turn Bay Length (ft)						
Base Capacity (vph)			1210	1863	2753	
Starvation Cap Reductn			253	0	0	
Spillback Cap Reductn			0	0	1401	
Storage Cap Reductn			0	0	0	

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

PM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Reduced v/c Ratio			0.16	0.89	0.76	

Intersection Summary

Area Type: Other
 Cycle Length: 107
 Actuated Cycle Length: 107
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

6: US3 (DWHwy) & NH104

PM 2037 B
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	0	0	137	1499	952	0
Future Volume (vph)	0	0	137	1499	952	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	
Lane Util. Factor			1.00	1.00	0.95	
Frt			1.00	1.00	1.00	
Flt Protected			0.95	1.00	1.00	
Satd. Flow (prot)			1770	1863	3539	
Flt Permitted			0.26	1.00	1.00	
Satd. Flow (perm)			483	1863	3539	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.93	0.93
Adj. Flow (vph)	0	0	152	1666	1024	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	152	1666	1024	0
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Actuated Green, G (s)			95.0	107.0	81.2	
Effective Green, g (s)			99.0	107.0	83.2	
Actuated g/C Ratio			0.93	1.00	0.78	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			5.0		5.0	
Lane Grp Cap (vph)			636	1863	2751	
v/s Ratio Prot			0.04	c0.89	0.29	
v/s Ratio Perm			0.19			
v/c Ratio			0.24	0.89	0.37	
Uniform Delay, d1			0.6	0.0	3.7	
Progression Factor			9.80	1.00	1.00	
Incremental Delay, d2			0.0	0.6	0.4	
Delay (s)			5.7	0.6	4.1	
Level of Service			A	A	A	
Approach Delay (s)	0.0			1.1	4.1	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			2.2	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.97			
Actuated Cycle Length (s)			107.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			134.9%	ICU Level of Service		H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

PM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	541	135	0	1116	962	0
Future Volume (vph)	541	135	0	1116	962	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	575	600	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	75		25			
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	850			300	210	
Travel Time (s)	19.3			6.8	4.8	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.94	0.94
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	576	144	0	1213	1023	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			-10	12	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	60	60	60			60
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Detector Phase	2			1	1	
Switch Phase						
Minimum Initial (s)	8.0	8.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		16.0	16.0	
Total Split (s)	66.0	66.0		41.0	41.0	
Total Split (%)	61.7%	61.7%		38.3%	38.3%	
Maximum Green (s)	60.0	60.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Recall Mode	Min	Min		C-Min	C-Min	
v/c Ratio	0.76	0.21		1.64	0.73	
Control Delay	29.1	12.9		317.7	30.6	
Queue Delay	0.0	0.0		0.9	2.3	
Total Delay	29.1	12.9		318.6	32.9	
Queue Length 50th (ft)	304	46		~1221	337	
Queue Length 95th (ft)	368	69		#1574	#484	
Internal Link Dist (ft)	770			220	130	
Turn Bay Length (ft)	575	600				

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

PM 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Base Capacity (vph)	905	684		741	1409	
Starvation Cap Reductn	0	0		0	251	
Spillback Cap Reductn	0	0		94	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.64	0.21		1.87	0.88	

Intersection Summary

Area Type: CBD
 Cycle Length: 107
 Actuated Cycle Length: 107
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 7: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

7: US3 (DWHwy) & NH104

PM 2037 B
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	541	135	0	1116	962	0
Future Volume (vph)	541	135	0	1116	962	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1562	1398		1676	3185	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1562	1398		1676	3185	
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.94	0.94
Adj. Flow (vph)	576	144	0	1213	1023	0
RTOR Reduction (vph)	0	10	0	0	0	0
Lane Group Flow (vph)	576	134	0	1213	1023	0
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Actuated Green, G (s)	49.6	49.6		45.4	45.4	
Effective Green, g (s)	51.6	51.6		47.4	47.4	
Actuated g/C Ratio	0.48	0.48		0.44	0.44	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	753	674		742	1410	
v/s Ratio Prot	c0.37	0.10		c0.72	0.32	
v/s Ratio Perm						
v/c Ratio	0.76	0.20		1.63	0.73	
Uniform Delay, d1	22.7	15.9		29.8	24.5	
Progression Factor	1.00	1.00		1.00	1.02	
Incremental Delay, d2	5.5	0.3		291.8	3.1	
Delay (s)	28.2	16.2		321.6	28.1	
Level of Service	C	B		F	C	
Approach Delay (s)	25.8			321.6	28.1	
Approach LOS	C			F	C	
Intersection Summary						
HCM 2000 Control Delay			147.9		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.18			
Actuated Cycle Length (s)			107.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			134.9%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

SAT 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	148	1433	777	0
Future Volume (vph)	0	0	148	1433	777	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	1213			210	900	
Travel Time (s)	23.6			4.1	17.5	
Peak Hour Factor	0.90	0.90	0.97	0.97	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	153	1477	863	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Detector Phase			2		1	
Switch Phase						
Minimum Initial (s)			8.0		10.0	
Minimum Split (s)			14.0		16.0	
Total Split (s)			41.0		41.0	
Total Split (%)			50.0%		50.0%	
Maximum Green (s)			35.0		35.0	
Yellow Time (s)			4.0		4.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-2.0		-2.0	
Total Lost Time (s)			4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			5.0		5.0	
Recall Mode			Min		C-Min	
v/c Ratio			0.22	0.79	0.32	
Control Delay			0.5	2.9	3.6	
Queue Delay			0.0	0.0	0.4	
Total Delay			0.5	2.9	4.0	
Queue Length 50th (ft)			0	18	55	
Queue Length 95th (ft)			m0	m1	92	
Internal Link Dist (ft)	1133			130	820	
Turn Bay Length (ft)						
Base Capacity (vph)			1091	1863	2716	
Starvation Cap Reductn			202	0	0	
Spillback Cap Reductn			0	0	1183	

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

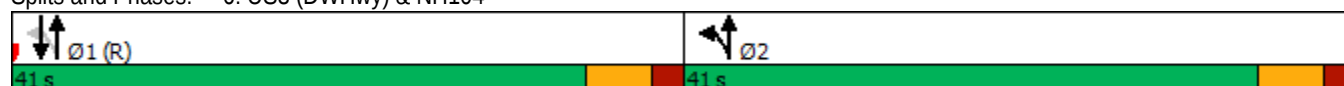
SAT 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.17	0.79	0.56	

Intersection Summary

Area Type: Other
 Cycle Length: 82
 Actuated Cycle Length: 82
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

6: US3 (DWHwy) & NH104

SAT 2037 B
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	148	1433	777	0
Future Volume (vph)	0	0	148	1433	777	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	
Lane Util. Factor			1.00	1.00	0.95	
Frt			1.00	1.00	1.00	
Flt Protected			0.95	1.00	1.00	
Satd. Flow (prot)			1770	1863	3574	
Flt Permitted			0.31	1.00	1.00	
Satd. Flow (perm)			586	1863	3574	
Peak-hour factor, PHF	0.90	0.90	0.97	0.97	0.90	0.90
Adj. Flow (vph)	0	0	153	1477	863	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	153	1477	863	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Actuated Green, G (s)			70.0	82.0	60.3	
Effective Green, g (s)			74.0	82.0	62.3	
Actuated g/C Ratio			0.90	1.00	0.76	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			5.0		5.0	
Lane Grp Cap (vph)			697	1863	2715	
v/s Ratio Prot			0.03	c0.79	0.24	
v/s Ratio Perm			0.17			
v/c Ratio			0.22	0.79	0.32	
Uniform Delay, d1			0.5	0.0	3.1	
Progression Factor			1.70	1.00	1.00	
Incremental Delay, d2			0.0	0.3	0.3	
Delay (s)			0.9	0.3	3.4	
Level of Service			A	A	A	
Approach Delay (s)	0.0			0.3	3.4	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			1.4	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.88			
Actuated Cycle Length (s)			82.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			126.0%	ICU Level of Service		H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

SAT 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	501	153	0	1089	786	0
Future Volume (vph)	501	153	0	1089	786	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	575	600	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	75		25			
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	35	
Link Distance (ft)	850			300	210	
Travel Time (s)	16.6			5.8	4.1	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	539	165	0	1111	873	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			-10	12	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	60	60	60			60
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Detector Phase	2			1	1	
Switch Phase						
Minimum Initial (s)	8.0	8.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		16.0	16.0	
Total Split (s)	41.0	41.0		41.0	41.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Recall Mode	Min	Min		C-Min	C-Min	
v/c Ratio	0.81	0.26		1.35	0.56	
Control Delay	31.4	8.4		187.6	22.3	
Queue Delay	0.0	0.0		0.4	3.0	
Total Delay	31.4	8.4		188.0	25.4	
Queue Length 50th (ft)	224	24		~782	221	
Queue Length 95th (ft)	347	60		#1024	260	
Internal Link Dist (ft)	770			220	130	
Turn Bay Length (ft)	575	600				

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

SAT 2037 B
Timing Plan: NHDOT/City

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Base Capacity (vph)	725	645		825	1568	
Starvation Cap Reductn	0	0		0	567	
Spillback Cap Reductn	0	0		49	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.74	0.26		1.43	0.87	

Intersection Summary

Area Type: CBD

Cycle Length: 82

Actuated Cycle Length: 82

Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

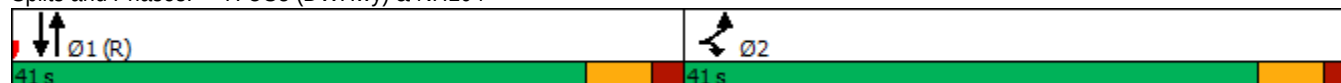
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 7: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

7: US3 (DWHwy) & NH104

SAT 2037 B
Timing Plan: NHDOT/City

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	501	153	0	1089	786	0
Future Volume (vph)	501	153	0	1089	786	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1608	1439		1693	3217	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1608	1439		1693	3217	
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.90	0.90
Adj. Flow (vph)	539	165	0	1111	873	0
RTOR Reduction (vph)	0	49	0	0	0	0
Lane Group Flow (vph)	539	116	0	1111	873	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Actuated Green, G (s)	32.0	32.0		38.0	38.0	
Effective Green, g (s)	34.0	34.0		40.0	40.0	
Actuated g/C Ratio	0.41	0.41		0.49	0.49	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	666	596		825	1569	
v/s Ratio Prot	c0.34	0.08		c0.66	0.27	
v/s Ratio Perm						
v/c Ratio	0.81	0.20		1.35	0.56	
Uniform Delay, d1	21.1	15.3		21.0	14.8	
Progression Factor	1.00	1.00		1.00	1.33	
Incremental Delay, d2	8.2	0.3		164.1	1.4	
Delay (s)	29.3	15.6		185.1	21.0	
Level of Service	C	B		F	C	
Approach Delay (s)	26.1			185.1	21.0	
Approach LOS	C			F	C	
Intersection Summary						
HCM 2000 Control Delay			90.1		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.10			
Actuated Cycle Length (s)			82.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization		126.0%			ICU Level of Service	H
Analysis Period (min)		15				
c Critical Lane Group						

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

AM 2037 B-MIT
Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	127	1331	748	0
Future Volume (vph)	0	0	127	1331	748	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	1213			100	900	
Travel Time (s)	27.6			2.3	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	141	1479	831	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Detector Phase			2	1 2	1	
Switch Phase						
Minimum Initial (s)			8.0		10.0	
Minimum Split (s)			14.0		16.0	
Total Split (s)			14.0		81.0	
Total Split (%)			14.7%		85.3%	
Maximum Green (s)			8.0		75.0	
Yellow Time (s)			4.0		4.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-2.0		-2.0	
Total Lost Time (s)			4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			5.0		5.0	
Recall Mode			Min		C-Min	
v/c Ratio			0.21	0.82	0.29	
Control Delay			0.3	1.8	2.5	
Queue Delay			0.0	0.0	0.1	
Total Delay			0.3	1.8	2.6	
Queue Length 50th (ft)			0	0	47	
Queue Length 95th (ft)			m0	m0	62	
Internal Link Dist (ft)	1133			20	820	
Turn Bay Length (ft)						
Base Capacity (vph)			666	1810	2868	
Starvation Cap Reductn			0	0	0	
Spillback Cap Reductn			0	0	753	

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

AM 2037 B-MIT

Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.21	0.82	0.39	

Intersection Summary

Area Type: Other

Cycle Length: 95

Actuated Cycle Length: 95

Offset: 4 (4%), Referenced to phase 1:NBSB, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

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

Splits and Phases: 6: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

6: US3 (DWHwy) & NH104

AM 2037 B-MIT
Timing Plan: MIT

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	127	1331	748	0
Future Volume (vph)	0	0	127	1331	748	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	
Lane Util. Factor			1.00	1.00	0.95	
Frt			1.00	1.00	1.00	
Flt Protected			0.95	1.00	1.00	
Satd. Flow (prot)			1719	1810	3539	
Flt Permitted			0.33	1.00	1.00	
Satd. Flow (perm)			599	1810	3539	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	141	1479	831	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	141	1479	831	0
Heavy Vehicles (%)	2%	2%	5%	5%	2%	2%
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Actuated Green, G (s)			83.0	95.0	75.0	
Effective Green, g (s)			87.0	95.0	77.0	
Actuated g/C Ratio			0.92	1.00	0.81	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			5.0		5.0	
Lane Grp Cap (vph)			666	1810	2868	
v/s Ratio Prot			0.02	0.82	0.23	
v/s Ratio Perm			0.17			
v/c Ratio			0.21	0.82	0.29	
Uniform Delay, d1			0.4	0.0	2.2	
Progression Factor			0.59	1.00	1.00	
Incremental Delay, d2			0.1	0.9	0.3	
Delay (s)			0.3	0.9	2.5	
Level of Service			A	A	A	
Approach Delay (s)	0.0			0.9	2.5	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			1.4	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.89			
Actuated Cycle Length (s)			95.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			108.4%	ICU Level of Service		G
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

AM 2037 B-MIT

Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	510	148	0	940	744	0
Future Volume (vph)	510	148	0	940	744	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	850			300	100	
Travel Time (s)	19.3			6.8	2.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	567	164	0	1044	827	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			20	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Detector Phase	2	2		1	1	
Switch Phase						
Minimum Initial (s)	8.0	8.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		16.0	16.0	
Total Split (s)	36.0	36.0		59.0	59.0	
Total Split (%)	37.9%	37.9%		62.1%	62.1%	
Maximum Green (s)	30.0	30.0		53.0	53.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Recall Mode	Min	Min		C-Min	C-Min	
v/c Ratio	1.00	0.27		0.98	0.40	
Control Delay	70.5	4.9		43.6	9.5	
Queue Delay	0.0	0.0		0.2	0.0	
Total Delay	70.5	4.9		43.7	9.5	
Queue Length 50th (ft)	338	0		569	85	
Queue Length 95th (ft)	#560	43		#885	104	
Internal Link Dist (ft)	770			220	20	
Turn Bay Length (ft)						
Base Capacity (vph)	568	617		1068	2048	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		1	0	

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

AM 2037 B-MIT
Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	1.00	0.27		0.98	0.40	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 95
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green, Master Intersection
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 7: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

7: US3 (DWHwy) & NH104

AM 2037 B-MIT
Timing Plan: MIT

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	510	148	0	940	744	0
Future Volume (vph)	510	148	0	940	744	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1687	1509		1845	3539	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1687	1509		1845	3539	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	567	164	0	1044	827	0
RTOR Reduction (vph)	0	109	0	0	0	0
Lane Group Flow (vph)	567	55	0	1044	827	0
Heavy Vehicles (%)	7%	7%	3%	3%	2%	2%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Actuated Green, G (s)	30.0	30.0		53.0	53.0	
Effective Green, g (s)	32.0	32.0		55.0	55.0	
Actuated g/C Ratio	0.34	0.34		0.58	0.58	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	568	508		1068	2048	
v/s Ratio Prot	c0.34	0.04		c0.57	0.23	
v/s Ratio Perm						
v/c Ratio	1.00	0.11		0.98	0.40	
Uniform Delay, d1	31.5	21.7		19.4	11.0	
Progression Factor	1.00	1.00		1.00	0.81	
Incremental Delay, d2	37.1	0.2		22.6	0.6	
Delay (s)	68.6	21.9		42.0	9.4	
Level of Service	E	C		D	A	
Approach Delay (s)	58.1			42.0	9.4	
Approach LOS	E			D	A	
Intersection Summary						
HCM 2000 Control Delay			36.2		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.98			
Actuated Cycle Length (s)			95.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization		108.4%			ICU Level of Service	G
Analysis Period (min)		15				
c Critical Lane Group						

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

PM 2037 B-MIT

Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	137	1499	952	0
Future Volume (vph)	0	0	137	1499	952	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	1213			100	900	
Travel Time (s)	27.6			2.3	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.93	0.93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	152	1666	1024	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Detector Phase			2	1 2	1	
Switch Phase						
Minimum Initial (s)			8.0		10.0	
Minimum Split (s)			14.0		16.0	
Total Split (s)			14.0		106.0	
Total Split (%)			11.7%		88.3%	
Maximum Green (s)			8.0		100.0	
Yellow Time (s)			4.0		4.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-2.0		-2.0	
Total Lost Time (s)			4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			5.0		5.0	
Recall Mode			Min		C-Min	
v/c Ratio			0.26	0.89	0.34	
Control Delay			0.3	2.9	2.2	
Queue Delay			0.0	0.0	0.4	
Total Delay			0.3	2.9	2.6	
Queue Length 50th (ft)			0	5	63	
Queue Length 95th (ft)			m0	m0	77	
Internal Link Dist (ft)	1133			20	820	
Turn Bay Length (ft)						
Base Capacity (vph)			575	1863	3008	
Starvation Cap Reductn			0	0	0	
Spillback Cap Reductn			0	0	1317	
Storage Cap Reductn			0	0	0	

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

PM 2037 B-MIT
Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Reduced v/c Ratio			0.26	0.89	0.61	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 62 (52%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

6: US3 (DWHwy) & NH104

PM 2037 B-MIT

Timing Plan: MIT

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	137	1499	952	0
Future Volume (vph)	0	0	137	1499	952	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	
Lane Util. Factor			1.00	1.00	0.95	
Frt			1.00	1.00	1.00	
Flt Protected			0.95	1.00	1.00	
Satd. Flow (prot)			1770	1863	3539	
Flt Permitted			0.27	1.00	1.00	
Satd. Flow (perm)			502	1863	3539	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.93	0.93
Adj. Flow (vph)	0	0	152	1666	1024	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	152	1666	1024	0
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Actuated Green, G (s)			108.0	120.0	100.0	
Effective Green, g (s)			112.0	120.0	102.0	
Actuated g/C Ratio			0.93	1.00	0.85	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			5.0		5.0	
Lane Grp Cap (vph)			574	1863	3008	
v/s Ratio Prot			0.02	c0.89	0.29	
v/s Ratio Perm			0.22			
v/c Ratio			0.26	0.89	0.34	
Uniform Delay, d1			0.4	0.0	1.9	
Progression Factor			1.20	1.00	1.00	
Incremental Delay, d2			0.0	0.6	0.3	
Delay (s)			0.5	0.6	2.2	
Level of Service			A	A	A	
Approach Delay (s)	0.0			0.6	2.2	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			1.2	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.96			
Actuated Cycle Length (s)			120.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			125.0%	ICU Level of Service		H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

PM 2037 B-MIT

Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	541	135	0	1116	962	0
Future Volume (vph)	541	135	0	1116	962	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	850			300	100	
Travel Time (s)	19.3			6.8	2.3	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.94	0.94
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	576	144	0	1213	1023	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			20	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Detector Phase	2	2		1	1	
Switch Phase						
Minimum Initial (s)	8.0	8.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		16.0	16.0	
Total Split (s)	44.0	44.0		76.0	76.0	
Total Split (%)	36.7%	36.7%		63.3%	63.3%	
Maximum Green (s)	38.0	38.0		70.0	70.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Recall Mode	Min	Min		C-Min	C-Min	
v/c Ratio	1.00	0.24		1.09	0.48	
Control Delay	77.0	9.2		78.3	15.2	
Queue Delay	0.0	0.0		5.8	0.0	
Total Delay	77.0	9.2		84.2	15.2	
Queue Length 50th (ft)	443	16		~1054	221	
Queue Length 95th (ft)	#683	63		#1314	296	
Internal Link Dist (ft)	770			220	20	
Turn Bay Length (ft)						
Base Capacity (vph)	578	593		1117	2123	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		19	0	

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

PM 2037 B-MIT
Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	1.00	0.24		1.10	0.48	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 7: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

7: US3 (DWHwy) & NH104

PM 2037 B-MIT
Timing Plan: MIT

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					  	
Traffic Volume (vph)	541	135	0	1116	962	0
Future Volume (vph)	541	135	0	1116	962	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1736	1553		1863	3539	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1736	1553		1863	3539	
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.94	0.94
Adj. Flow (vph)	576	144	0	1213	1023	0
RTOR Reduction (vph)	0	76	0	0	0	0
Lane Group Flow (vph)	576	68	0	1213	1023	0
Heavy Vehicles (%)	4%	4%	2%	2%	2%	2%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Actuated Green, G (s)	38.0	38.0		70.0	70.0	
Effective Green, g (s)	40.0	40.0		72.0	72.0	
Actuated g/C Ratio	0.33	0.33		0.60	0.60	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	578	517		1117	2123	
v/s Ratio Prot	c0.33	0.04		c0.65	0.29	
v/s Ratio Perm						
v/c Ratio	1.00	0.13		1.09	0.48	
Uniform Delay, d1	39.9	27.9		24.0	13.5	
Progression Factor	1.00	1.00		1.00	1.05	
Incremental Delay, d2	36.4	0.2		53.4	0.8	
Delay (s)	76.3	28.1		77.4	15.0	
Level of Service	E	C		E	B	
Approach Delay (s)	66.7			77.4	15.0	
Approach LOS	E			E	B	
Intersection Summary						
HCM 2000 Control Delay			53.2		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.05			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			125.0%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
6: US3 (DWHwy) & NH104

SAT 2037 B-MIT

Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	148	1433	777	447
Future Volume (vph)	0	0	148	1433	777	447
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	1213			100	900	
Travel Time (s)	27.6			2.3	20.5	
Peak Hour Factor	0.90	0.90	0.97	0.97	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	153	1477	1360	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Detector Phase			2	1 2	1	
Switch Phase						
Minimum Initial (s)			8.0		10.0	
Minimum Split (s)			14.0		16.0	
Total Split (s)			14.0		81.0	
Total Split (%)			14.7%		85.3%	
Maximum Green (s)			8.0		75.0	
Yellow Time (s)			4.0		4.0	
All-Red Time (s)			2.0		2.0	
Lost Time Adjust (s)			-2.0		-2.0	
Total Lost Time (s)			4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)			5.0		5.0	
Recall Mode			Min		C-Min	
v/c Ratio			0.34	0.79	0.48	
Control Delay			0.7	1.5	2.3	
Queue Delay			0.0	0.0	0.3	
Total Delay			0.7	1.5	2.6	
Queue Length 50th (ft)			0	0	54	
Queue Length 95th (ft)			m0	m0	72	
Internal Link Dist (ft)	1133			20	820	
Turn Bay Length (ft)						
Base Capacity (vph)			456	1863	2823	
Starvation Cap Reductn			0	0	0	
Spillback Cap Reductn			0	0	764	

Lanes, Volumes, Timings 6: US3 (DWHwy) & NH104

SAT 2037 B-MIT
Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Storage Cap Reductn			0	0	0	
Reduced v/c Ratio			0.34	0.79	0.66	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 95
 Offset: 4 (4%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

6: US3 (DWHwy) & NH104

SAT 2037 B-MIT

Timing Plan: MIT

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	148	1433	777	447
Future Volume (vph)	0	0	148	1433	777	447
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	
Lane Util. Factor			1.00	1.00	0.95	
Frt			1.00	1.00	0.95	
Flt Protected			0.95	1.00	1.00	
Satd. Flow (prot)			1770	1863	3378	
Flt Permitted			0.18	1.00	1.00	
Satd. Flow (perm)			334	1863	3378	
Peak-hour factor, PHF	0.90	0.90	0.97	0.97	0.90	0.90
Adj. Flow (vph)	0	0	153	1477	863	497
RTOR Reduction (vph)	0	0	0	0	86	0
Lane Group Flow (vph)	0	0	153	1477	1274	0
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type			pm+pt	NA	NA	
Protected Phases			2	1 2	1	
Permitted Phases			1 2			
Actuated Green, G (s)			83.0	95.0	75.0	
Effective Green, g (s)			87.0	95.0	77.0	
Actuated g/C Ratio			0.92	1.00	0.81	
Clearance Time (s)			6.0		6.0	
Vehicle Extension (s)			5.0		5.0	
Lane Grp Cap (vph)			457	1863	2737	
v/s Ratio Prot			0.04	c0.79	0.38	
v/s Ratio Perm			0.27			
v/c Ratio			0.33	0.79	0.47	
Uniform Delay, d1			0.9	0.0	2.7	
Progression Factor			0.53	1.00	1.00	
Incremental Delay, d2			0.2	0.8	0.6	
Delay (s)			0.7	0.8	3.3	
Level of Service			A	A	A	
Approach Delay (s)	0.0			0.8	3.3	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			1.9	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.87			
Actuated Cycle Length (s)			95.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			130.9%	ICU Level of Service		H
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings
7: US3 (DWHwy) & NH104

SAT 2037 B-MIT

Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	501	153	0	1089	786	0
Future Volume (vph)	501	153	0	1089	786	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	850			300	100	
Travel Time (s)	19.3			6.8	2.3	
Peak Hour Factor	0.93	0.93	0.98	0.98	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	539	165	0	1111	873	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			20	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60	60	60			60
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Detector Phase	2	2		1	1	
Switch Phase						
Minimum Initial (s)	8.0	8.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		16.0	16.0	
Total Split (s)	35.0	35.0		60.0	60.0	
Total Split (%)	36.8%	36.8%		63.2%	63.2%	
Maximum Green (s)	29.0	29.0		54.0	54.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Recall Mode	Min	Min		C-Min	C-Min	
v/c Ratio	0.93	0.26		1.00	0.41	
Control Delay	55.4	5.8		48.4	9.6	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	55.4	5.8		48.4	9.6	
Queue Length 50th (ft)	311	4		~626	102	
Queue Length 95th (ft)	#513	48		#948	122	
Internal Link Dist (ft)	770			220	20	
Turn Bay Length (ft)						
Base Capacity (vph)	583	626		1109	2108	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	

Lanes, Volumes, Timings 7: US3 (DWHwy) & NH104

SAT 2037 B-MIT
Timing Plan: MIT

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.92	0.26		1.00	0.41	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 95
 Offset: 0 (0%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 7: US3 (DWHwy) & NH104



HCM Signalized Intersection Capacity Analysis

7: US3 (DWHwy) & NH104

SAT 2037 B-MIT

Timing Plan: MIT

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations					 	
Traffic Volume (vph)	501	153	0	1089	786	0
Future Volume (vph)	501	153	0	1089	786	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1787	1599		1881	3574	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1787	1599		1881	3574	
Peak-hour factor, PHF	0.93	0.93	0.98	0.98	0.90	0.90
Adj. Flow (vph)	539	165	0	1111	873	0
RTOR Reduction (vph)	0	105	0	0	0	0
Lane Group Flow (vph)	539	60	0	1111	873	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	Prot	Prot		NA	NA	
Protected Phases	2	2		1	1	
Permitted Phases						
Actuated Green, G (s)	28.9	28.9		54.1	54.1	
Effective Green, g (s)	30.9	30.9		56.1	56.1	
Actuated g/C Ratio	0.33	0.33		0.59	0.59	
Clearance Time (s)	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	581	520		1110	2110	
v/s Ratio Prot	c0.30	0.04		c0.59	0.24	
v/s Ratio Perm						
v/c Ratio	0.93	0.12		1.00	0.41	
Uniform Delay, d1	31.0	22.5		19.4	10.5	
Progression Factor	1.00	1.00		1.00	0.85	
Incremental Delay, d2	21.9	0.2		27.2	0.5	
Delay (s)	52.8	22.7		46.7	9.5	
Level of Service	D	C		D	A	
Approach Delay (s)	45.8			46.7	9.5	
Approach LOS	D			D	A	
Intersection Summary						
HCM 2000 Control Delay			34.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.97			
Actuated Cycle Length (s)			95.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			130.9%		ICU Level of Service	H
Analysis Period (min)			15			
c Critical Lane Group						

ATTACHMENT J

Intersection #10: Synchro (AM/PM/SAT)

2037 No-Build

2037 Build

Lanes, Volumes, Timings
10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

AM 2037 NB
Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	5	118	5	5	11	74	350	2	2	316	16
Future Volume (vph)	9	5	118	5	5	11	74	350	2	2	316	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6390			500			6150			10300	
Travel Time (s)		145.2			11.4			139.8			234.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	7%	7%	7%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	0	0	24	0	0	473	0	0	359	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0			-2.0			-2.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
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		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.31			0.06			0.46			0.32	
Control Delay		5.5			8.5			7.4			5.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		5.5			8.5			7.4			5.7	
Queue Length 50th (ft)		2			2			46			30	
Queue Length 95th (ft)		29			13			126			81	
Internal Link Dist (ft)		6310			420			6070			10220	
Turn Bay Length (ft)												

Lanes, Volumes, Timings
 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

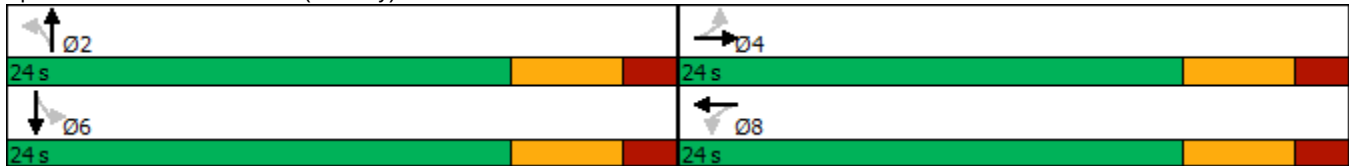
AM 2037 NB
 Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		940			891			1028			1141	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.16			0.03			0.46			0.31	

Intersection Summary

Area Type: Other
 Cycle Length: 48
 Actuated Cycle Length: 36.5
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated

Splits and Phases: 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd



HCM Signalized Intersection Capacity Analysis

10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

AM 2037 NB
Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	5	118	5	5	11	74	350	2	2	316	16
Future Volume (vph)	9	5	118	5	5	11	74	350	2	2	316	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.88			0.93			1.00			0.99	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		1617			1716			1759			1748	
Flt Permitted		0.97			0.91			0.89			1.00	
Satd. Flow (perm)		1580			1588			1576			1744	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.93	0.93	0.93
Adj. Flow (vph)	10	6	131	6	6	12	82	389	2	2	340	17
RTOR Reduction (vph)	0	106	0	0	10	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	41	0	0	14	0	0	473	0	0	357	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	7%	7%	7%	8%	8%	8%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		5.3			5.3			20.5			20.5	
Effective Green, g (s)		7.3			7.3			22.5			22.5	
Actuated g/C Ratio		0.19			0.19			0.60			0.60	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		305			306			938			1038	
v/s Ratio Prot												
v/s Ratio Perm		c0.03			0.01			c0.30			0.20	
v/c Ratio		0.14			0.05			0.50			0.34	
Uniform Delay, d1		12.6			12.4			4.4			3.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.1			0.4			0.2	
Delay (s)		12.8			12.5			4.9			4.1	
Level of Service		B			B			A			A	
Approach Delay (s)		12.8			12.5			4.9			4.1	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.9									
HCM 2000 Volume to Capacity ratio			0.41									
Actuated Cycle Length (s)			37.8									
Intersection Capacity Utilization			59.0%									
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

PM 2037 NB
Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	11	144	5	3	25	109	404	2	5	443	21
Future Volume (vph)	18	11	144	5	3	25	109	404	2	5	443	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6390			500			6150			10300	
Travel Time (s)		145.2			11.4			139.8			234.1	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	190	0	0	37	0	0	559	0	0	521	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0			-2.0			-2.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
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		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.38			0.09			0.57			0.45	
Control Delay		6.1			6.6			10.6			7.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.1			6.6			10.6			7.1	
Queue Length 50th (ft)		5			1			62			51	
Queue Length 95th (ft)		36			15			#228			136	
Internal Link Dist (ft)		6310			420			6070			10220	
Turn Bay Length (ft)												

Lanes, Volumes, Timings
 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

PM 2037 NB
 Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		918			850			980			1167	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.21			0.04			0.57			0.45	

Intersection Summary

Area Type: Other

Cycle Length: 48

Actuated Cycle Length: 37.7

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

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

Splits and Phases: 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

 Ø2	 Ø4
24 s	24 s
 Ø6	 Ø8
24 s	24 s

HCM Signalized Intersection Capacity Analysis

10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

PM 2037 NB
Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	11	144	5	3	25	109	404	2	5	443	21
Future Volume (vph)	18	11	144	5	3	25	109	404	2	5	443	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.89			0.90			1.00			0.99	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1645			1659			1861			1833	
Flt Permitted		0.96			0.94			0.81			0.99	
Satd. Flow (perm)		1584			1571			1532			1822	
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	20	12	158	6	3	28	118	439	2	6	492	23
RTOR Reduction (vph)	0	126	0	0	22	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	64	0	0	15	0	0	559	0	0	519	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		5.8			5.8			21.2			21.2	
Effective Green, g (s)		7.8			7.8			23.2			23.2	
Actuated g/C Ratio		0.20			0.20			0.59			0.59	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		316			314			911			1083	
v/s Ratio Prot												
v/s Ratio Perm		c0.04			0.01			c0.36			0.28	
v/c Ratio		0.20			0.05			0.61			0.48	
Uniform Delay, d1		13.0			12.6			5.0			4.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.1			1.2			0.3	
Delay (s)		13.3			12.7			6.3			4.8	
Level of Service		B			B			A			A	
Approach Delay (s)		13.3			12.7			6.3			4.8	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.9									
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			39.0									
Intersection Capacity Utilization			75.0%									
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

SAT 2037 NB
Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	160	11	9	39	91	497	3	9	462	14
Future Volume (vph)	5	5	160	11	9	39	91	497	3	9	462	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6390			500			6150			10300	
Travel Time (s)		145.2			11.4			139.8			234.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	190	0	0	65	0	0	656	0	0	533	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		36.0	36.0		36.0	36.0	
Total Split (%)	41.9%	41.9%		41.9%	41.9%		58.1%	58.1%		58.1%	58.1%	
Maximum Green (s)	20.0	20.0		20.0	20.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0			-2.0			-2.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.40			0.18			0.67			0.48	
Control Delay		6.8			10.0			10.3			6.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.8			10.0			10.3			6.7	
Queue Length 50th (ft)		3			5			78			52	
Queue Length 95th (ft)		42			29			220			139	
Internal Link Dist (ft)		6310			420			6070			10220	
Turn Bay Length (ft)												

Lanes, Volumes, Timings
 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

SAT 2037 NB
 Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		926			838			1214			1376	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.21			0.08			0.54			0.39	

Intersection Summary

Area Type: Other
 Cycle Length: 62
 Actuated Cycle Length: 44
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord

Splits and Phases: 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd



HCM Signalized Intersection Capacity Analysis

10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

SAT 2037 NB
Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	160	11	9	39	91	497	3	9	462	14
Future Volume (vph)	5	5	160	11	9	39	91	497	3	9	462	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.87			0.91			1.00			1.00	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		1641			1681			1866			1854	
Flt Permitted		0.99			0.93			0.86			0.99	
Satd. Flow (perm)		1625			1583			1616			1832	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91
Adj. Flow (vph)	6	6	178	12	10	43	101	552	3	10	508	15
RTOR Reduction (vph)	0	140	0	0	34	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	50	0	0	31	0	0	656	0	0	532	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Actuated Green, G (s)		7.2			7.2			24.4			24.4	
Effective Green, g (s)		9.2			9.2			26.4			26.4	
Actuated g/C Ratio		0.21			0.21			0.61			0.61	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		342			334			978			1109	
v/s Ratio Prot												
v/s Ratio Perm		c0.03			0.02			c0.41			0.29	
v/c Ratio		0.14			0.09			0.67			0.48	
Uniform Delay, d1		14.0			13.8			5.7			4.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.1			1.8			0.3	
Delay (s)		14.2			14.0			7.5			5.1	
Level of Service		B			B			A			A	
Approach Delay (s)		14.2			14.0			7.5			5.1	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			7.8									
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			43.6									
Intersection Capacity Utilization			77.9%									
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

AM 2037 B
Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	5	150	5	5	11	108	349	2	2	315	41
Future Volume (vph)	27	5	150	5	5	11	108	349	2	2	315	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6390			500			6150			10300	
Travel Time (s)		145.2			11.4			139.8			234.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.93	0.93	0.93
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	7%	7%	7%	8%	8%	8%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	203	0	0	24	0	0	510	0	0	385	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0			-2.0			-2.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
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		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.40			0.06			0.55			0.35	
Control Delay		6.2			8.2			10.1			6.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.2			8.2			10.1			6.3	
Queue Length 50th (ft)		6			2			56			34	
Queue Length 95th (ft)		38			13			#210			95	
Internal Link Dist (ft)		6310			420			6070			10220	
Turn Bay Length (ft)												

Lanes, Volumes, Timings
 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

AM 2037 B
 Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		926			873			933			1098	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.22			0.03			0.55			0.35	

Intersection Summary

Area Type: Other

Cycle Length: 48

Actuated Cycle Length: 36.6

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

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

Splits and Phases: 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

 Ø2	 Ø4
24 s	24 s
 Ø6	 Ø8
24 s	24 s

HCM Signalized Intersection Capacity Analysis

10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

AM 2037 B
Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	5	150	5	5	11	108	349	2	2	315	41
Future Volume (vph)	27	5	150	5	5	11	108	349	2	2	315	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.89			0.93			1.00			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1628			1716			1754			1732	
Flt Permitted		0.94			0.91			0.83			1.00	
Satd. Flow (perm)		1546			1578			1478			1728	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.93	0.93	0.93
Adj. Flow (vph)	30	6	167	6	6	12	120	388	2	2	339	44
RTOR Reduction (vph)	0	133	0	0	10	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	70	0	0	14	0	0	510	0	0	378	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	7%	7%	7%	8%	8%	8%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		5.8			5.8			20.2			20.2	
Effective Green, g (s)		7.8			7.8			22.2			22.2	
Actuated g/C Ratio		0.21			0.21			0.58			0.58	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		317			323			863			1009	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.01			c0.34			0.22	
v/c Ratio		0.22			0.04			0.59			0.37	
Uniform Delay, d1		12.6			12.1			5.0			4.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.1			1.1			0.2	
Delay (s)		12.9			12.2			6.1			4.4	
Level of Service		B			B			A			A	
Approach Delay (s)		12.9			12.2			6.1			4.4	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.9									
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			38.0									
Intersection Capacity Utilization			66.6%									
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

PM 2037 B
Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	11	174	5	3	25	140	401	2	5	440	39
Future Volume (vph)	35	11	174	5	3	25	140	401	2	5	440	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6390			500			6150			10300	
Travel Time (s)		145.2			11.4			139.8			234.1	
Peak Hour Factor	0.91	0.91	0.91	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	241	0	0	37	0	0	590	0	0	538	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0			-2.0			-2.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
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		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.46			0.09			0.64			0.47	
Control Delay		6.7			6.4			13.7			7.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.7			6.4			13.7			7.8	
Queue Length 50th (ft)		8			1			73			56	
Queue Length 95th (ft)		43			14			#268			154	
Internal Link Dist (ft)		6310			420			6070			10220	
Turn Bay Length (ft)												

Lanes, Volumes, Timings 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

PM 2037 B
Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		904			826			917			1133	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.27			0.04			0.64			0.47	

Intersection Summary

Area Type: Other

Cycle Length: 48

Actuated Cycle Length: 38.4

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

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

Splits and Phases: 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

 Ø2	 Ø4
24 s	24 s
 Ø6	 Ø8
24 s	24 s

HCM Signalized Intersection Capacity Analysis

10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

PM 2037 B
Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	11	174	5	3	25	140	401	2	5	440	39
Future Volume (vph)	35	11	174	5	3	25	140	401	2	5	440	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.89			0.90			1.00			0.99	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1650			1659			1856			1824	
Flt Permitted		0.94			0.93			0.78			0.99	
Satd. Flow (perm)		1558			1556			1473			1813	
Peak-hour factor, PHF	0.91	0.91	0.91	0.90	0.90	0.90	0.92	0.92	0.92	0.90	0.90	0.90
Adj. Flow (vph)	38	12	191	6	3	28	152	436	2	6	489	43
RTOR Reduction (vph)	0	150	0	0	22	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	91	0	0	15	0	0	590	0	0	533	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		6.4			6.4			21.1			21.1	
Effective Green, g (s)		8.4			8.4			23.1			23.1	
Actuated g/C Ratio		0.21			0.21			0.58			0.58	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		331			330			861			1060	
v/s Ratio Prot												
v/s Ratio Perm		c0.06			0.01			c0.40			0.29	
v/c Ratio		0.27			0.05			0.69			0.50	
Uniform Delay, d1		13.0			12.4			5.7			4.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.1			2.3			0.4	
Delay (s)		13.5			12.4			8.0			5.2	
Level of Service		B			B			A			A	
Approach Delay (s)		13.5			12.4			8.0			5.2	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.0									
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			39.5									
Intersection Capacity Utilization			82.8%									
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

SAT 2037 B
Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	5	193	11	9	39	126	493	3	9	460	35
Future Volume (vph)	25	5	193	11	9	39	126	493	3	9	460	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		6390			500			6150			10300	
Travel Time (s)		145.2			11.4			139.8			234.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	248	0	0	65	0	0	691	0	0	553	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (s)	24.0	24.0		24.0	24.0		24.0	24.0		24.0	24.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0			-2.0			-2.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
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		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
v/c Ratio		0.46			0.16			0.80			0.54	
Control Delay		6.2			6.8			19.0			8.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.2			6.8			19.0			8.6	
Queue Length 50th (ft)		5			3			90			55	
Queue Length 95th (ft)		41			21			#323			157	
Internal Link Dist (ft)		6310			420			6070			10220	
Turn Bay Length (ft)												

Lanes, Volumes, Timings
 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

SAT 2037 B
 Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		905			811			869			1029	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.27			0.08			0.80			0.54	

Intersection Summary

Area Type: Other

Cycle Length: 48

Actuated Cycle Length: 40.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

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

Splits and Phases: 10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

 Ø2	 Ø4
24 s	24 s
 Ø6	 Ø8
24 s	24 s

HCM Signalized Intersection Capacity Analysis

10: US3 (DWHwy) & Roller Coaster Rd/Watson Rd

SAT 2037 B
Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	5	193	11	9	39	126	493	3	9	460	35
Future Volume (vph)	25	5	193	11	9	39	126	493	3	9	460	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.88			0.91			1.00			0.99	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1653			1681			1861			1844	
Flt Permitted		0.95			0.92			0.82			0.99	
Satd. Flow (perm)		1586			1566			1543			1820	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91
Adj. Flow (vph)	28	6	214	12	10	43	140	548	3	10	505	38
RTOR Reduction (vph)	0	164	0	0	33	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	84	0	0	32	0	0	691	0	0	549	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		7.4			7.4			20.7			20.7	
Effective Green, g (s)		9.4			9.4			22.7			22.7	
Actuated g/C Ratio		0.23			0.23			0.57			0.57	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		371			367			873			1030	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.02			c0.45			0.30	
v/c Ratio		0.23			0.09			0.79			0.53	
Uniform Delay, d1		12.4			12.0			6.8			5.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.1			4.9			0.5	
Delay (s)		12.7			12.1			11.8			5.9	
Level of Service		B			B			B			A	
Approach Delay (s)		12.7			12.1			11.8			5.9	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			9.9									
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			40.1									
Intersection Capacity Utilization			86.0%									
Analysis Period (min)			15									
c Critical Lane Group												

ATTACHMENT K

Intersection #11: SIDRA (AM/PM/SAT)

2037 No-Build

2037 Build

USER REPORT FOR SITE

TFM SIDRA REPORT



Site: [11] 11-Endicott St Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

DWHwy

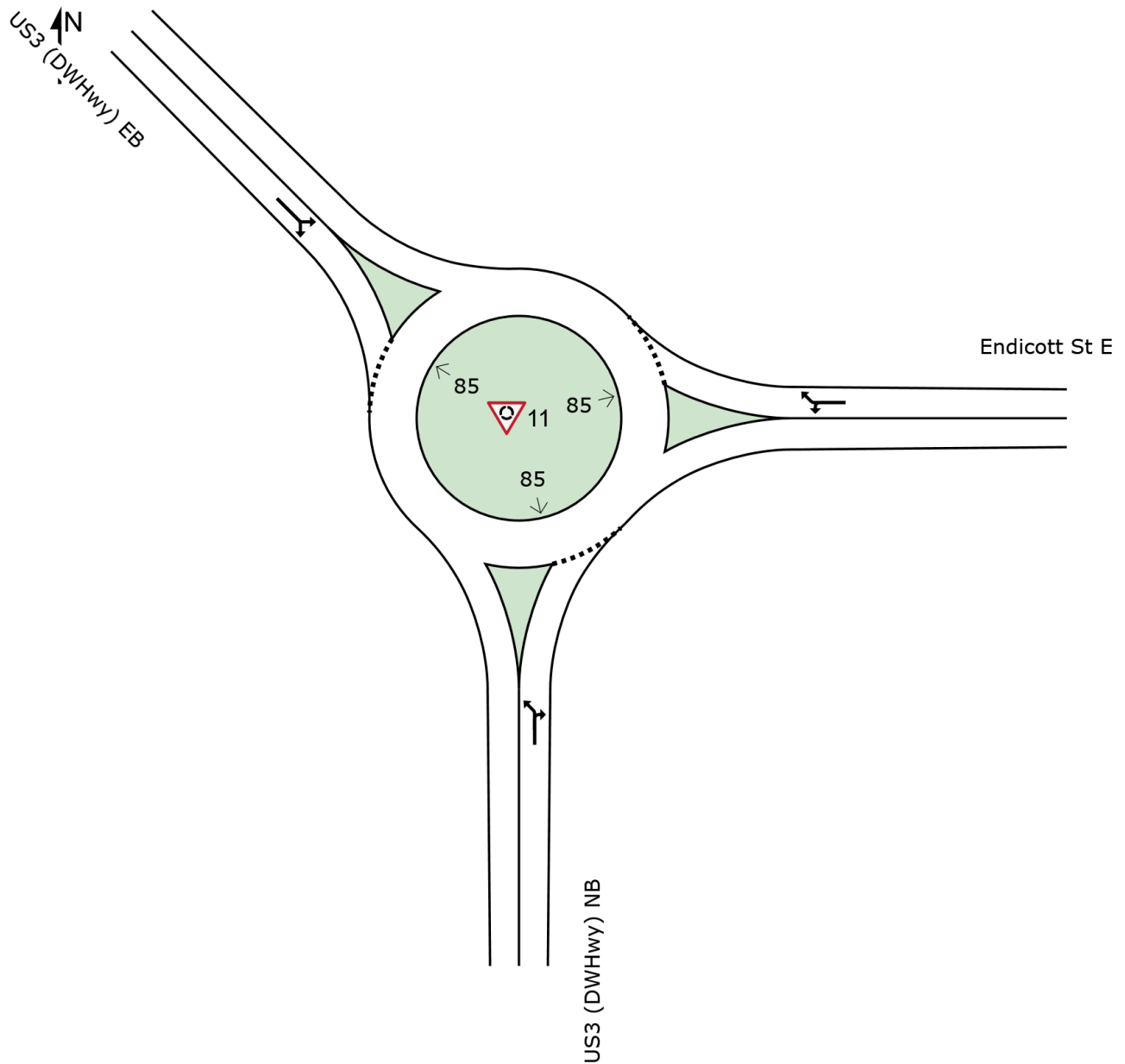
Site Category: Future Conditions 1

Roundabout

Site Scenario: 5 | AM 2037 NB - 11 STATE

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Lane Use and Performance															
	Demand Flows				Arrival Flows Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total	HV]	[Total	HV]						[Veh	Dist]				
	veh/h	%	veh/h	%						veh/h	v/c				
South: US3 (DWHwy) NB															
Lane 1 ^d	196	2.0	196	2.0	891	0.220	100	6.2	LOS A	1.0	25.2	Full	1600	0.0	0.0
Approach	196	2.0	196	2.0		0.220		6.2	LOS A	1.0	25.2				
East: Endicott St E															
Lane 1 ^d	430	6.0	430	6.0	1092	0.394	100	7.3	LOS A	2.3	59.4	Full	1600	0.0	0.0
Approach	430	6.0	430	6.0		0.394		7.3	LOS A	2.3	59.4				
NorthWest: US3 (DWHwy) EB															
Lane 1 ^d	592	4.0	592	4.0	1263	0.469	100	7.2	LOS A	3.4	87.5	Full	1600	0.0	0.0
Approach	592	4.0	592	4.0		0.469		7.2	LOS A	3.4	87.5				
All Vehicles	1218	4.4	1218	4.4		0.469		7.1	LOS A	3.4	87.5				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

USER REPORT FOR SITE

TFM SIDRA REPORT



Site: [11] 11-Endicott St Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

DWHwy

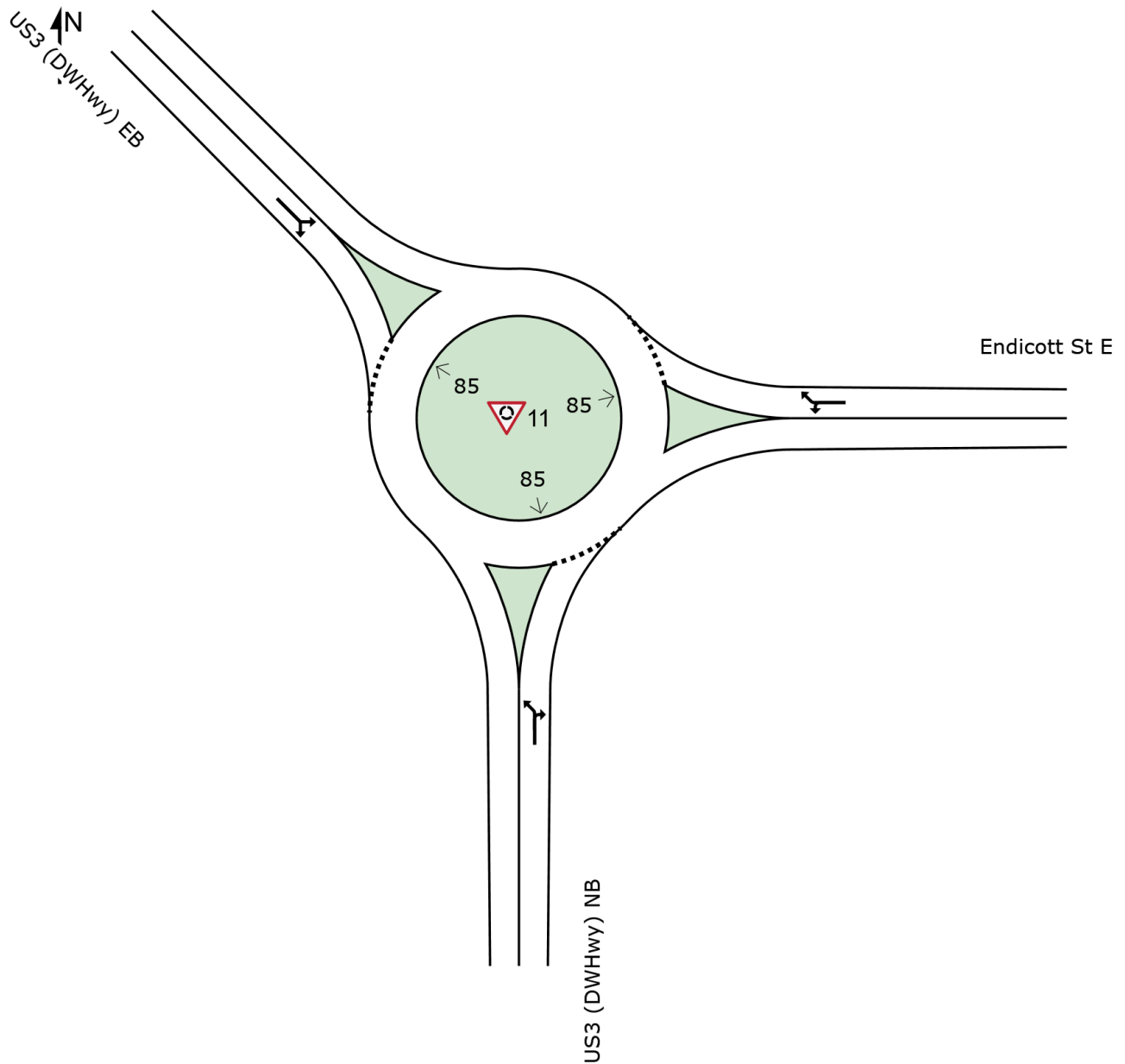
Site Category: Future Conditions 1

Roundabout

Site Scenario: 6 | PM 2037 NB - 11 STATE

Site Layout

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Lane Use and Performance															
	Demand Flows				Arrival Flows Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total	HV]	[Total	HV]						[Veh	Dist]				
	veh/h	%	veh/h	%						veh/h	v/c				
South: US3 (DWHwy) NB															
Lane 1 ^d	377	2.0	377	2.0	991	0.380	100	7.7	LOS A	2.1	52.4	Full	1600	0.0	0.0
Approach	377	2.0	377	2.0		0.380		7.7	LOS A	2.1	52.4				
East: Endicott St E															
Lane 1 ^d	411	5.0	411	5.0	913	0.451	100	9.3	LOS A	2.7	69.0	Full	1600	0.0	0.0
Approach	411	5.0	411	5.0		0.451		9.3	LOS A	2.7	69.0				
NorthWest: US3 (DWHwy) EB															
Lane 1 ^d	604	2.0	604	2.0	1294	0.467	100	7.0	LOS A	3.5	87.6	Full	1600	0.0	0.0
Approach	604	2.0	604	2.0		0.467		7.0	LOS A	3.5	87.6				
All Vehicles	1392	2.9	1392	2.9		0.467		7.9	LOS A	3.5	87.6				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

TFM SIDRA REPORT



Site: [11] 11-Endicott St Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

DWHwy

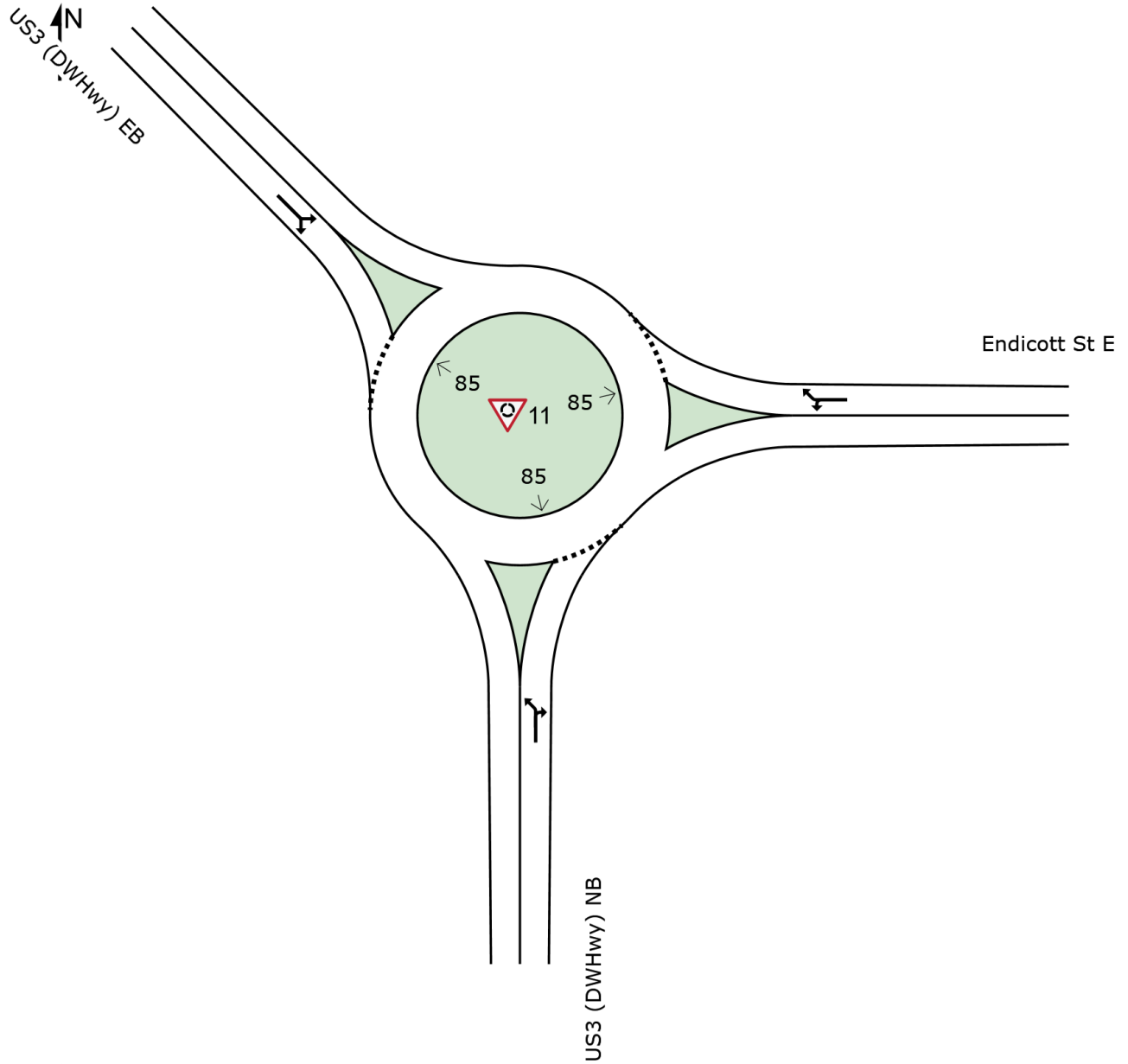
Site Category: Future Conditions 1

Roundabout

Site Scenario: 7 | SAT 2037 NB - 11 STATE

Site Layout

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Lane Use and Performance															
	Demand Flows				Arrival Flows Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total veh/h		HV] %							Queue [Veh	Dist] ft				
South: US3 (DWHwy) NB															
Lane 1 ^d	482	2.0	482	2.0	985	0.489	100	9.4	LOS A	3.2	82.2	Full	1600	0.0	0.0
Approach	482	2.0	482	2.0		0.489		9.4	LOS A	3.2	82.2				
East: Endicott St E															
Lane 1 ^d	440	1.0	440	1.0	887	0.496	100	10.4	LOS B	3.6	89.7	Full	1600	0.0	0.0
Approach	440	1.0	440	1.0		0.496		10.4	LOS B	3.6	89.7				
NorthWest: US3 (DWHwy) EB															
Lane 1 ^d	767	1.0	767	1.0	1275	0.601	100	9.3	LOS A	5.6	142.1	Full	1600	0.0	0.0
Approach	767	1.0	767	1.0		0.601		9.3	LOS A	5.6	142.1				
All Vehicles	1689	1.3	1689	1.3		0.601		9.6	LOS A	5.6	142.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

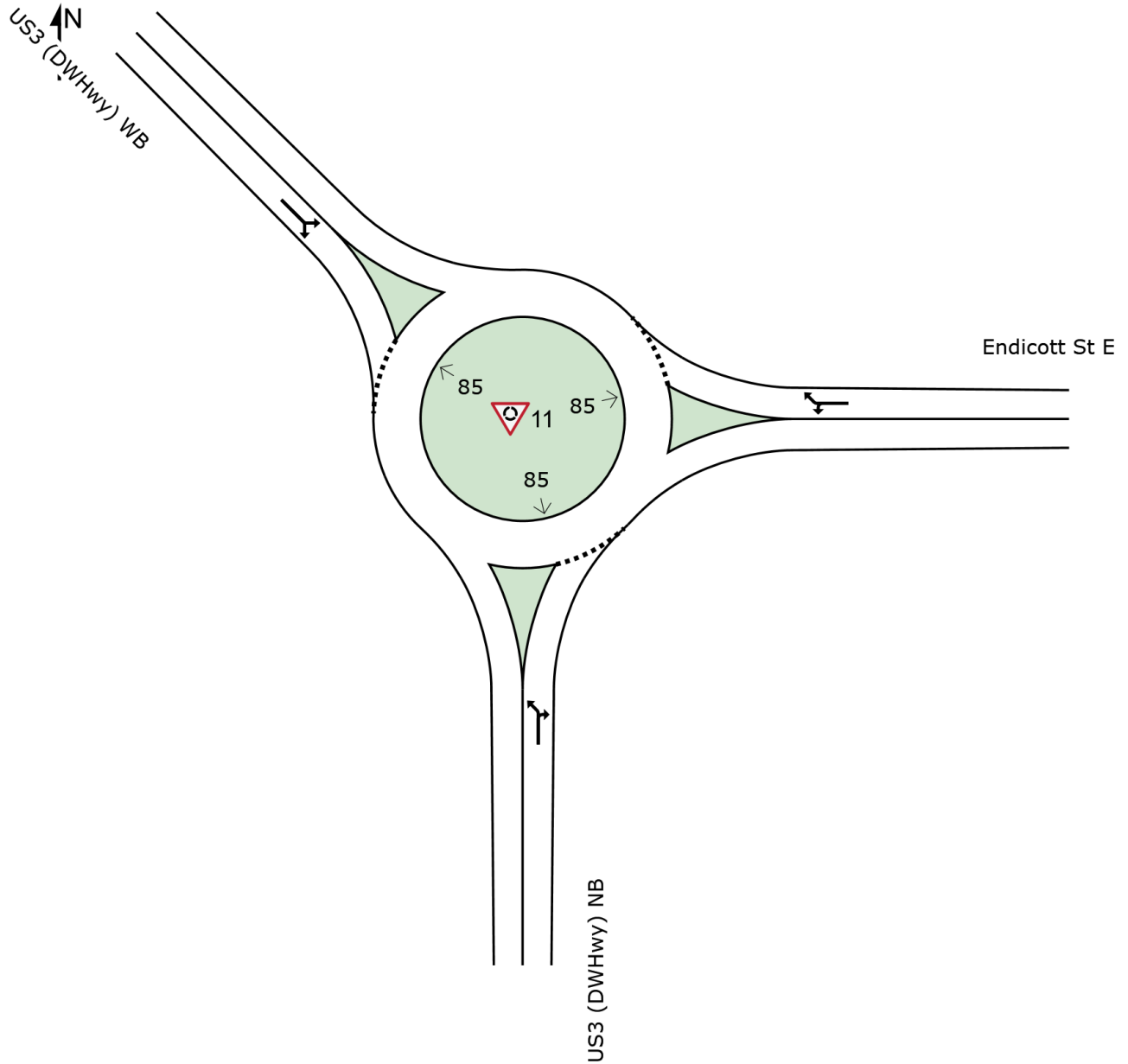
^d Dominant lane on roundabout approach

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Project: F:\TFM Projects\96126 Legacy at Laconia - Laconia, NH\96126-01 Pillsbury - NH State School Due Diligence\Traffic\SIDRA\96126-01 ROUNDABOUT.sipx

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

Site Scenario: 2 | AM 2037 BUILD - 11 STATE

Lane Use and Performance																			
	Demand Flows				Arrival	Flows	Cap.	Deg.	Lane	Aver.	Level of	95% Back Of		Lane	Lane	Cap.	Prob.		
	[Total		HV]	[Total	HV]	Satn		Util.	Delay		Service	Queue	Dist]			Config	Length	Adj.	Block.
	veh/h	%	veh/h	%	veh/h	v/c		%	sec				Veh			ft		ft	%
South: US3 (DWHwy) NB																			
Lane 1 ^d	196	2.0	196	2.0	869	0.226	100	6.4	LOS A	1.0	25.7	Full	1600	0.0	0.0				
Approach	196	2.0	196	2.0		0.226		6.4	LOS A	1.0	25.7								
East: Endicott St E																			
Lane 1 ^d	460	6.0	460	6.0	1092	0.421	100	7.7	LOS A	2.5	65.7	Full	1600	0.0	0.0				
Approach	460	6.0	460	6.0		0.421		7.7	LOS A	2.5	65.7								
NorthWest: US3 (DWHwy) EB																			
Lane 1 ^d	615	4.0	615	4.0	1263	0.487	100	7.5	LOS A	3.6	94.0	Full	1600	0.0	0.0				
Approach	615	4.0	615	4.0		0.487		7.5	LOS A	3.6	94.0								
All Vehicles	1271	4.4	1271	4.4		0.487		7.4	LOS A	3.6	94.0								

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

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TFM SIDRA REPORT



Site: [11] Endicott St Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

DWHwy

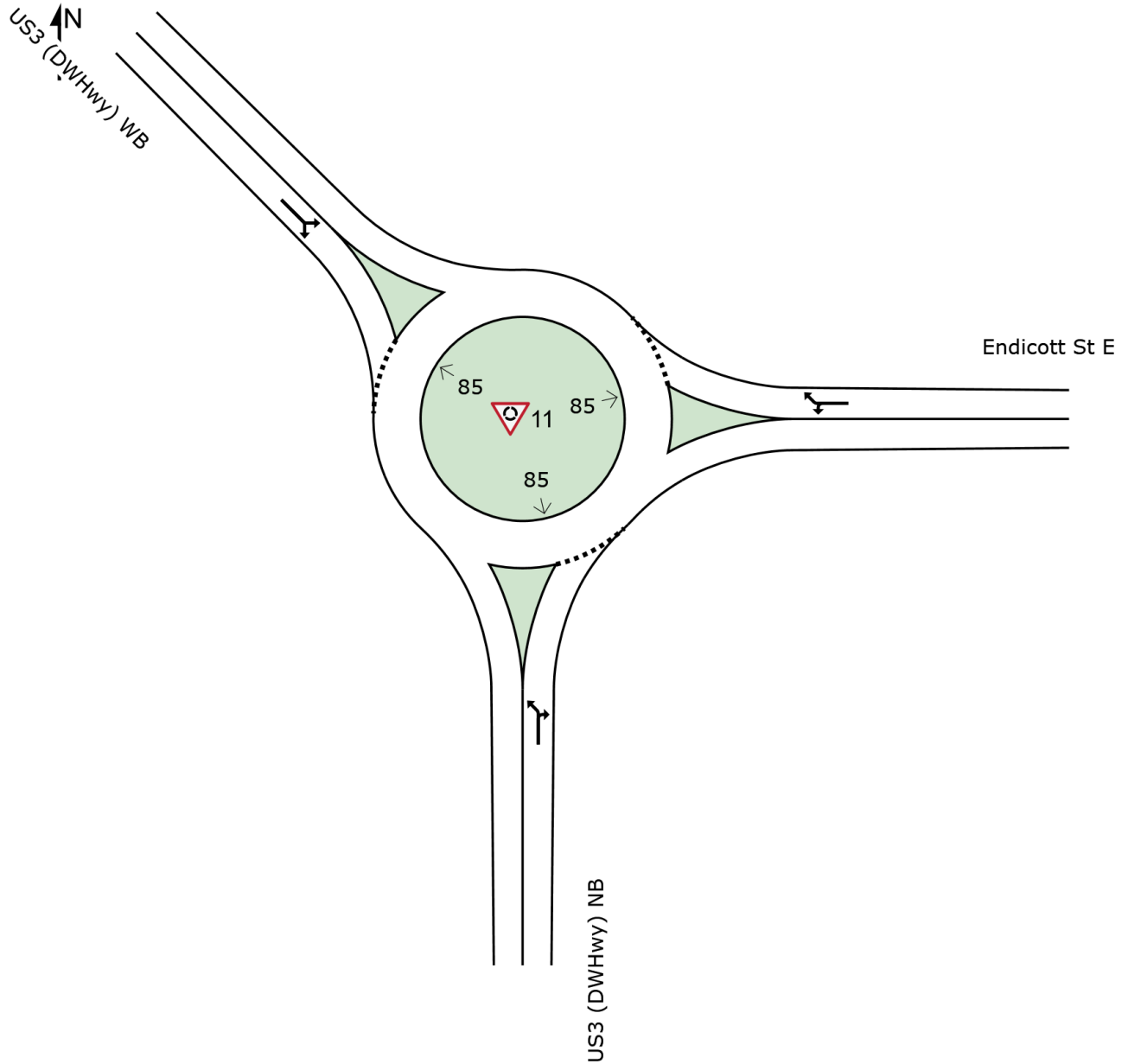
Site Category: Future Conditions 1

Roundabout

Site Scenario: 3 | PM 2037 BUILD - 11 STATE

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Lane Use and Performance															
	Demand Flows				Arrival Flows Cap.	Deg. Satn	Lane Util.	Aver. Delay	Level of Service	95% Back Of Queue		Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	[Total	HV]	[Total	HV]						[Veh	Dist]				
	veh/h	%	veh/h	%						veh/h	v/c				
South: US3 (DWHwy) NB															
Lane 1 ^d	389	2.0	389	2.0	968	0.402	100	8.1	LOS A	2.2	55.9	Full	1600	0.0	0.0
Approach	389	2.0	389	2.0		0.402		8.1	LOS A	2.2	55.9				
East: Endicott St E															
Lane 1 ^d	433	5.0	433	5.0	900	0.481	100	9.9	LOS A	3.2	83.0	Full	1600	0.0	0.0
Approach	433	5.0	433	5.0		0.481		9.9	LOS A	3.2	83.0				
NorthWest: US3 (DWHwy) EB															
Lane 1 ^d	634	2.0	634	2.0	1294	0.490	100	7.3	LOS A	3.8	95.9	Full	1600	0.0	0.0
Approach	634	2.0	634	2.0		0.490		7.3	LOS A	3.8	95.9				
All Vehicles	1456	2.9	1456	2.9		0.490		8.3	LOS A	3.8	95.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglöch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

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TFM SIDRA REPORT



Site: [11] 11-Endicott St Roundabout (STATE ROUNDABOUTS)

Output produced by SIDRA INTERSECTION Version: 10.0.3.210

DWHwy

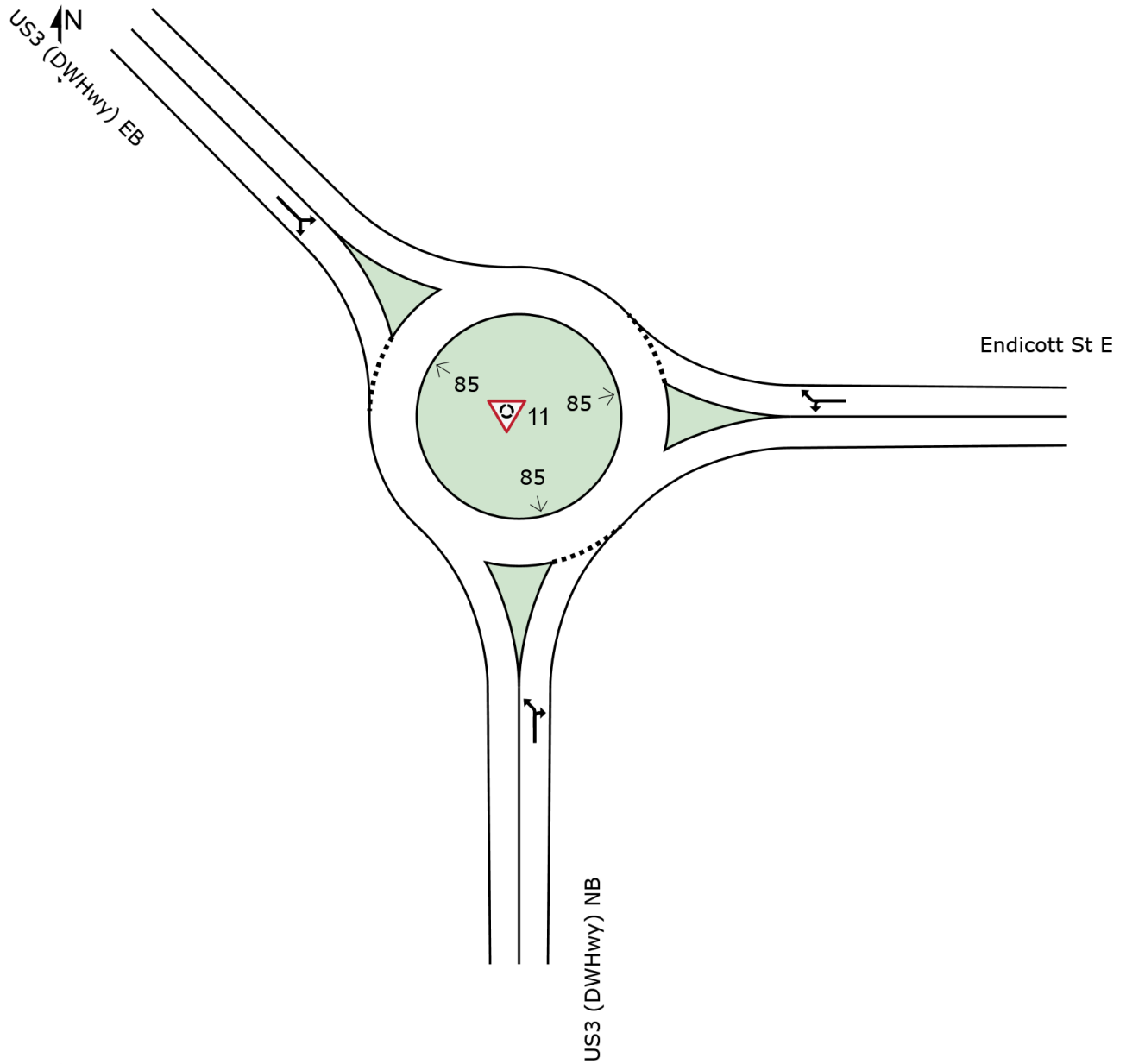
Site Category: Future Conditions 1

Roundabout

Site Scenario: 4 | SAT 2037 BUILD - 11 STATE

Site Layout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



Lane Use and Performance																	
	Demand Flows				Arrival	Flows	Cap.	Deg.	Lane	Aver.	Level of	95% Back Of		Lane	Lane	Cap.	Prob.
	[Total		HV]	[Total	HV]	Satn		Util.	Delay	Service	Queue		Config	Length	Adj.	Block.	
	veh/h	%	veh/h	%	veh/h	v/c		%	sec		[Veh	Dist]		ft		%	%
South: US3 (DWHwy) NB																	
Lane 1 ^d	493	2.0	493	2.0	951	0.519	100	10.3	LOS B	4.0	101.3	Full	1600	0.0	0.0		
Approach	493	2.0	493	2.0		0.519		10.3	LOS B	4.0	101.3						
East: Endicott St E																	
Lane 1 ^d	475	1.0	475	1.0	877	0.542	100	11.4	LOS B	4.4	110.8	Full	1600	0.0	0.0		
Approach	475	1.0	475	1.0		0.542		11.4	LOS B	4.4	110.8						
NorthWest: US3 (DWHwy) EB																	
Lane 1 ^d	811	1.0	811	1.0	1275	0.637	100	10.0	LOS B	6.4	162.5	Full	1600	0.0	0.0		
Approach	811	1.0	811	1.0		0.637		10.0	LOS B	6.4	162.5						
All Vehicles	1780	1.3	1780	1.3		0.637		10.5	LOS B	6.4	162.5						

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c >1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Gap-Acceptance Capacity Formula: Sieglösch M1 implied by US HCM 6 Roundabout Capacity Model.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

^d Dominant lane on roundabout approach

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Project: F:\TFM Projects\96126 Legacy at Laconia - Laconia, NH\96126-01 Pillsbury - NH State School Due Diligence\Traffic\SIDRA\96126-01 ROUNDABOUT.sipx

ATTACHMENT L

Intersection #12: Synchro (AM/PM/SAT)

2037 No-Build

2037 Build

2037 Build Mit

Lanes, Volumes, Timings

AM 2037 NB

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	418	13	8	357	197	3	3	4	176	3	193
Future Volume (vph)	151	418	13	8	357	197	3	3	4	176	3	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	100		0	0		50	150		400
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	300			150			25			200		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3458			600			1001			11270	
Travel Time (s)		78.6			13.6			22.8			256.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	168	478	0	9	397	219	3	7	0	100	99	214
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			20			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	16.0		11.0	16.0		10.0	10.0		10.0	10.0	
Total Split (s)	36.0	41.0		21.0	41.0		26.0	26.0		31.0	31.0	
Total Split (%)	26.9%	30.6%		15.7%	30.6%		19.4%	19.4%		23.1%	23.1%	
Maximum Green (s)	30.0	35.0		15.0	35.0		20.0	20.0		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)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	None	Min		None	Min		Min	Min		Min	Min	
v/c Ratio	0.48	0.48		0.05	0.67	0.14	0.02	0.04		0.37	0.36	0.14
Control Delay	36.8	14.7		41.1	31.7	0.2	41.3	32.0		38.6	38.5	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	36.8	14.7		41.1	31.7	0.2	41.3	32.0		38.6	38.5	0.2
Queue Length 50th (ft)	79	129		4	176	0	2	2		50	49	0
Queue Length 95th (ft)	163	321		22	325	0	11	16		115	115	0
Internal Link Dist (ft)		3378			520			921			11190	
Turn Bay Length (ft)	175			100						150		400

Lanes, Volumes, Timings

AM 2037 NB

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	669	1160		355	815	1538	473	458		541	544	1553
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.25	0.41		0.03	0.49	0.14	0.01	0.02		0.18	0.18	0.14

Intersection Summary

Area Type: Other

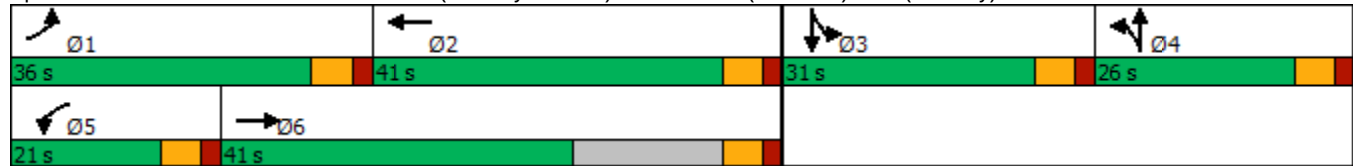
Cycle Length: 134

Actuated Cycle Length: 84.6

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy)



HCM Signalized Intersection Capacity Analysis

AM 2037 NB

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	418	13	8	357	197	3	3	4	176	3	193
Future Volume (vph)	151	418	13	8	357	197	3	3	4	176	3	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	4.0	4.0		4.0	4.0	2.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1719	1802		1719	1810	1538	1770	1703		1649	1655	1553
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1719	1802		1719	1810	1538	1770	1703		1649	1655	1553
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	168	464	14	9	397	219	3	3	4	196	3	214
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	168	478	0	9	397	219	3	3	0	100	99	214
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Actuated Green, G (s)	15.2	44.8		1.3	30.9	89.1	7.0	7.0		12.0	12.0	89.1
Effective Green, g (s)	17.2	46.8		3.3	32.9	89.1	9.0	9.0		14.0	14.0	89.1
Actuated g/C Ratio	0.19	0.53		0.04	0.37	1.00	0.10	0.10		0.16	0.16	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	331	946		63	668	1538	178	172		259	260	1553
v/s Ratio Prot	c0.10	0.27		0.01	c0.22		0.00	0.00		c0.06	0.06	
v/s Ratio Perm						c0.14						0.14
v/c Ratio	0.51	0.50		0.14	0.59	0.14	0.02	0.02		0.39	0.38	0.14
Uniform Delay, d1	32.2	13.7		41.5	22.7	0.0	36.1	36.1		33.7	33.7	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.7	0.6		1.4	1.7	0.2	0.1	0.1		1.3	1.3	0.2
Delay (s)	33.8	14.2		43.0	24.4	0.2	36.1	36.1		35.0	34.9	0.2
Level of Service	C	B		D	C	A	D	D		C	C	A
Approach Delay (s)		19.3			16.2			36.1			16.9	
Approach LOS		B			B			D			B	
Intersection Summary												
HCM 2000 Control Delay			17.7			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			89.1			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			48.8%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

PM 2037 NB

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	1053	15	10	672	299	17	3	16	290	6	200
Future Volume (vph)	225	1053	15	10	672	299	17	3	16	290	6	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	100		0	0		50	150		400
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	300			150			25			200		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3458			600			1001			11270	
Travel Time (s)		78.6			13.6			22.8			256.1	
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	239	1136	0	11	747	332	19	21	0	164	165	222
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			20			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	16.0		11.0	16.0		10.0	10.0		10.0	10.0	
Total Split (s)	36.0	46.0		21.0	46.0		26.0	26.0		31.0	31.0	
Total Split (%)	25.9%	33.1%		15.1%	33.1%		18.7%	18.7%		22.3%	22.3%	
Maximum Green (s)	30.0	40.0		15.0	40.0		20.0	20.0		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)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	None	Min		None	Min		Min	Min		Min	Min	
v/c Ratio	0.65	1.01		0.07	1.05	0.21	0.12	0.13		0.56	0.56	0.14
Control Delay	49.7	53.6		53.0	82.7	0.3	52.8	26.1		50.6	50.7	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	49.7	53.6		53.0	82.7	0.3	52.8	26.1		50.6	50.7	0.2
Queue Length 50th (ft)	155	705		7	~574	0	13	2		112	113	0
Queue Length 95th (ft)	262	#1448		29	#1011	0	41	29		204	204	0
Internal Link Dist (ft)		3378			520			921			11190	
Turn Bay Length (ft)	175			100						150		400

Lanes, Volumes, Timings

PM 2037 NB

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	515	1123		274	712	1583	351	336		413	415	1583
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.46	1.01		0.04	1.05	0.21	0.05	0.06		0.40	0.40	0.14

Intersection Summary

Area Type: Other

Cycle Length: 139

Actuated Cycle Length: 111.1

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

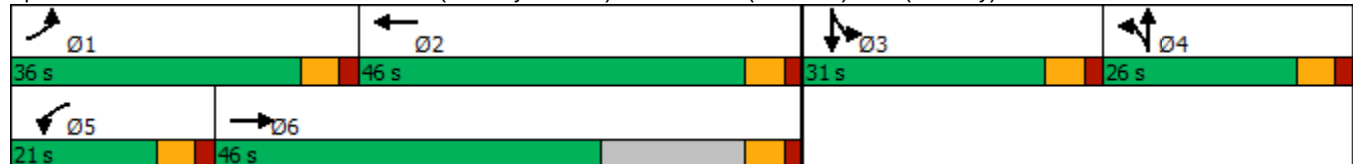
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy)



HCM Signalized Intersection Capacity Analysis

PM 2037 NB

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	1053	15	10	672	299	17	3	16	290	6	200
Future Volume (vph)	225	1053	15	10	672	299	17	3	16	290	6	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	4.0	4.0		4.0	4.0	2.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1770	1859		1770	1863	1583	1752	1607		1681	1689	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1770	1859		1770	1863	1583	1752	1607		1681	1689	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	239	1120	16	11	747	332	19	3	18	322	7	222
RTOR Reduction (vph)	0	0	0	0	0	0	0	16	0	0	0	0
Lane Group Flow (vph)	239	1136	0	11	747	332	19	5	0	164	165	222
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Actuated Green, G (s)	21.1	65.1		1.5	45.5	115.9	7.9	7.9		17.4	17.4	115.9
Effective Green, g (s)	23.1	67.1		3.5	47.5	115.9	9.9	9.9		19.4	19.4	115.9
Actuated g/C Ratio	0.20	0.58		0.03	0.41	1.00	0.09	0.09		0.17	0.17	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	352	1076		53	763	1583	149	137		281	282	1583
v/s Ratio Prot	c0.14	c0.61		0.01	0.40		0.01	0.00		0.10	c0.10	
v/s Ratio Perm						c0.21						0.14
v/c Ratio	0.68	1.06		0.21	0.98	0.21	0.13	0.03		0.58	0.59	0.14
Uniform Delay, d1	43.0	24.4		54.8	33.7	0.0	49.0	48.6		44.5	44.5	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.6	43.3		2.6	27.2	0.3	0.5	0.1		3.6	3.6	0.2
Delay (s)	48.6	67.7		57.5	60.9	0.3	49.5	48.7		48.2	48.2	0.2
Level of Service	D	E		E	E	A	D	D		D	D	A
Approach Delay (s)		64.4			42.4			49.1			28.8	
Approach LOS		E			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			49.9			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			115.9			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			85.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

SAT 2037 NB

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	839	24	21	830	316	18	9	4	446	13	348
Future Volume (vph)	251	839	24	21	830	316	18	9	4	446	13	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	100		0	0		50	150		400
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	300			150			25			200		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3458			600			1001			11270	
Travel Time (s)		78.6			13.6			22.8			256.1	
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	279	959	0	22	883	336	20	14	0	253	257	387
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			20			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	16.0		11.0	16.0		10.0	10.0		10.0	10.0	
Total Split (s)	36.0	57.0		20.0	41.0		26.0	26.0		31.0	31.0	
Total Split (%)	26.9%	42.5%		14.9%	30.6%		19.4%	19.4%		23.1%	23.1%	
Maximum Green (s)	30.0	51.0		14.0	35.0		20.0	20.0		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)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	None	None		None	None		None	None		Min	Min	
v/c Ratio	0.68	0.90		0.13	1.31	0.21	0.12	0.08		0.68	0.68	0.24
Control Delay	48.0	36.5		52.0	181.5	0.3	52.1	43.1		50.1	50.4	0.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	48.0	36.5		52.0	181.5	0.3	52.1	43.1		50.1	50.4	0.4
Queue Length 50th (ft)	193	588		15	~905	0	14	7		180	183	0
Queue Length 95th (ft)	293	#1146		44	#1250	0	41	29		297	302	0
Internal Link Dist (ft)		3378			520			921			11190	
Turn Bay Length (ft)	175			100						150		400

Lanes, Volumes, Timings

SAT 2037 NB

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	548	1071		276	673	1599	373	378		443	446	1599
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.51	0.90		0.08	1.31	0.21	0.05	0.04		0.57	0.58	0.24

Intersection Summary

Area Type: Other

Cycle Length: 134

Actuated Cycle Length: 106.3

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy)

 Ø1	 Ø2	 Ø3	 Ø4
36 s	41 s	31 s	26 s
 Ø5	 Ø6		
20 s	57 s		

HCM Signalized Intersection Capacity Analysis

SAT 2037 NB

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	839	24	21	830	316	18	9	4	446	13	348
Future Volume (vph)	251	839	24	21	830	316	18	9	4	446	13	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	4.0	4.0		4.0	4.0	2.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1770	1855		1787	1881	1599	1752	1766		1698	1706	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1770	1855		1787	1881	1599	1752	1766		1698	1706	1599
Peak-hour factor, PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	279	932	27	22	883	336	20	10	4	496	14	387
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	279	959	0	22	883	336	20	10	0	253	257	387
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Actuated Green, G (s)	22.5	59.4		3.3	40.2	112.8	4.7	4.7		21.4	21.4	112.8
Effective Green, g (s)	24.5	61.4		5.3	42.2	112.8	6.7	6.7		23.4	23.4	112.8
Actuated g/C Ratio	0.22	0.54		0.05	0.37	1.00	0.06	0.06		0.21	0.21	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	384	1009		83	703	1599	104	104		352	353	1599
v/s Ratio Prot	c0.16	c0.52		0.01	c0.47		0.01	0.01		0.15	c0.15	
v/s Ratio Perm						0.21						c0.24
v/c Ratio	0.73	0.95		0.27	1.26	0.21	0.19	0.10		0.72	0.73	0.24
Uniform Delay, d1	41.0	24.3		51.9	35.3	0.0	50.5	50.2		41.6	41.7	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.2	17.5		2.3	126.6	0.3	1.2	0.6		7.3	7.8	0.4
Delay (s)	48.2	41.7		54.2	161.9	0.3	51.7	50.8		49.0	49.5	0.4
Level of Service	D	D		D	F	A	D	D		D	D	A
Approach Delay (s)		43.2			116.3			51.3			28.2	
Approach LOS		D			F			D			C	
Intersection Summary												
HCM 2000 Control Delay			65.9			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			112.8			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			87.0%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

AM 2037 B

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	482	13	8	385	195	3	3	4	175	3	194
Future Volume (vph)	152	482	13	8	385	195	3	3	4	175	3	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	100		0	0		50	150		400
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	300			150			25			200		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3458			600			1001			11270	
Travel Time (s)		78.6			13.6			22.8			256.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	169	550	0	9	428	217	3	7	0	99	98	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			20			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	16.0		11.0	16.0		10.0	10.0		10.0	10.0	
Total Split (s)	36.0	41.0		21.0	41.0		26.0	26.0		31.0	31.0	
Total Split (%)	26.9%	30.6%		15.7%	30.6%		19.4%	19.4%		23.1%	23.1%	
Maximum Green (s)	30.0	35.0		15.0	35.0		20.0	20.0		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)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	None	Min		None	Min		Min	Min		Min	Min	
v/c Ratio	0.49	0.54		0.05	0.69	0.14	0.02	0.04		0.37	0.37	0.14
Control Delay	38.0	15.6		41.9	31.9	0.2	42.0	32.3		39.8	39.6	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	38.0	15.6		41.9	31.9	0.2	42.0	32.3		39.8	39.6	0.2
Queue Length 50th (ft)	83	157		5	195	0	2	2		51	51	0
Queue Length 95th (ft)	165	386		22	356	0	11	16		115	114	0
Internal Link Dist (ft)		3378			520			921			11190	
Turn Bay Length (ft)	175			100						150		400

Lanes, Volumes, Timings

AM 2037 B

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	650	1142		345	792	1538	460	446		526	528	1553
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.26	0.48		0.03	0.54	0.14	0.01	0.02		0.19	0.19	0.14

Intersection Summary

Area Type: Other

Cycle Length: 134

Actuated Cycle Length: 86.8

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy)

 Ø1	 Ø2	 Ø3	 Ø4
36 s	41 s	31 s	26 s
 Ø5	 Ø6		
21 s	41 s		

HCM Signalized Intersection Capacity Analysis

AM 2037 B

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	482	13	8	385	195	3	3	4	175	3	194
Future Volume (vph)	152	482	13	8	385	195	3	3	4	175	3	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	4.0	4.0		4.0	4.0	2.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1719	1803		1719	1810	1538	1770	1703		1649	1655	1553
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1719	1803		1719	1810	1538	1770	1703		1649	1655	1553
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	169	536	14	9	428	217	3	3	4	194	3	216
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	169	550	0	9	428	217	3	3	0	99	98	216
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Actuated Green, G (s)	15.4	47.0		1.3	32.9	91.3	7.0	7.0		12.0	12.0	91.3
Effective Green, g (s)	17.4	49.0		3.3	34.9	91.3	9.0	9.0		14.0	14.0	91.3
Actuated g/C Ratio	0.19	0.54		0.04	0.38	1.00	0.10	0.10		0.15	0.15	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	327	967		62	691	1538	174	167		252	253	1553
v/s Ratio Prot	c0.10	c0.30		0.01	c0.24		0.00	0.00		c0.06	0.06	
v/s Ratio Perm						c0.14						0.14
v/c Ratio	0.52	0.57		0.15	0.62	0.14	0.02	0.02		0.39	0.39	0.14
Uniform Delay, d1	33.2	14.1		42.6	22.8	0.0	37.2	37.2		34.8	34.8	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.8	0.9		1.5	1.9	0.2	0.1	0.1		1.4	1.3	0.2
Delay (s)	35.0	15.0		44.1	24.7	0.2	37.2	37.2		36.2	36.1	0.2
Level of Service	D	B		D	C	A	D	D		D	D	A
Approach Delay (s)		19.7			16.9			37.2			17.3	
Approach LOS		B			B			D			B	
Intersection Summary												
HCM 2000 Control Delay			18.2			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			91.3			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			51.9%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

PM 2037 B

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	1101	15	10	736	292	17	3	16	288	6	202
Future Volume (vph)	232	1101	15	10	736	292	17	3	16	288	6	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	100		0	0		50	150		400
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	300			150			25			200		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3458			600			1001			11270	
Travel Time (s)		78.6			13.6			22.8			256.1	
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	247	1187	0	11	818	324	19	21	0	163	164	224
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			20			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	16.0		11.0	16.0		10.0	10.0		10.0	10.0	
Total Split (s)	36.0	46.0		21.0	46.0		26.0	26.0		31.0	31.0	
Total Split (%)	25.9%	33.1%		15.1%	33.1%		18.7%	18.7%		22.3%	22.3%	
Maximum Green (s)	30.0	40.0		15.0	40.0		20.0	20.0		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)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	None	Min		None	Min		Min	Min		Min	Min	
v/c Ratio	0.66	1.05		0.07	1.15	0.20	0.12	0.13		0.56	0.56	0.14
Control Delay	50.1	66.2		53.1	118.0	0.3	52.9	26.2		50.8	50.8	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	50.1	66.2		53.1	118.0	0.3	52.9	26.2		50.8	50.8	0.2
Queue Length 50th (ft)	161	~825		7	~685	0	13	2		112	113	0
Queue Length 95th (ft)	271	#1540		29	#1138	0	41	29		203	204	0
Internal Link Dist (ft)		3378			520			921			11190	
Turn Bay Length (ft)	175			100						150		400

Lanes, Volumes, Timings

PM 2037 B

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	513	1126		273	709	1583	349	335		411	413	1583
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.48	1.05		0.04	1.15	0.20	0.05	0.06		0.40	0.40	0.14

Intersection Summary

Area Type: Other

Cycle Length: 139

Actuated Cycle Length: 111.5

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

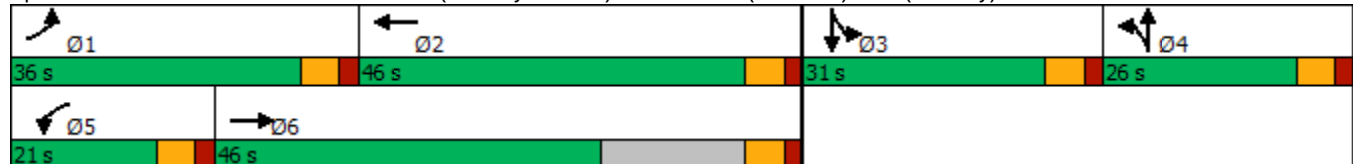
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy)



HCM Signalized Intersection Capacity Analysis

PM 2037 B

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	1101	15	10	736	292	17	3	16	288	6	202
Future Volume (vph)	232	1101	15	10	736	292	17	3	16	288	6	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	4.0	4.0		4.0	4.0	2.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1770	1859		1770	1863	1583	1752	1607		1681	1689	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1770	1859		1770	1863	1583	1752	1607		1681	1689	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	247	1171	16	11	818	324	19	3	18	320	7	224
RTOR Reduction (vph)	0	0	0	0	0	0	0	16	0	0	0	0
Lane Group Flow (vph)	247	1187	0	11	818	324	19	5	0	163	164	224
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Actuated Green, G (s)	21.5	65.5		1.5	45.5	116.3	7.9	7.9		17.4	17.4	116.3
Effective Green, g (s)	23.5	67.5		3.5	47.5	116.3	9.9	9.9		19.4	19.4	116.3
Actuated g/C Ratio	0.20	0.58		0.03	0.41	1.00	0.09	0.09		0.17	0.17	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	357	1078		53	760	1583	149	136		280	281	1583
v/s Ratio Prot	c0.14	c0.64		0.01	0.44		0.01	0.00		0.10	c0.10	
v/s Ratio Perm						c0.20						0.14
v/c Ratio	0.69	1.10		0.21	1.08	0.20	0.13	0.03		0.58	0.58	0.14
Uniform Delay, d1	43.0	24.4		55.0	34.4	0.0	49.2	48.8		44.7	44.7	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.1	59.3		2.6	55.1	0.3	0.5	0.1		3.6	3.6	0.2
Delay (s)	49.2	83.7		57.7	89.5	0.3	49.7	48.9		48.3	48.4	0.2
Level of Service	D	F		E	F	A	D	D		D	D	A
Approach Delay (s)		77.7			64.2			49.3			28.8	
Approach LOS		E			E			D			C	
Intersection Summary												
HCM 2000 Control Delay			64.0			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			116.3			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			87.8%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

SAT 2037 B

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	891	24	21	890	309	18	9	4	444	13	360
Future Volume (vph)	268	891	24	21	890	309	18	9	4	444	13	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	100		0	0		50	150		400
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	300			150			25			200		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3458			600			1001			11270	
Travel Time (s)		78.6			13.6			22.8			256.1	
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	298	1017	0	22	947	329	20	14	0	251	256	400
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			20			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	16.0		11.0	16.0		10.0	10.0		10.0	10.0	
Total Split (s)	36.0	41.0		21.0	41.0		26.0	26.0		31.0	31.0	
Total Split (%)	26.9%	30.6%		15.7%	30.6%		19.4%	19.4%		23.1%	23.1%	
Maximum Green (s)	30.0	35.0		15.0	35.0		20.0	20.0		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)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	None	Min		None	Min		Min	Min		Min	Min	
v/c Ratio	0.73	1.01		0.14	1.54	0.21	0.13	0.09		0.70	0.71	0.25
Control Delay	52.1	57.9		53.0	279.3	0.3	53.1	43.0		53.7	54.3	0.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	52.1	57.9		53.0	279.3	0.3	53.1	43.0		53.7	54.3	0.4
Queue Length 50th (ft)	208	669		16	~1024	0	14	7		181	185	0
Queue Length 95th (ft)	314	#1246		44	#1361	0	41	29		294	301	0
Internal Link Dist (ft)		3378			520			921			11190	
Turn Bay Length (ft)	175			100						150		400

Lanes, Volumes, Timings

SAT 2037 B

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	501	1010		269	616	1599	341	347		406	408	1599
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.59	1.01		0.08	1.54	0.21	0.06	0.04		0.62	0.63	0.25

Intersection Summary

Area Type: Other

Cycle Length: 134

Actuated Cycle Length: 113.8

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

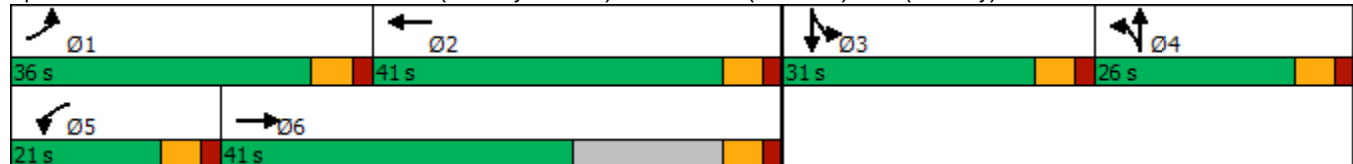
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy)



HCM Signalized Intersection Capacity Analysis

SAT 2037 B

12: Blaisdell Ave/US3 (DWHwy/Lake St) & Union Ave (US3BUS)/US3 (DWHwy) Timing Plan: NHDOT/City

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	891	24	21	890	309	18	9	4	444	13	360
Future Volume (vph)	268	891	24	21	890	309	18	9	4	444	13	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	4.0	4.0		4.0	4.0	2.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1770	1855		1787	1881	1599	1752	1766		1698	1706	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1770	1855		1787	1881	1599	1752	1766		1698	1706	1599
Peak-hour factor, PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	298	990	27	22	947	329	20	10	4	493	14	400
RTOR Reduction (vph)	0	0	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	298	1017	0	22	947	329	20	10	0	251	256	400
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Actuated Green, G (s)	24.3	60.0		3.5	39.2	117.5	7.9	7.9		22.1	22.1	117.5
Effective Green, g (s)	26.3	62.0		5.5	41.2	117.5	9.9	9.9		24.1	24.1	117.5
Actuated g/C Ratio	0.22	0.53		0.05	0.35	1.00	0.08	0.08		0.21	0.21	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	396	978		83	659	1599	147	148		348	349	1599
v/s Ratio Prot	c0.17	c0.55		0.01	c0.50		0.01	0.01		0.15	c0.15	
v/s Ratio Perm						0.21						c0.25
v/c Ratio	0.75	1.04		0.27	1.44	0.21	0.14	0.07		0.72	0.73	0.25
Uniform Delay, d1	42.6	27.8		54.0	38.1	0.0	49.8	49.6		43.6	43.7	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.4	39.5		2.3	205.3	0.3	0.6	0.3		7.7	8.3	0.4
Delay (s)	50.9	67.3		56.4	243.4	0.3	50.4	49.8		51.2	52.0	0.4
Level of Service	D	E		E	F	A	D	D		D	D	A
Approach Delay (s)		63.6			178.6			50.2			29.0	
Approach LOS		E			F			D			C	
Intersection Summary												
HCM 2000 Control Delay			96.6			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			117.5			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			91.0%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

AM 2037 B-MIT
Timing Plan: MIT

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	482	13	8	385	195	3	3	4	175	3	194
Future Volume (vph)	152	482	13	8	385	195	3	3	4	175	3	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	100		0	0		50	150		400
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	300			150			25			200		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3458			600			1001			11270	
Travel Time (s)		78.6			13.6			22.8			256.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	169	550	0	9	428	217	3	7	0	99	98	216
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			20			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	16.0		11.0	16.0		10.0	10.0		10.0	10.0	
Total Split (s)	24.0	61.0		11.0	48.0		10.0	10.0		18.0	18.0	
Total Split (%)	24.0%	61.0%		11.0%	48.0%		10.0%	10.0%		18.0%	18.0%	
Maximum Green (s)	18.0	55.0		5.0	42.0		4.0	4.0		12.0	12.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	None	Min		None	Min		Min	Min		Min	Min	
v/c Ratio	0.49	0.53		0.06	0.68	0.14	0.02	0.05		0.38	0.37	0.14
Control Delay	35.0	12.6		39.6	27.9	0.2	40.3	31.5		37.5	37.4	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.0	12.6		39.6	27.9	0.2	40.3	31.5		37.5	37.4	0.2
Queue Length 50th (ft)	74	138		4	175	0	1	1		45	45	0
Queue Length 95th (ft)	155	299		20	291	0	11	16		110	110	0
Internal Link Dist (ft)		3378			520			921			11190	
Turn Bay Length (ft)	175			100						150		400

Lanes, Volumes, Timings

12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

AM 2037 B-MIT

Timing Plan: MIT

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	455	1361		159	1055	1538	140	139		305	307	1553
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.37	0.40		0.06	0.41	0.14	0.02	0.05		0.32	0.32	0.14

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 77.7

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

 Ø1	 Ø2	 Ø3	 Ø4
24 s	48 s	18 s	10 s
 Ø5	 Ø6		
11 s	61 s		

HCM Signalized Intersection Capacity Analysis

12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

AM 2037 B-MIT
Timing Plan: MIT

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	482	13	8	385	195	3	3	4	175	3	194
Future Volume (vph)	152	482	13	8	385	195	3	3	4	175	3	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	4.0	4.0		4.0	4.0	2.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1719	1803		1719	1810	1538	1770	1703		1649	1655	1553
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1719	1803		1719	1810	1538	1770	1703		1649	1655	1553
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	169	536	14	9	428	217	3	3	4	194	3	216
RTOR Reduction (vph)	0	1	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	169	549	0	9	428	217	3	3	0	99	98	216
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	2%	2%	4%	4%	4%
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Actuated Green, G (s)	13.6	42.9		0.8	30.1	82.1	4.1	4.1		10.3	10.3	82.1
Effective Green, g (s)	15.6	44.9		2.8	32.1	82.1	6.1	6.1		12.3	12.3	82.1
Actuated g/C Ratio	0.19	0.55		0.03	0.39	1.00	0.07	0.07		0.15	0.15	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	326	986		58	707	1538	131	126		247	247	1553
v/s Ratio Prot	c0.10	0.30		0.01	c0.24		0.00	0.00		c0.06	0.06	
v/s Ratio Perm						c0.14						0.14
v/c Ratio	0.52	0.56		0.16	0.61	0.14	0.02	0.03		0.40	0.40	0.14
Uniform Delay, d1	29.9	12.1		38.5	19.9	0.0	35.2	35.2		31.6	31.5	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.9	0.8		1.7	1.7	0.2	0.1	0.1		1.5	1.4	0.2
Delay (s)	31.7	13.0		40.2	21.6	0.2	35.3	35.4		33.0	33.0	0.2
Level of Service	C	B		D	C	A	D	D		C	C	A
Approach Delay (s)		17.4			14.8			35.4			15.8	
Approach LOS		B			B			D			B	
Intersection Summary												
HCM 2000 Control Delay			16.2			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			82.1			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			51.9%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

PM 2037 B-MIT
Timing Plan: MIT

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	1101	15	10	736	292	17	3	16	288	6	202
Future Volume (vph)	232	1101	15	10	736	292	17	3	16	288	6	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	100		0	0		50	150		400
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	300			150			25			200		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3458			600			1001			11270	
Travel Time (s)		78.6			13.6			22.8			256.1	
Peak Hour Factor	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	247	1187	0	11	818	324	19	21	0	163	164	224
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			20			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	16.0		11.0	16.0		10.0	10.0		10.0	10.0	
Total Split (s)	21.0	60.0		11.0	50.0		10.0	10.0		19.0	19.0	
Total Split (%)	21.0%	60.0%		11.0%	50.0%		10.0%	10.0%		19.0%	19.0%	
Maximum Green (s)	15.0	54.0		5.0	44.0		4.0	4.0		13.0	13.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	None	Min		None	Min		Min	Min		Min	Min	
v/c Ratio	0.82	0.98		0.09	0.95	0.20	0.18	0.18		0.67	0.67	0.14
Control Delay	62.7	40.8		45.3	48.2	0.3	48.8	25.5		54.3	54.4	0.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	62.7	40.8		45.3	48.2	0.3	48.8	25.5		54.3	54.4	0.2
Queue Length 50th (ft)	153	616		7	487	0	12	2		104	105	0
Queue Length 95th (ft)	#282	#1147		25	#749	0	35	26		#188	#188	0
Internal Link Dist (ft)		3378			520			921			11190	
Turn Bay Length (ft)	175			100						150		400

Lanes, Volumes, Timings
 12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

PM 2037 B-MIT

Timing Plan: MIT

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	303	1209		124	865	1583	106	114		255	256	1583
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.82	0.98		0.09	0.95	0.20	0.18	0.18		0.64	0.64	0.14

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 99

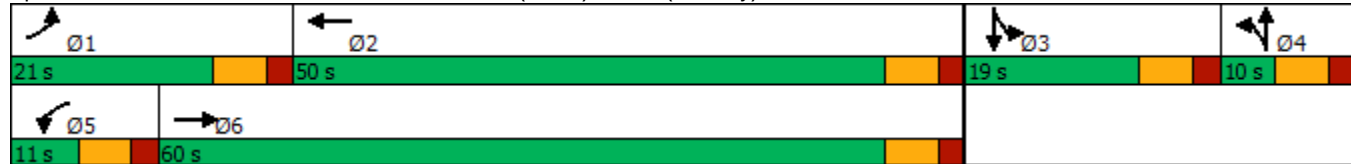
Natural Cycle: 100

Control Type: Actuated-Uncoordinated

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)



HCM Signalized Intersection Capacity Analysis

12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

PM 2037 B-MIT
Timing Plan: MIT

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	1101	15	10	736	292	17	3	16	288	6	202
Future Volume (vph)	232	1101	15	10	736	292	17	3	16	288	6	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	4.0	4.0		4.0	4.0	2.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.87		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1770	1859		1770	1863	1583	1752	1607		1681	1689	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1770	1859		1770	1863	1583	1752	1607		1681	1689	1583
Peak-hour factor, PHF	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	247	1171	16	11	818	324	19	3	18	320	7	224
RTOR Reduction (vph)	0	0	0	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	247	1187	0	11	818	324	19	4	0	163	164	224
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Actuated Green, G (s)	14.9	62.4		1.0	48.5	103.8	4.0	4.0		12.4	12.4	103.8
Effective Green, g (s)	16.9	64.4		3.0	50.5	103.8	6.0	6.0		14.4	14.4	103.8
Actuated g/C Ratio	0.16	0.62		0.03	0.49	1.00	0.06	0.06		0.14	0.14	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	288	1153		51	906	1583	101	92		233	234	1583
v/s Ratio Prot	c0.14	c0.64		0.01	0.44		0.01	0.00		0.10	c0.10	
v/s Ratio Perm						c0.20						0.14
v/c Ratio	0.86	1.03		0.22	0.90	0.20	0.19	0.04		0.70	0.70	0.14
Uniform Delay, d1	42.3	19.7		49.3	24.4	0.0	46.6	46.2		42.6	42.6	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	22.1	34.2		2.9	12.4	0.3	1.2	0.3		9.5	9.7	0.2
Delay (s)	64.4	53.9		52.1	36.8	0.3	47.8	46.5		52.1	52.4	0.2
Level of Service	E	D		D	D	A	D	D		D	D	A
Approach Delay (s)		55.7			26.7			47.1			31.1	
Approach LOS		E			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			40.8			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			103.8			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			87.8%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

SAT 2037 B-MIT

Timing Plan: MIT

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	891	24	21	890	309	18	9	4	444	13	360
Future Volume (vph)	268	891	24	21	890	309	18	9	4	444	13	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	175		0	100		0	0		50	150		400
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	300			150			25			200		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		3458			600			1001			11270	
Travel Time (s)		78.6			13.6			22.8			256.1	
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)										49%		
Lane Group Flow (vph)	298	1017	0	22	947	329	20	14	0	251	256	400
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			20			18	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	60		60	60		60	60		60	60		60
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	16.0		11.0	16.0		10.0	10.0		10.0	10.0	
Total Split (s)	24.0	65.0		11.0	52.0		10.0	10.0		24.0	24.0	
Total Split (%)	21.8%	59.1%		10.0%	47.3%		9.1%	9.1%		21.8%	21.8%	
Maximum Green (s)	18.0	59.0		5.0	46.0		4.0	4.0		18.0	18.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode	None	Min		None	Min		Min	Min		Min	Min	
v/c Ratio	0.93	0.89		0.19	1.15	0.21	0.21	0.14		0.83	0.84	0.25
Control Delay	79.4	30.8		53.1	112.1	0.3	55.2	43.8		66.4	67.5	0.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	79.4	30.8		53.1	112.1	0.3	55.2	43.8		66.4	67.5	0.4
Queue Length 50th (ft)	209	500		15	~790	0	14	7		181	185	0
Queue Length 95th (ft)	#373	#991		41	#1035	0	39	28		#318	#327	0
Internal Link Dist (ft)		3378			520			921			11190	
Turn Bay Length (ft)	175			100						150		400

12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

Timing Plan: MIT

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)	322	1144		113	823	1599	95	100		309	311	1599
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.93	0.89		0.19	1.15	0.21	0.21	0.14		0.81	0.82	0.25

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 109.6

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

 Ø1	 Ø2	 Ø3	 Ø4
24 s	52 s	24 s	10 s
 Ø5	 Ø6		
11 s	65 s		

HCM Signalized Intersection Capacity Analysis

12: Blaisdell Ave & Union Ave (3BUS) & US3 (DWHwy)

SAT 2037 B-MIT

Timing Plan: MIT

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	891	24	21	890	309	18	9	4	444	13	360
Future Volume (vph)	268	891	24	21	890	309	18	9	4	444	13	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	2.0	4.0	4.0		4.0	4.0	2.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (prot)	1770	1855		1787	1881	1599	1752	1766		1698	1706	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00
Satd. Flow (perm)	1770	1855		1787	1881	1599	1752	1766		1698	1706	1599
Peak-hour factor, PHF	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	298	990	27	22	947	329	20	10	4	493	14	400
RTOR Reduction (vph)	0	1	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	298	1016	0	22	947	329	20	10	0	251	256	400
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	3%	3%	3%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Free	Split	NA		Split	NA	Free
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases						Free						Free
Actuated Green, G (s)	18.0	65.6		2.0	49.6	113.2	4.0	4.0		17.6	17.6	113.2
Effective Green, g (s)	20.0	67.6		4.0	51.6	113.2	6.0	6.0		19.6	19.6	113.2
Actuated g/C Ratio	0.18	0.60		0.04	0.46	1.00	0.05	0.05		0.17	0.17	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	312	1107		63	857	1599	92	93		294	295	1599
v/s Ratio Prot	c0.17	0.55		0.01	c0.50		0.01	0.01		0.15	c0.15	
v/s Ratio Perm						0.21						c0.25
v/c Ratio	0.96	0.92		0.35	1.11	0.21	0.22	0.11		0.85	0.87	0.25
Uniform Delay, d1	46.2	20.3		53.3	30.8	0.0	51.4	51.1		45.4	45.5	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	39.0	12.0		4.5	63.7	0.3	1.6	0.7		21.3	23.2	0.4
Delay (s)	85.1	32.3		57.9	94.5	0.3	53.0	51.8		66.7	68.7	0.4
Level of Service	F	C		E	F	A	D	D		E	E	A
Approach Delay (s)		44.3			70.0			52.5			38.0	
Approach LOS		D			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			52.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			113.2			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			91.0%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

ATTACHMENT M

Warrants (#9)

Volumes (Ave)

Diagrams

Turn Warrant Tables

Left Turn Lane Warrants

Right Turn Lane Warrants

Second Lane on a Minor Road Warrant

Background Traffic Volumes - AVERAGE SEASONAL ADJUSTMENT

AM Peak data

Assumed growth rate:		0.01	Site Trips are not Seasonally Adjusted or Grown.																															
March 2023 Seasonal Adjust:		1.22																	NHDOT Group 5 Averages															
June 2023 Seasonal Adjust:		0.82																	NHDOT Group 5 Averages (Int #21 ony)															
AM Peak data		Existing 2025 (Raw data) [03/06/2025]	Balance	2025	Existing 2025 w/ Seasonal (AVE) Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037																
9. Parade Road at Roller Coaster Road		7:15 AM		0		0.00																												
Movement				0		0.00																												
	WBL	24		24	29.28	29.28	29.57	29.87	30.17	30.47	30.77	31.08	31.39	31.70	32.02	32.34	32.66	32.99																
	WBR	35		35	42.70	42.70	43.13	43.56	44.00	44.44	44.88	45.33	45.78	46.24	46.70	47.17	47.64	48.12																
	NBT	253		253	308.66	308.66	311.75	314.87	318.02	321.20	324.41	327.65	330.93	334.24	337.58	340.96	344.37	347.81																
	NBR	12		12	14.64	14.64	14.79	14.94	15.09	15.24	15.39	15.54	15.70	15.86	16.02	16.18	16.34	16.50																
	SBL	61		61	74.42	74.42	75.16	75.91	76.67	77.44	78.21	78.99	79.78	80.58	81.39	82.20	83.02	83.85																
	SBT	267		267	325.74	325.74	329.00	332.29	335.61	338.97	342.36	345.78	349.24	352.73	356.26	359.82	363.42	367.05																

AM Peak data	2037 No-Build	Site Trip Distribution (Full Build)	2037 Build (Full Build)	FUTURE BUILD PM PHF
9. Parade Road at Roller Coaster Road				
Movement				
WBL	33	51	84	0.94
WBR	48	0	48	
NBT	348	100	448	0.90
NBR	17	51	68	
SBL	84	0	84	0.90
SBT	367	132	499	

Background Traffic Volumes - AVERAGE SEASONAL ADJUSTMENT

PM Peak data

Assumed growth rate:	0.01	
March 2023 Seasonal Adjust:	1.22	NHDOT Group 5
June 2023 Seasonal Adjust:	0.82	NHDOT Group 5 (Int #21 ony)

Site Trips are not Seasonally Adjusted or Grown.

PM Peak data		Existing 2025 (Raw data) [03/06/2025]	Balance	2025	Existing 2025 w/ Seasonal (AVE) Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
9. Parade Road at Roller Coaster Road																		
	4:00 PM			1														
	Movement			0														
	WBL	26		26	31.72	31.72	32.04	32.36	32.68	33.01	33.34	33.67	34.01	34.35	34.69	35.04	35.39	35.74
	WBR	44		44	53.68	53.68	54.22	54.76	55.31	55.86	56.42	56.98	57.55	58.13	58.71	59.30	59.89	60.49
	NBT	303		303	369.66	369.66	373.36	377.09	380.86	384.67	388.52	392.41	396.33	400.29	404.29	408.33	412.41	416.53
	NBR	36		36	43.92	43.92	44.36	44.80	45.25	45.70	46.16	46.62	47.09	47.56	48.04	48.52	49.01	49.50
	SBL	53		53	64.66	64.66	65.31	65.96	66.62	67.29	67.96	68.64	69.33	70.02	70.72	71.43	72.14	72.86
	SBT	282		282	344.04	344.04	347.48	350.95	354.46	358.00	361.58	365.20	368.85	372.54	376.27	380.03	383.83	387.67

PM Peak data	2037 No-Build	Site Trip Distribution (Full Build)	2037 Build (Full Build)	FUTURE BUILD PM PHF
9. Parade Road at Roller Coaster Road				
Movement				
WBL	36	50	86	0.90
WBR	60	0	60	
NBT	417	114	531	0.94
NBR	50	49	99	
SBL	73	0	73	0.91
SBT	388	105	493	

Background Traffic Volumes - AVERAGE SEASONAL ADJUSTMENT

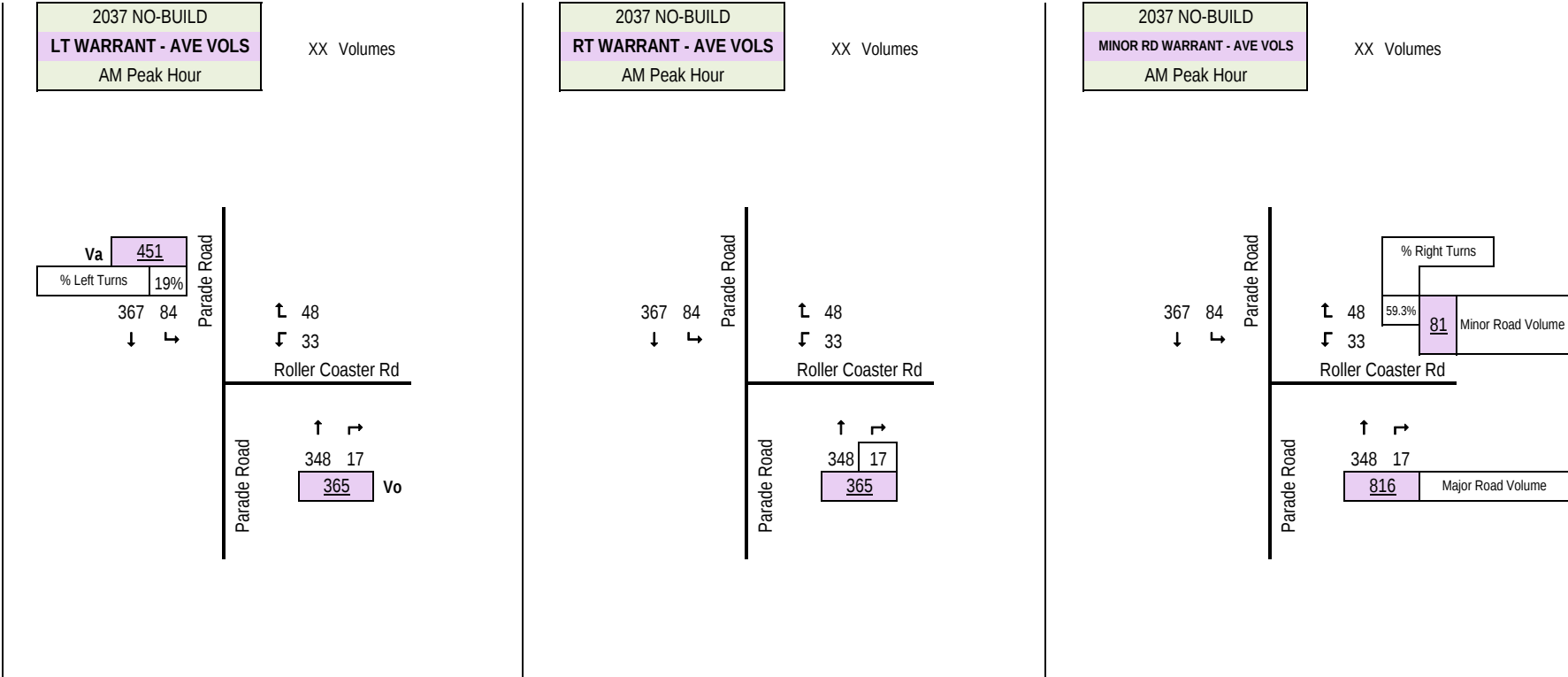
SAT Peak data

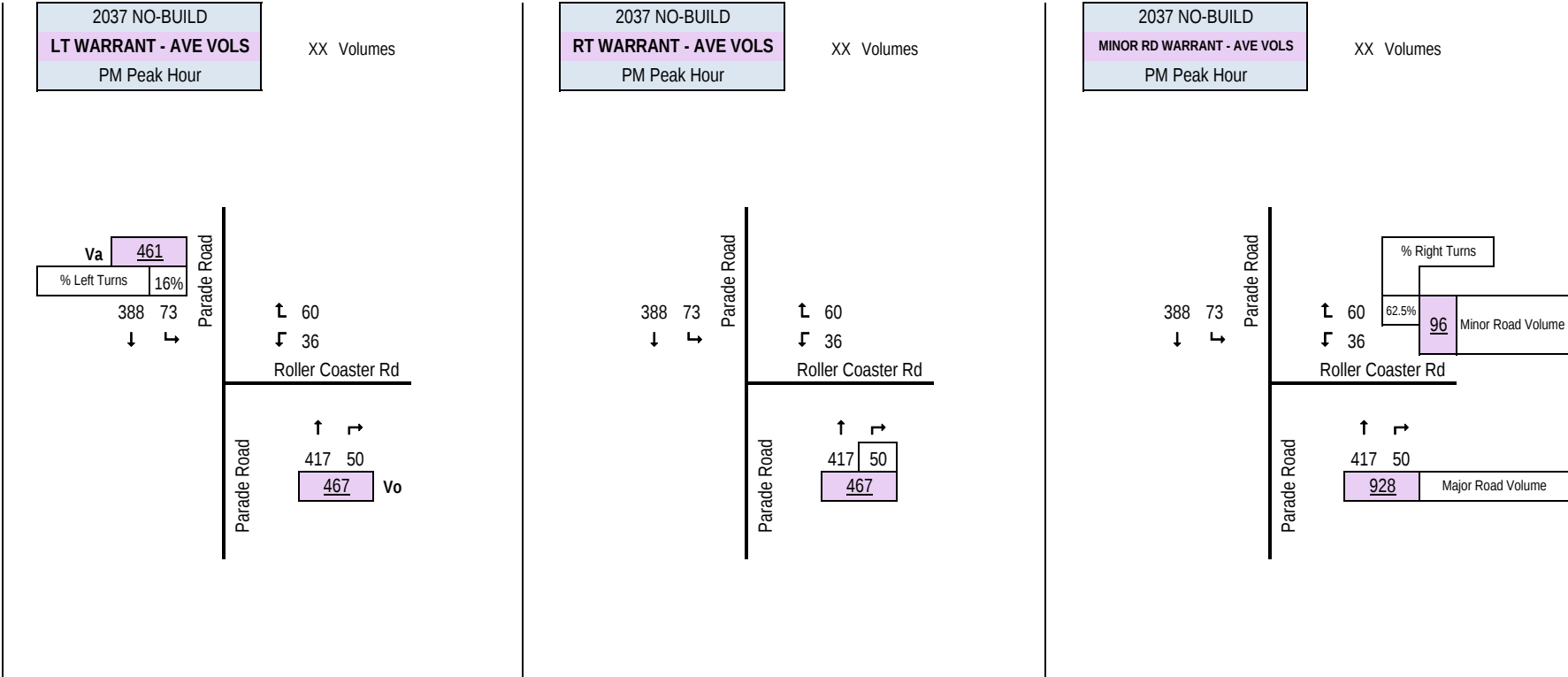
Assumed growth rate:	0.01	
March 2023 Seasonal Adjust:	1.22	NHDOT Group 5
June 2023 Seasonal Adjust:	0.82	NHDOT Group 5 (Int #21 ony)

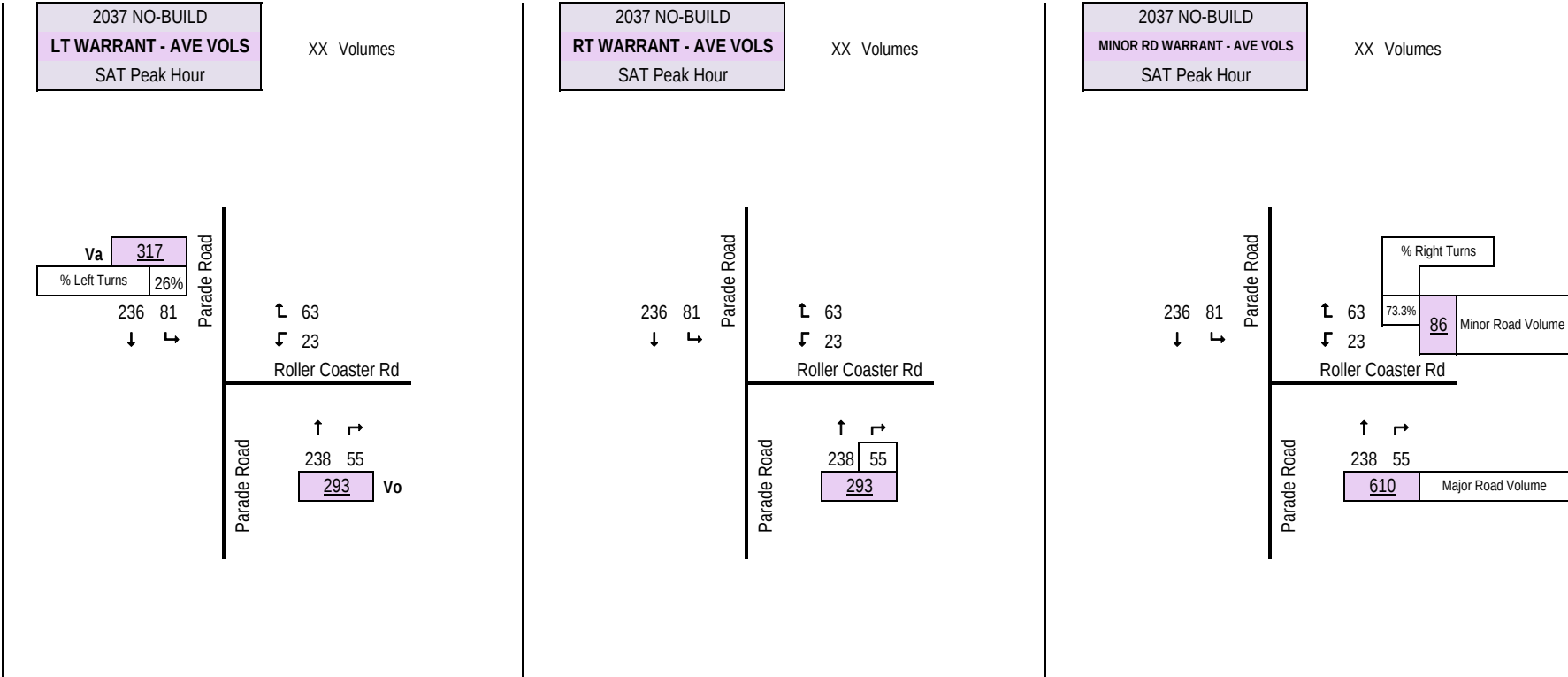
Site Trips are not Seasonally Adjusted or Grown.

SAT Peak data	Existing 2025 (Raw data) [03/08/2025]	Balance	2025	Existing 2025 w/ Seasonal (AVE) Adjustment	2025 BASE	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
9. Parade Road at Roller Coaster Road																	
	11:30 AM																
Movement																	
WBL	17		17	20.74	20.74	20.95	21.16	21.37	21.58	21.80	22.02	22.24	22.46	22.68	22.91	23.14	23.37
WBR	46		46	56.12	56.12	56.68	57.25	57.82	58.40	58.98	59.57	60.17	60.77	61.38	61.99	62.61	63.24
NBT	173		173	211.06	211.06	213.17	215.30	217.45	219.62	221.82	224.04	226.28	228.54	230.83	233.14	235.47	237.82
NBR	40		40	48.80	48.80	49.29	49.78	50.28	50.78	51.29	51.80	52.32	52.84	53.37	53.90	54.44	54.98
SBL	59		59	71.98	71.98	72.70	73.43	74.16	74.90	75.65	76.41	77.17	77.94	78.72	79.51	80.31	81.11
SBT	172		172	209.84	209.84	211.94	214.06	216.20	218.36	220.54	222.75	224.98	227.23	229.50	231.80	234.12	236.46

SAT Peak data	2037 No-Build	Site Trip Distribution (Full Build)	2037 Build (Full Build)	FUTURE BUILD PM PHF
9. Parade Road at Roller Coaster Road				
Movement				
WBL	23	57	80	0.93
WBR	63	0	63	
NBT	238	133	371	0.92
NBR	55	54	109	
SBL	81	0	81	0.90
SBT	236	139	375	





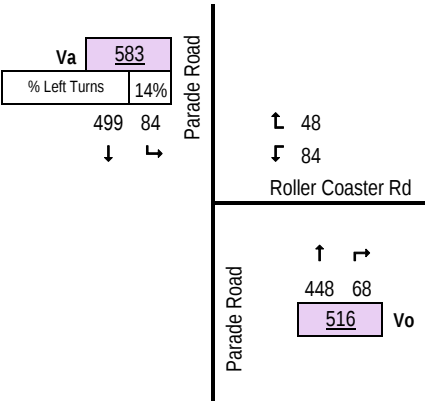


2037 BUILD: FULL BUILD

LT WARRANT - AVE VOLS

AM Peak Hour

XX Volumes

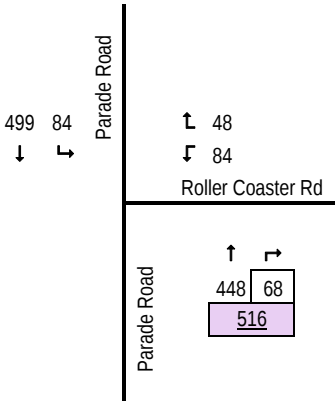


2037 BUILD: FULL BUILD

RT WARRANT - AVE VOLS

AM Peak Hour

XX Volumes

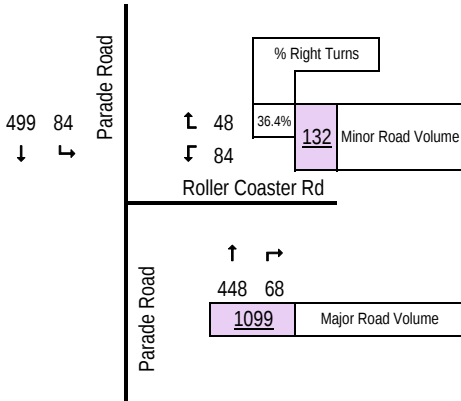


2037 BUILD: FULL BUILD

MINOR RD WARRANT - AVE VOLS

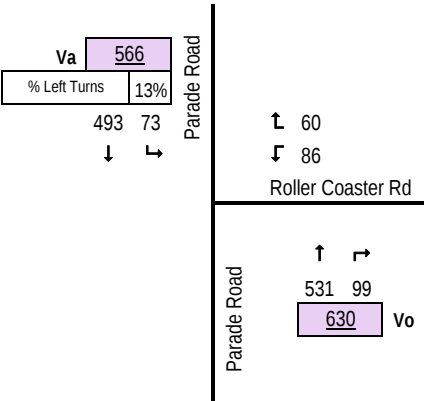
AM Peak Hour

XX Volumes



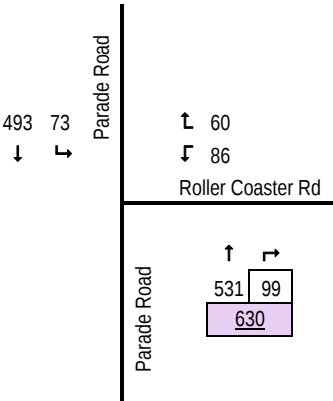
2037 BUILD: FULL BUILD
LT WARRANT - AVE VOLS
PM Peak Hour

XX Volumes



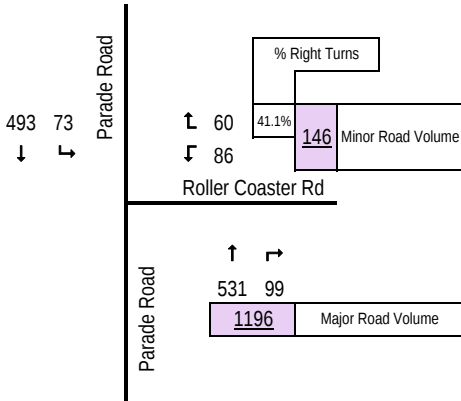
2037 BUILD: FULL BUILD
RT WARRANT - AVE VOLS
PM Peak Hour

XX Volumes



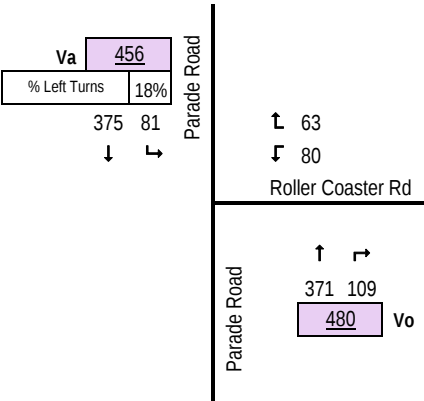
2037 BUILD: FULL BUILD
MINOR RD WARRANT - AVE VOLS
PM Peak Hour

XX Volumes



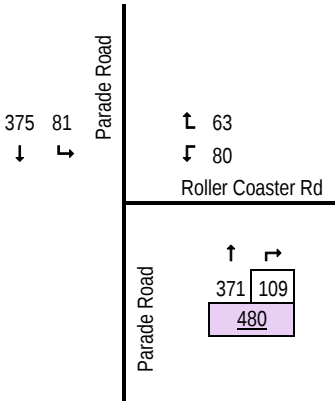
2037 BUILD: FULL BUILD
LT WARRANT - AVE VOLS
SAT Peak Hour

XX Volumes



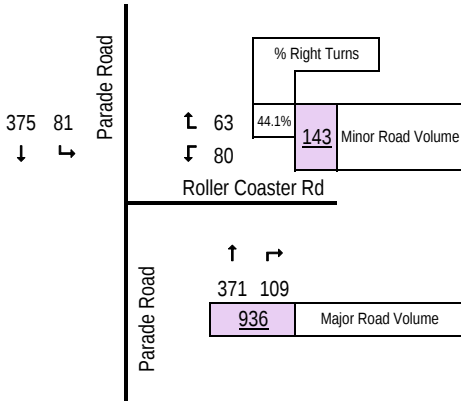
2037 BUILD: FULL BUILD
RT WARRANT - AVE VOLS
SAT Peak Hour

XX Volumes



2037 BUILD: FULL BUILD
MINOR RD WARRANT - AVE VOLS
SAT Peak Hour

XX Volumes



#19 N.Main Street at New Salem Street						
AVERAGE VOLUMES						
	2037 No-Build			2037 Build		
	Left Turn Lane			Left Turn Lane		
	Warrant			Warrant		
	AM	PM	SAT	AM	PM	SAT
Left Turns	27	19	15	27	19	15
Limiting Advancing Volume	428	370	551	352	321	536
Advancing Volume	580	540	335	654	700	463
Is Warrant Met?	YES	YES	NO	YES	YES	NO
Warrant met in Existing Cond.						

	2037 No-Build			2037 Build		
	Right Turn Lane			Right Turn Lane		
	Warrant			Warrant		
	AM	PM	SAT	AM	PM	SAT
Limiting Right Turn Volume	133	28	424	22	7	114
Number of Right Turns	144	242	164	340	366	212
Is Warrant Met?	YES	YES	NO	YES	YES	YES
Warrant met in Existing Cond.						

	2037 No-Build			2037 Build		
	Second Lane on Minor Rd			Second Lane on Minor Rd		
	Warrant			Warrant		
	AM	PM	SAT	AM	PM	SAT
Major Road Volume	672	928	528	979	1220	693
Limiting Minor Rd Volume	201	138	263	119	80	197
Minor Road Volume	74	85	79	149	255	115
Is Warrant Met?	NO	NO	NO	YES	YES	NO
Warrant met in Proposed Cond.						

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

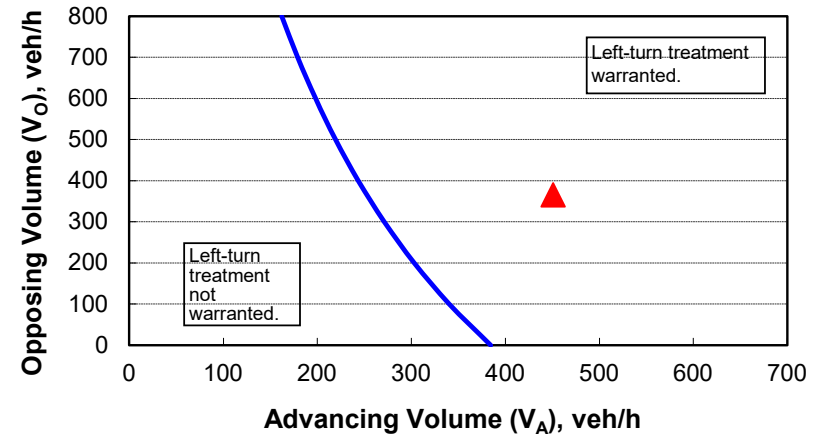
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	50
Percent of left-turns in advancing volume (V_A), %:	19%
Advancing volume (V_A), veh/h:	451
Opposing volume (V_O), veh/h:	365

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	253
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

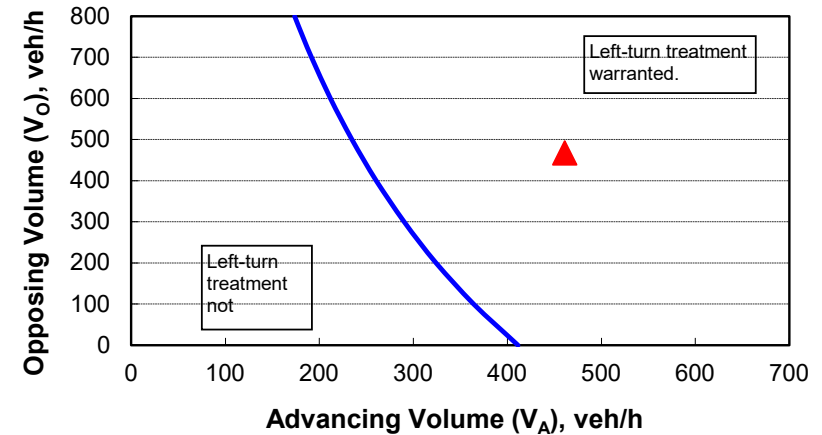
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	50
Percent of left-turns in advancing volume (V_A), %:	16%
Advancing volume (V_A), veh/h:	461
Opposing volume (V_O), veh/h:	467

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	243
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

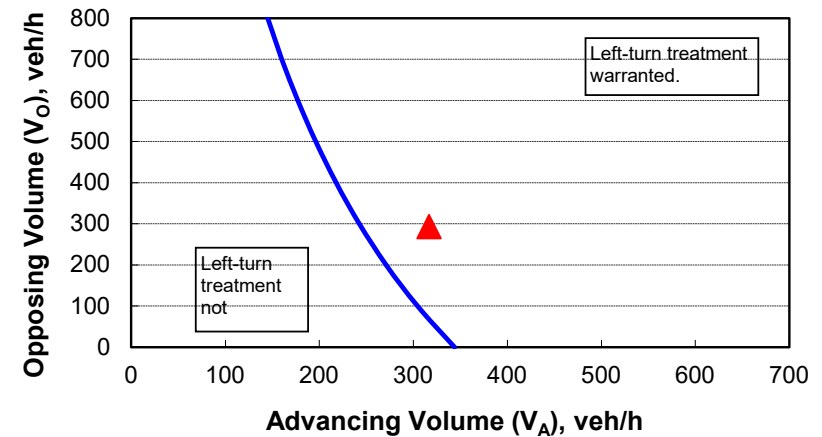
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	50
Percent of left-turns in advancing volume (V_A), %:	26%
Advancing volume (V_A), veh/h:	317
Opposing volume (V_O), veh/h:	293

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	244
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

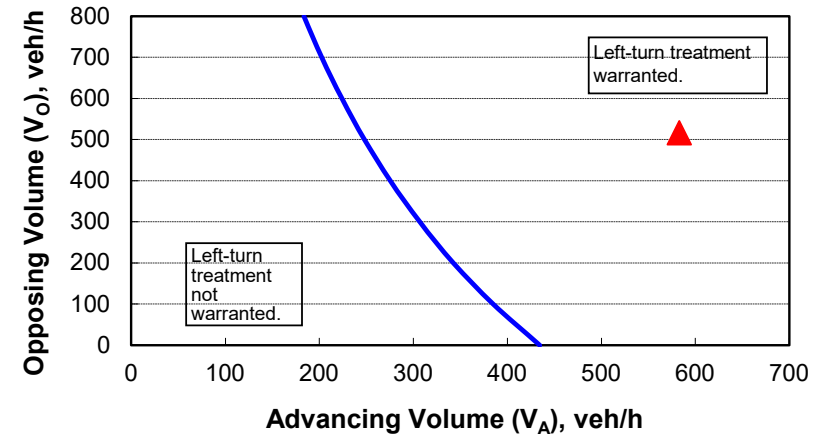
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	50
Percent of left-turns in advancing volume (V_A), %:	14%
Advancing volume (V_A), veh/h:	583
Opposing volume (V_O), veh/h:	516

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	244
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

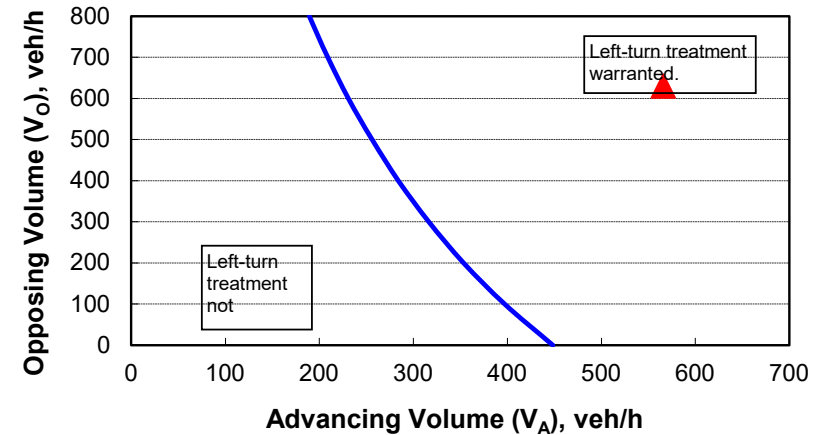
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	50
Percent of left-turns in advancing volume (V_A), %:	13%
Advancing volume (V_A), veh/h:	566
Opposing volume (V_O), veh/h:	630

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	224
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

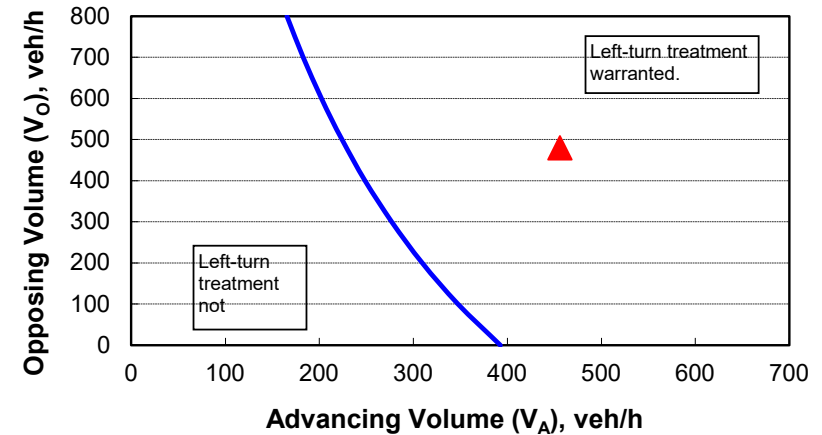
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	50
Percent of left-turns in advancing volume (V_A), %:	18%
Advancing volume (V_A), veh/h:	456
Opposing volume (V_O), veh/h:	480

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	229
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	50
Major-road volume (one direction), veh/h:	365
Right-turn volume, veh/h:	17

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	36
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	

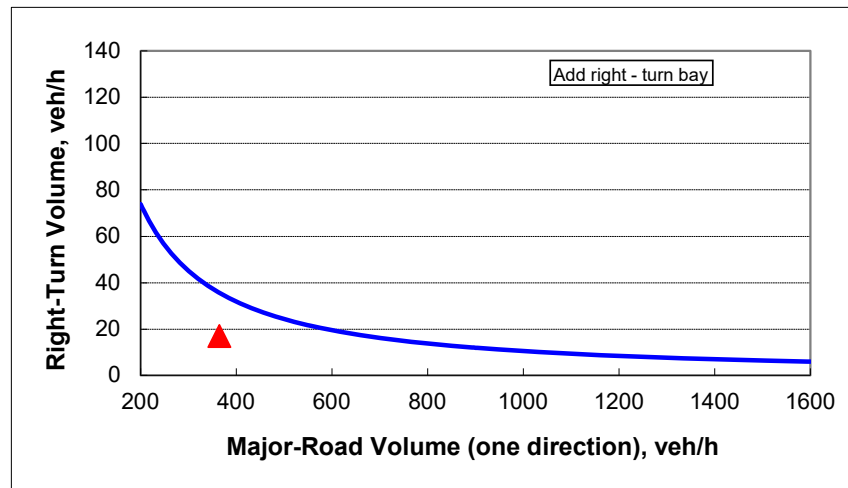


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	50
Major-road volume (one direction), veh/h:	467
Right-turn volume, veh/h:	50

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	26
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

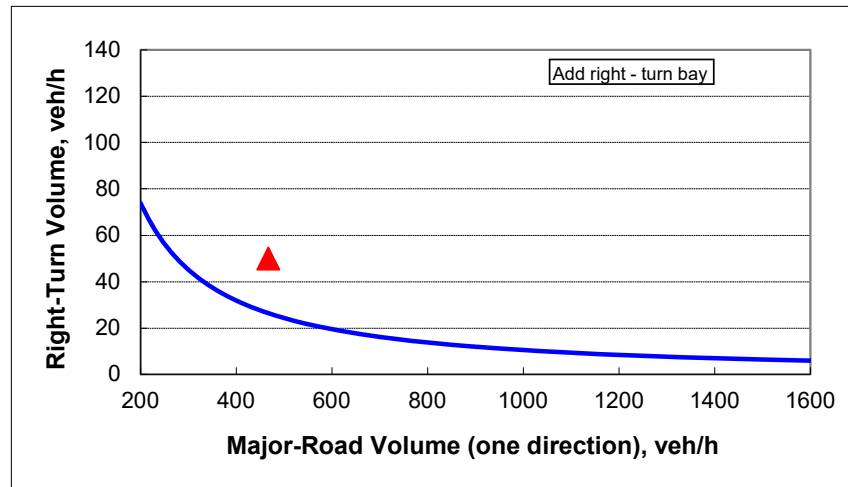


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	50
Major-road volume (one direction), veh/h:	293
Right-turn volume, veh/h:	55

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	47
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

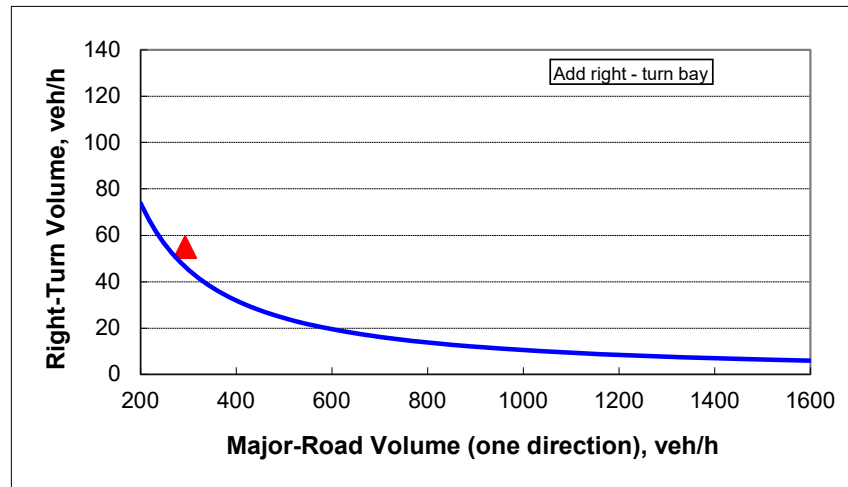


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	50
Major-road volume (one direction), veh/h:	516
Right-turn volume, veh/h:	68

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	23
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

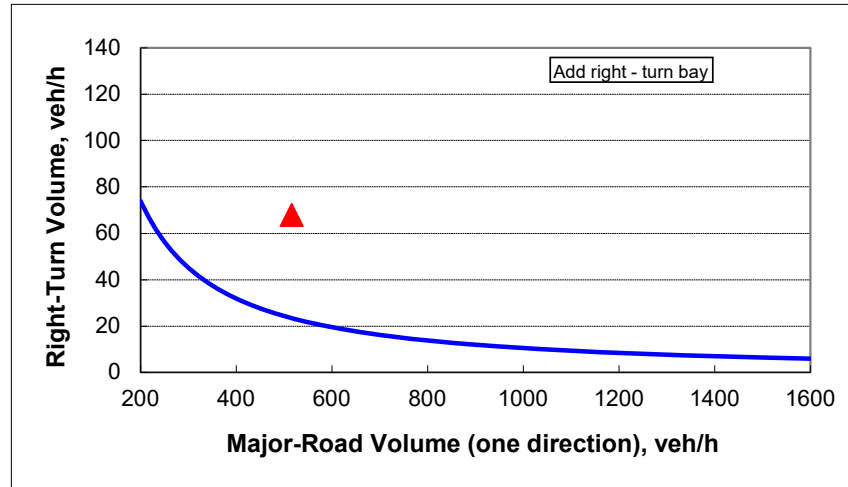


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	50
Major-road volume (one direction), veh/h:	630
Right-turn volume, veh/h:	99

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	18
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

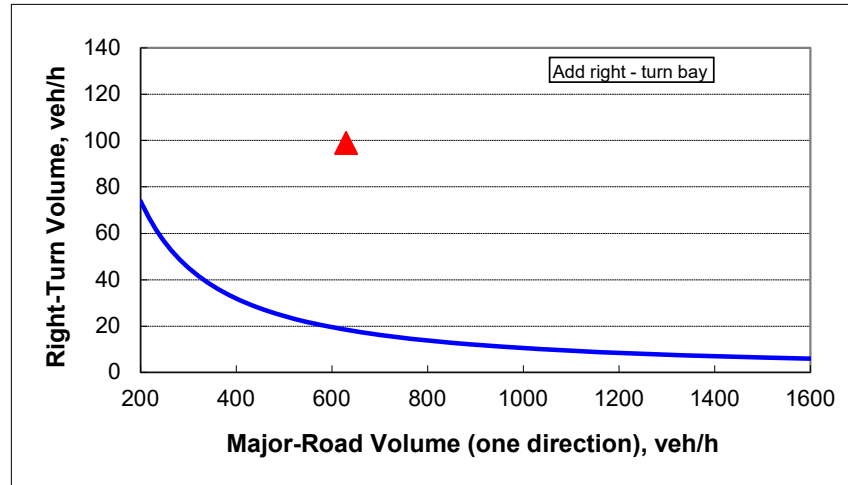


Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	50
Major-road volume (one direction), veh/h:	480
Right-turn volume, veh/h:	109

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	26
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Add right-turn bay.	

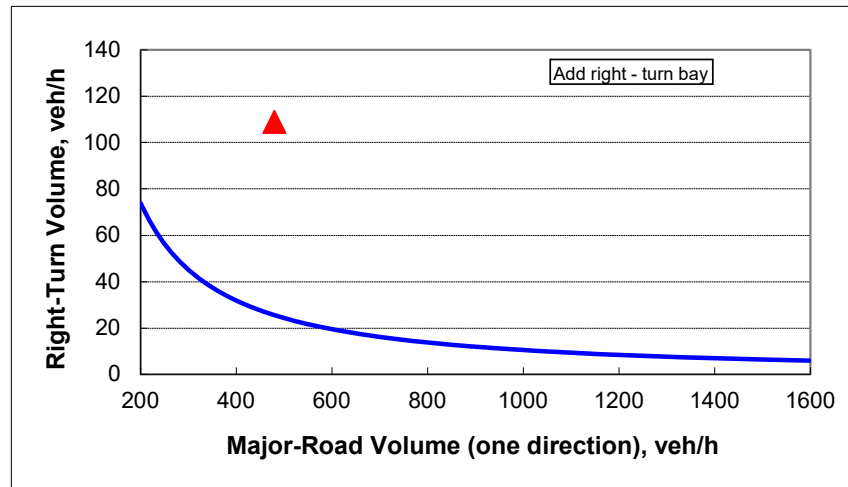


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	816
Percentage of right-turns on minor road, %:	59%
Minor-road volume (one direction), veh/h:	81

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	245
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.9	3.3
Left-turn and through capacity veh/h:	7.5	3.5

* according to Table 17 - 5 of the HCM

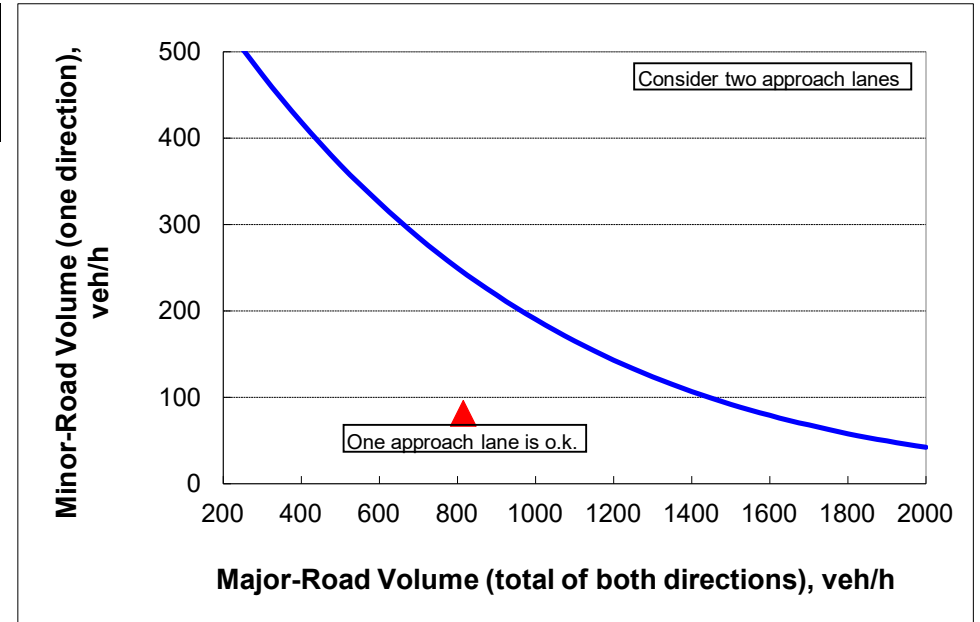


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	928
Percentage of right-turns on minor road, %:	63%
Minor-road volume (one direction), veh/h:	96

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	218
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.9	3.3
Left-turn and through capacity veh/h:	7.5	3.5

* according to Table 17 - 5 of the HCM

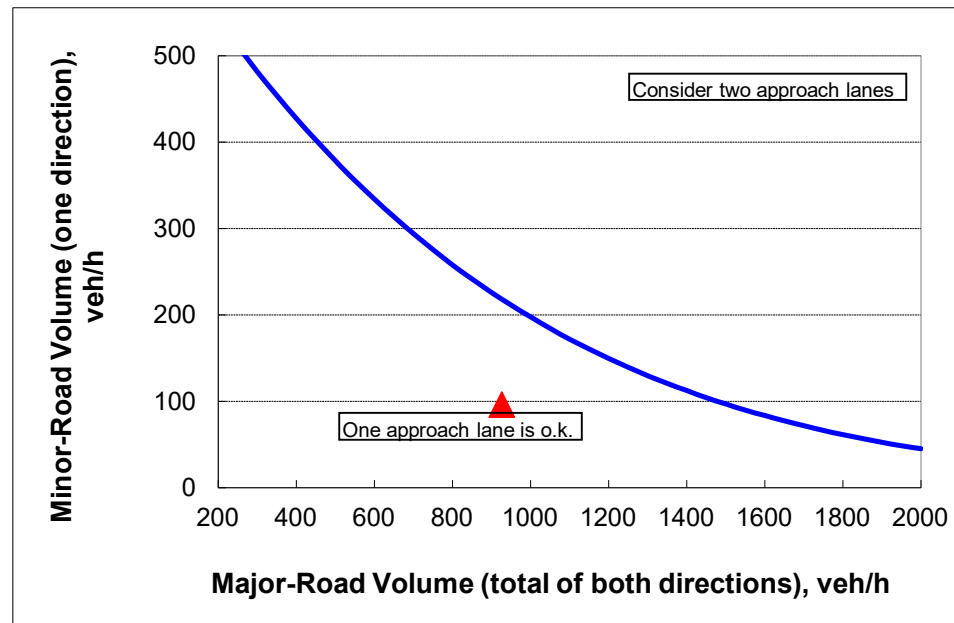


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	610
Percentage of right-turns on minor road, %:	73%
Minor-road volume (one direction), veh/h:	86

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	364
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.9	3.3
Left-turn and through capacity veh/h:	7.5	3.5

* according to Table 17 - 5 of the HCM

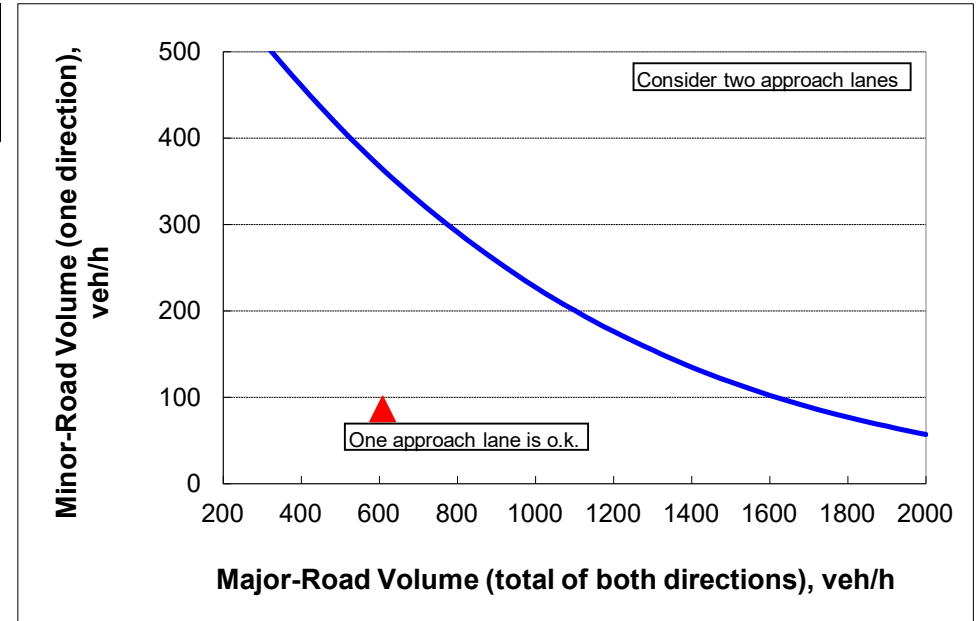


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1099
Percentage of right-turns on minor road, %:	36%
Minor-road volume (one direction), veh/h:	132

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	129
Guidance for determining minor-road approach geometry:	
Consider TWO approach lanes	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.9	3.3
Left-turn and through capacity veh/h:	7.5	3.5

* according to Table 17 - 5 of the HCM

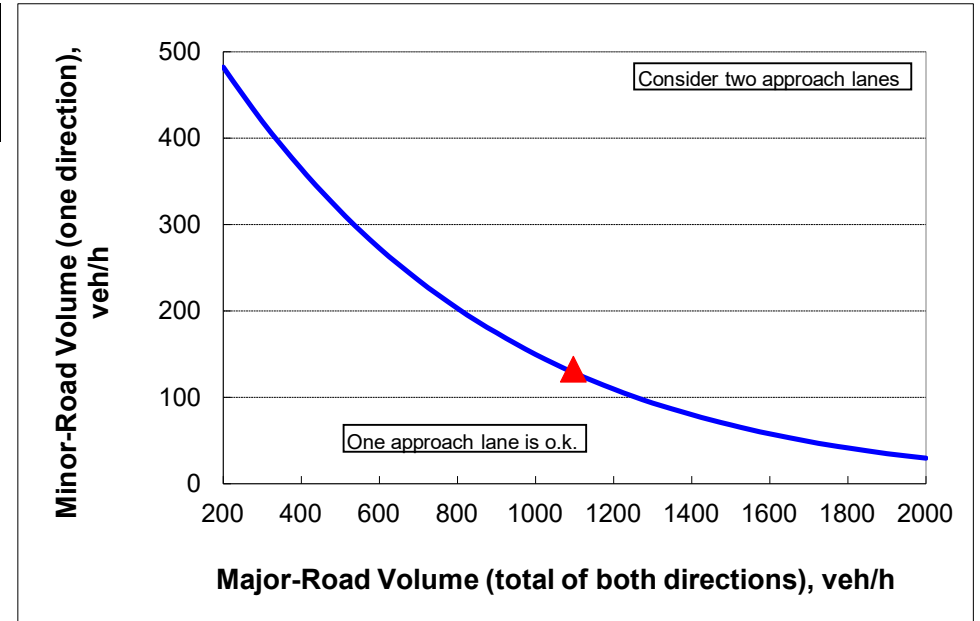


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	1196
Percentage of right-turns on minor road, %:	41%
Minor-road volume (one direction), veh/h:	146

OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	116
Guidance for determining minor-road approach geometry:	
Consider TWO approach lanes	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.9	3.3
Left-turn and through capacity veh/h:	7.5	3.5

* according to Table 17 - 5 of the HCM

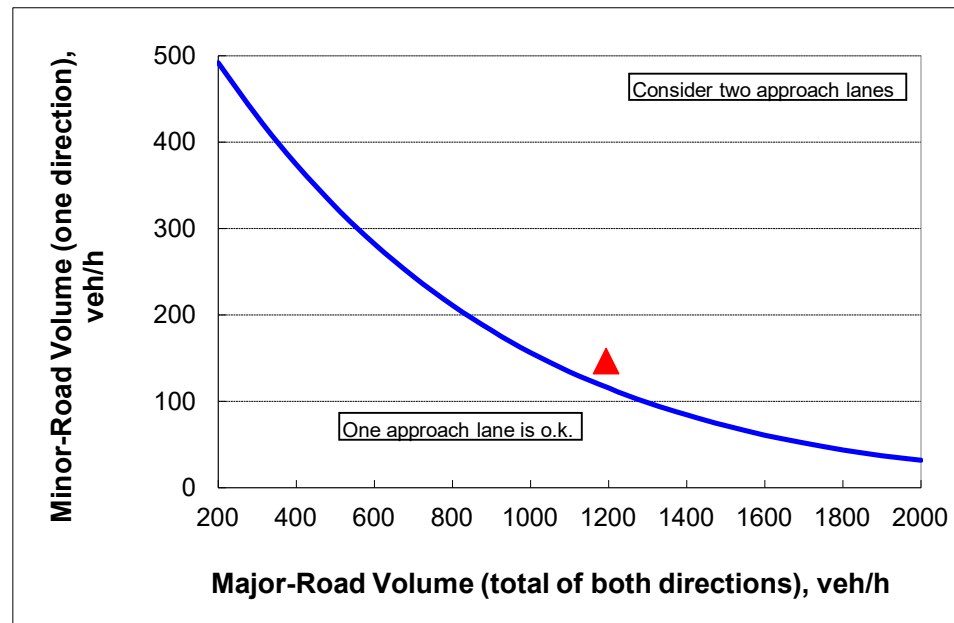


Figure 2 - 4. Guideline for determining minor-road approach geometry at two-way stop-controlled intersections.

INPUT

Variable	Value
Major-road volume (total of both directions), veh/h:	936
Percentage of right-turns on minor road, %:	44%
Minor-road volume (one direction), veh/h:	143

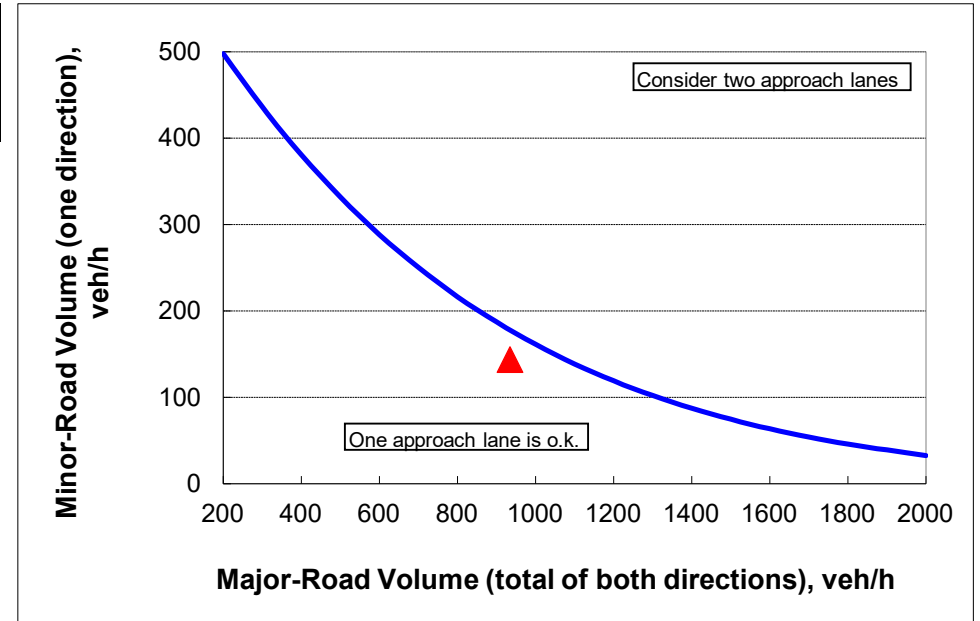
OUTPUT

Variable	Value
Limiting minor-road volume (one direction), veh/h:	178
Guidance for determining minor-road approach geometry:	
ONE approach lane is o.k.	

CALIBRATION CONSTANTS

Minor Road	Critical gap, s:	Follow-up gap, s:
Right-turn capacity, veh/h:	6.9	3.3
Left-turn and through capacity veh/h:	7.5	3.5

* according to Table 17 - 5 of the HCM



Traffic Control Signal Warrant Analysis

Parade Road at Roller Coaster Road

TABLE 2a - Warrant 3							
2037 Full Build							
		Approach Volumes (vph)			Volumes Used		Peak Hour Warrant 3
Thursday		Parade Rd		Roller Coaster			
Hour Begin		NB	SB	WB	Major St	Minor St	3
7:15	AM	516	583	132	1099	132	NO
3:30	PM	630	566	146	1196	146	NO
11:45	PM	480	456	143	936	143	NO
[Hours Met] of [# Hours Required]=							0 of 1
Warrant Met:							NO

*Notes:

Warrant 3: Peak Hour

Assumes 2 or more lanes on each approach

