APPENDIX J

Future 2025 Capacity/Level-of-Service Analysis Worksheets Without Development

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	63	5	19	171	16	21
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	10	10	13	13
Grade (%)	2%			-3%	4%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			75		75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.990				0.923	
Flt Protected				0.995	0.979	
Satd. Flow (prot)	1602	0	0	1671	1515	0
Flt Permitted				0.995	0.979	
Satd. Flow (perm)	1602	0	0	1671	1515	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1452			314	498	
Travel Time (s)	39.6			8.6	13.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	0%	6%	1%	7%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	72	6	22	194	18	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	0	216	42	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	63	5	19	171	16	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-3	4	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	0	6	1	7	10
Mvmt Flow	72	6	22	194	18	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	77	0	312	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	-	-	4.4	-	7.27	6.7
Critical Hdwy Stg 1	-	-	-	-	6.27	-
Critical Hdwy Stg 2	-	-	-	-	6.27	-
Follow-up Hdwy	-	-	3.1	-	3.1	3.2
Pot Cap-1 Maneuver	-	-	1092	-	705	1013
Stage 1	-	-	-	-	1054	-
Stage 2	-	-	-	-	849	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1092	-	689	1013
Mov Cap-2 Maneuver	-	-	-	-	689	-
Stage 1	-	-	-	-	1054	-
Stage 2	-	-	-	-	829	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	842	-	-	1092	-
HCM Lane V/C Ratio	0.05	-	-	0.02	-
HCM Control Delay (s)	9.5	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	49	150	1247	36	30	638
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	11	15	12	12
Grade (%)	1%		2%			-2%
Storage Length (ft)	0	0		105	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	75				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.898			0.850		
Flt Protected	0.988					0.998
Satd. Flow (prot)	1433	0	1672	1572	0	1727
Flt Permitted	0.988					0.998
Satd. Flow (perm)	1433	0	1672	1572	0	1727
Link Speed (mph)	25		45			45
Link Distance (ft)	1452		1875			410
Travel Time (s)	39.6		28.4			6.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	4%	3%	6%	7%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	51	156	1299	38	31	665
Shared Lane Traffic (%)						
Lane Group Flow (vph)	207	0	1299	38	0	696
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh 40.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	49	150	1247	36	30	638
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	105	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	1	-	2	-	-	-2
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	4	3	6	7	5
Mvmt Flow	51	156	1299	38	31	665

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2026	1299	0	0	1299	0
Stage 1	1299	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Critical Hdwy	6.62	6.34	-	-	4.4	-
Critical Hdwy Stg 1	5.62	-	-	-	-	-
Critical Hdwy Stg 2	5.62	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3.1	-
Pot Cap-1 Maneuver	60	196	-	-	394	-
Stage 1	259	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	53	196	-	-	394	-
Mov Cap-2 Maneuver	53	-	-	-	-	-
Stage 1	259	-	-	-	-	-
Stage 2	450	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 436.2	0	0.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	118	394	-
HCM Lane V/C Ratio	-	-	1.757	0.079	-
HCM Control Delay (s)	-	-	$ 436.2	14.9	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	16	0.3	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	24	102	1270	42	68	702
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	3%		0%			-1%
Storage Length (ft)	0	0		0	186	
Storage Lanes	1	0		0	1	
Taper Length (ft)	75				65	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.891		0.996			
Flt Protected	0.991				0.950	
Satd. Flow (prot)	1461	0	1741	0	1548	1739
Flt Permitted	0.991				0.950	
Satd. Flow (perm)	1461	0	1741	0	1548	1739
Link Speed (mph)	25		35			45
Link Distance (ft)	660		484			1875
Travel Time (s)	18.0		9.4			28.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	3%	3%	11%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	25	106	1323	44	71	731
Shared Lane Traffic (%)						
Lane Group Flow (vph)	131	0	1367	0	71	731
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh 21.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	24	102	1270	42	68	702
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	186	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	3	-	0	-	-	-1
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	3	3	11	4
Mvmt Flow	25	106	1323	44	71	731

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2218	1345	0	0	1367	0
Stage 1	1345	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Critical Hdwy	7	6.5	-	-	4.4	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3.1	-
Pot Cap-1 Maneuver	35	173	-	-	372	-
Stage 1	212	-	-	-	-	-
Stage 2	394	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	28	173	-	-	372	-
Mov Cap-2 Maneuver	28	-	-	-	-	-
Stage 1	212	-	-	-	-	-
Stage 2	319	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 363.8	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	87	372	-
HCM Lane V/C Ratio	-	-	1.509	0.19	-
HCM Control Delay (s)	-	-	$ 363.8	16.9	-
HCM Lane LOS	-	-	F	C	-
HCM 95th %tile Q(veh)	-	-	10.3	0.7	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	14	93	115	29	34	6
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	10	10	13	13
Grade (%)		-1%	2%		-1%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	75				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.973		0.980	
Flt Protected		0.994			0.959	
Satd. Flow (prot)	0	1542	1583	0	1713	0
Flt Permitted		0.994			0.959	
Satd. Flow (perm)	0	1542	1583	0	1713	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		488	231		615	
Travel Time (s)		13.3	6.3		16.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	9%	0%	11%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	16	109	135	34	40	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	125	169	0	47	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	14	93	115	29	34	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	2	-	-1	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	8	9	0	11	3	0
Mvmt Flow	16	109	135	34	40	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	169	0	-	0	294	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	142	-
Critical Hdwy	4.4	-	-	-	6.23	6.1
Critical Hdwy Stg 1	-	-	-	-	5.23	-
Critical Hdwy Stg 2	-	-	-	-	5.23	-
Follow-up Hdwy	3.1	-	-	-	3	3.1
Pot Cap-1 Maneuver	1015	-	-	-	813	958
Stage 1	-	-	-	-	1024	-
Stage 2	-	-	-	-	1035	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1015	-	-	-	799	958
Mov Cap-2 Maneuver	-	-	-	-	799	-
Stage 1	-	-	-	-	1024	-
Stage 2	-	-	-	-	1017	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1015	-	-	-	819
HCM Lane V/C Ratio	0.016	-	-	-	0.057
HCM Control Delay (s)	8.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	111	13	46	118	24	96
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	11	11	12	12
Grade (%)	-1%			1%	-1%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			75		75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.986				0.892	
Flt Protected				0.986	0.990	
Satd. Flow (prot)	1529	0	0	1602	1545	0
Flt Permitted				0.986	0.990	
Satd. Flow (perm)	1529	0	0	1602	1545	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	350			444	512	
Travel Time (s)	9.5			12.1	14.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	8%	21%	1%	9%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	126	15	52	134	27	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	0	0	186	136	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	111	13	46	118	24	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-1	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	8	21	1	9	2
Mvmt Flow	126	15	52	134	27	109

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	373	134
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	239	-
Critical Hdwy	-	-	4.5	-	6.29	6.12
Critical Hdwy Stg 1	-	-	-	-	5.29	-
Critical Hdwy Stg 2	-	-	-	-	5.29	-
Follow-up Hdwy	-	-	3.2	-	3.1	3.1
Pot Cap-1 Maneuver	-	-	1004	-	708	979
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	904	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1004	-	668	979
Mov Cap-2 Maneuver	-	-	-	-	668	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	853	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	896	-	-	1004	-
HCM Lane V/C Ratio	0.152	-	-	0.052	-
HCM Control Delay (s)	9.7	-	-	8.8	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	129	2	231	1	1	0	220	1884	2	5	1264	95
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	14	10	10	10	8	12	15	9	11	13
Grade (%)		2%			0%			2%			-1%	
Storage Length (ft)	0		150	0		0	149		0	129		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	75			75			75			51		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt			0.850								0.990	
Flt Protected		0.953			0.976		0.950			0.950		
Satd. Flow (prot)	0	1467	1584	0	1640	0	1411	3256	0	1547	3150	0
Flt Permitted		0.729			0.900		0.074			0.071		
Satd. Flow (perm)	0	1122	1584	0	1512	0	110	3256	0	116	3150	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189								9	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		1376			470			853			1082	
Travel Time (s)		37.5			12.8			14.5			18.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	0%	2%	0%	0%	0%	4%	4%	0%	0%	4%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	133	2	238	1	1	0	227	1942	2	5	1303	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	238	0	2	0	227	1944	0	5	1401	0
Number of Detectors	1	1	1	1	1		1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	30	30	30	30	30		30	30		30	30	
Trailing Detector (ft)	-10	-10	-10	-10	-10		-10	-10		-10	-10	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	35.0	35.0	35.0	35.0	35.0		9.0	33.0		9.0	33.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		21.0	66.0		9.0	54.0	
Total Split (%)	31.8%	31.8%	31.8%	31.8%	31.8%		19.1%	60.0%		8.2%	49.1%	
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0		15.0	60.0		3.0	48.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.0	6.0		6.0		5.0	5.0		5.0	5.0	

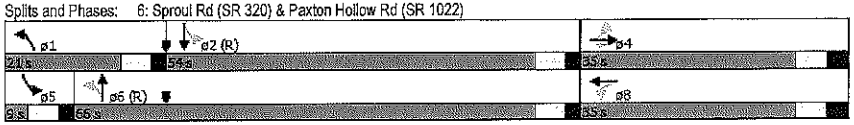
McMahon Associates, Inc.
6: Sproul Rd (SR 320) & Paxton Hollow Rd (SR 1022)
Marple Age-Restricted
2025 Future without Dev. - Weekday AM

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	21.0	21.0			20.0			20.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
v/c Ratio		0.67	0.54		0.01		0.77	0.85		0.03	0.87	
Control Delay		57.5	14.1		32.5		43.4	19.1		8.2	32.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		57.5	14.1		32.5		43.4	19.1		8.2	32.9	
Queue Length 50th (ft)		90	30		1		103	437		1	467	
Queue Length 95th (ft)		145	96		7		#247	#945		5	#677	
Internal Link Dist (ft)		1296			390			773			1002	
Turn Bay Length (ft)			150				149			129		
Base Capacity (vph)		295	556		398		302	2286		149	1607	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.46	0.43		0.01		0.75	0.85		0.03	0.87	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 61 (55%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 6: Sproul Rd (SR 320) & Paxton Hollow Rd (SR 1022)



Lanes, Volumes, Timings
I:\eng\815641 - Marple Age-Restricted\Traffic\Analysis\2025 without\Weekday AM Optimized.syn
2025 Future without Dev. - Weekday AM
Synchro 8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	129	2	231	1	1	0	220	1884	2	5	1264	95
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1782	1539	1817	1800	1800	1800	1645	1714	1853	1737	1732	1881
Adj Flow Rate, veh/h	133	2	145	1	1	0	227	1942	2	5	1303	91
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	2	0	0	0	4	4	4	0	4	4
Cap, veh/h	231	3	305	68	53	0	298	2149	2	120	1772	123
Arrive On Green	0.19	0.20	0.20	0.19	0.20	0.00	0.09	0.64	0.63	0.01	0.57	0.56
Sat Flow, veh/h	841	13	1544	93	267	0	1567	3337	3	1654	3122	218
Grp Volume(v), veh/h	135	0	145	2	0	0	227	947	997	5	685	709
Grp Sat Flow(s),veh/h/ln	854	0	1544	360	0	0	1567	1628	1713	1654	1646	1694
Q Serve(g_s), s	0.0	0.0	9.1	0.0	0.0	0.0	6.0	54.5	54.5	0.1	34.0	34.2
Cycle Q Clear(g_c), s	18.1	0.0	9.1	18.2	0.0	0.0	6.0	54.5	54.5	0.1	34.0	34.2
Prop In Lane	0.99		1.00	0.50		0.00	1.00		0.00	1.00		0.13
Lane Grp Cap(c), veh/h	226	0	305	117	0	0	298	1048	1103	120	934	961
V/C Ratio(X)	0.60	0.00	0.47	0.02	0.00	0.00	0.76	0.90	0.90	0.04	0.73	0.74
Avail Cap(c_a), veh/h	307	0	407	215	0	0	386	1048	1103	159	934	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	0.0	39.1	36.9	0.0	0.0	19.9	16.7	16.7	19.6	17.6	17.7
Incr Delay (d2), s/veh	2.5	0.0	1.1	0.1	0.0	0.0	6.4	12.5	12.0	0.1	5.1	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	0.0	7.2	0.1	0.0	0.0	8.2	36.5	38.0	0.1	23.2	24.1
LnGrp Delay(d),s/veh	45.7	0.0	40.2	36.9	0.0	0.0	26.3	29.2	28.7	19.7	22.7	22.8
LnGrp LOS	D		D	D			C	C	C	B	C	C
Approach Vol, veh/h		280			2			2171			1399	
Approach Delay, s/veh		42.8			36.9			28.7			22.7	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.8	67.4		27.7	6.4	75.8		27.7
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0
Max Green Setting (Gmax), s	15.0	48.0		28.0	3.0	60.0		28.0
Max Q Clear Time (g_c+I1), s	8.5	36.5		20.1	2.6	57.0		20.2
Green Ext Time (p_c), s	0.4	9.5		0.6	0.0	2.8		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	27.5
HCM 2010 LOS	C

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	147	13	30	115	5	8
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	10	10	13	13
Grade (%)	2%			-3%	4%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			75		75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.989				0.919	
Flt Protected				0.990	0.980	
Satd. Flow (prot)	1630	0	0	1638	1642	0
Flt Permitted				0.990	0.980	
Satd. Flow (perm)	1630	0	0	1638	1642	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	1452			314	498	
Travel Time (s)	39.6			8.6	13.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	2%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	165	15	34	129	6	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	180	0	0	163	15	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	147	13	30	115	5	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	2	-	-	-3	4	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	0	7	2	0	0
Mvmt Flow	165	15	34	129	6	9

Major/Minor	Major1			Major2		Minor1	
Conflicting Flow All	0	0		180	0	369	172
Stage 1	-	-		-	-	172	-
Stage 2	-	-		-	-	197	-
Critical Hdwy	-	-		4.4	-	7.2	6.6
Critical Hdwy Stg 1	-	-		-	-	6.2	-
Critical Hdwy Stg 2	-	-		-	-	6.2	-
Follow-up Hdwy	-	-		3.1	-	3	3.1
Pot Cap-1 Maneuver	-	-		1006	-	666	912
Stage 1	-	-		-	-	958	-
Stage 2	-	-		-	-	927	-
Platoon blocked, %	-	-			-		
Mov Cap-1 Maneuver	-	-		1006	-	642	912
Mov Cap-2 Maneuver	-	-		-	-	642	-
Stage 1	-	-		-	-	958	-
Stage 2	-	-		-	-	894	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	785	-	-	1006	-
HCM Lane V/C Ratio	0.019	-	-	0.034	-
HCM Control Delay (s)	9.7	-	-	8.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	93	897	97	78	1038
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	11	15	12	12
Grade (%)	1%		2%			-2%
Storage Length (ft)	0	0		105	0	
Storage Lanes	1	0		1	0	
Taper Length (ft)	75				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905			0.850		
Flt Protected	0.985					0.997
Satd. Flow (prot)	1490	0	1706	1666	0	1796
Flt Permitted	0.985					0.997
Satd. Flow (perm)	1490	0	1706	1666	0	1796
Link Speed (mph)	25		45			45
Link Distance (ft)	1452		1875			410
Travel Time (s)	39.6		28.4			6.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	43	101	975	105	85	1128
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	975	105	0	1213
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh	39

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	40	93	897	97	78	1038
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	105	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	1	-	2	-	-	-2
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	43	101	975	105	85	1128

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2273	975	0	0	975	0
Stage 1	975	-	-	-	-	-
Stage 2	1298	-	-	-	-	-
Critical Hdwy	6.6	6.3	-	-	4.3	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	~ 41	312	-	-	547	-
Stage 1	385	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 24	312	-	-	547	-
Mov Cap-2 Maneuver	~ 24	-	-	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	152	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 650.1	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	68	547	-
HCM Lane V/C Ratio	-	-	2.126	0.155	-
HCM Control Delay (s)	-	-	$ 650.1	12.8	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	13.6	0.5	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	27	92	930	33	160	947
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	12	12	12	12
Grade (%)	3%		0%			-1%
Storage Length (ft)	0	0		0	186	
Storage Lanes	1	0		0	1	
Taper Length (ft)	75				65	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.895		0.995			
Flt Protected	0.989				0.950	
Satd. Flow (prot)	1453	0	1770	0	1702	1791
Flt Permitted	0.989				0.950	
Satd. Flow (perm)	1453	0	1770	0	1702	1791
Link Speed (mph)	25		35			45
Link Distance (ft)	660		484			1875
Travel Time (s)	18.0		9.4			28.4
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	1%	1%	6%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	28	97	979	35	168	997
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	1014	0	168	997
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh 27.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	27	92	930	33	160	947
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	186	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	3	-	0	-	-	-1
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	1	1	6	1	1
Mvmt Flow	28	97	979	35	168	997

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2330	996	0	0	1014	0
Stage 1	996	-	-	-	-	-
Stage 2	1334	-	-	-	-	-
Critical Hdwy	7	6.51	-	-	4.3	-
Critical Hdwy Stg 1	6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	29	286	-	-	529	-
Stage 1	336	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 20	286	-	-	529	-
Mov Cap-2 Maneuver	~ 20	-	-	-	-	-
Stage 1	336	-	-	-	-	-
Stage 2	147	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 491.9	0	2.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	71	529	-
HCM Lane V/C Ratio	-	-	1.764	0.318	-
HCM Control Delay (s)	-	-	$ 491.9	15	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	11	1.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	6	195	113	24	48	13
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	10	10	13	13
Grade (%)		-1%	2%		-1%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	75				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.976		0.971	
Flt Protected		0.998			0.962	
Satd. Flow (prot)	0	1653	1597	0	1746	0
Flt Permitted		0.998			0.962	
Satd. Flow (perm)	0	1653	1597	0	1746	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		488	231		615	
Travel Time (s)		13.3	6.3		16.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	7	219	127	27	54	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	226	154	0	69	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	6	195	113	24	48	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-1	2	-	-1	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	7	219	127	27	54	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	154	0	-	0	373	140
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	233	-
Critical Hdwy	4.3	-	-	-	6.2	6.1
Critical Hdwy Stg 1	-	-	-	-	5.2	-
Critical Hdwy Stg 2	-	-	-	-	5.2	-
Follow-up Hdwy	3	-	-	-	3	3.1
Pot Cap-1 Maneuver	1064	-	-	-	734	972
Stage 1	-	-	-	-	1039	-
Stage 2	-	-	-	-	943	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	1064	-	-	-	729	972
Mov Cap-2 Maneuver	-	-	-	-	729	-
Stage 1	-	-	-	-	1039	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1064	-	-	-	770
HCM Lane V/C Ratio	0.006	-	-	-	0.089
HCM Control Delay (s)	8.4	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	205	40	118	127	16	77
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	10	11	11	12	12
Grade (%)	-1%			1%	-1%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)			75		75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.978				0.888	
Flt Protected				0.977	0.992	
Satd. Flow (prot)	1611	0	0	1659	1537	0
Flt Permitted				0.977	0.992	
Satd. Flow (perm)	1611	0	0	1659	1537	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	350			444	512	
Travel Time (s)	9.5			12.1	14.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	0%	3%	1%	7%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	223	43	128	138	17	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	266	0	0	266	101	0
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

Intersection

Int Delay, s/veh 3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	205	40	118	127	16	77
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	1	-1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	0	3	1	7	3
Mvmt Flow	223	43	128	138	17	84

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	266	0	640	245
Stage 1	-	-	-	-	245	-
Stage 2	-	-	-	-	395	-
Critical Hdwy	-	-	4.3	-	6.27	6.13
Critical Hdwy Stg 1	-	-	-	-	5.27	-
Critical Hdwy Stg 2	-	-	-	-	5.27	-
Follow-up Hdwy	-	-	3	-	3.1	3.1
Pot Cap-1 Maneuver	-	-	974	-	495	849
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	768	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	974	-	425	849
Mov Cap-2 Maneuver	-	-	-	-	425	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	659	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	725	-	-	974	-
HCM Lane V/C Ratio	0.139	-	-	0.132	-
HCM Control Delay (s)	10.8	-	-	9.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.5	-

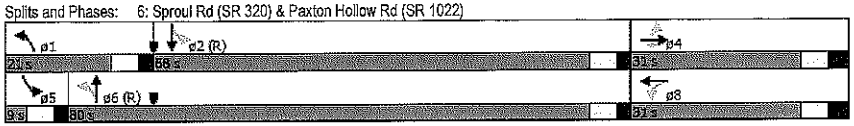
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	1	357	10	0	1	307	1612	2	1	2013	102
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	14	10	10	10	8	12	15	9	11	13
Grade (%)		2%			0%			2%			-1%	
Storage Length (ft)	0		150	0		0	149		0	129		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	75			75			75			51		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor												
Frt			0.850		0.988						0.993	
Flt Protected		0.953			0.957		0.950			0.950		
Satd. Flow (prot)	0	1698	1600	0	1588	0	1467	3352	0	1547	3268	0
Flt Permitted		0.720			0.779		0.059			0.110		
Satd. Flow (perm)	0	1283	1600	0	1293	0	91	3352	0	179	3268	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142		136						6	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		1376			470			853			1082	
Travel Time (s)		37.5			12.8			14.5			18.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	124	1	368	10	0	1	316	1662	2	1	2075	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	125	368	0	11	0	316	1664	0	1	2180	0
Number of Detectors	1	1	1	1	1		1	1		1	1	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	30	30	30	30	30		30	30		30	30	
Trailing Detector (ft)	-10	-10	-10	-10	-10		-10	-10		-10	-10	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		1	6		5	2	
Permitted Phases	4		4	8			6			2		
Detector Phase	4	4	4	8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	3.0	3.0	3.0	3.0	3.0		3.0	15.0		3.0	15.0	
Minimum Split (s)	35.0	35.0	35.0	35.0	35.0		9.0	33.0		9.0	33.0	
Total Split (s)	31.0	31.0	31.0	31.0	31.0		21.0	80.0		9.0	68.0	
Total Split (%)	25.8%	25.8%	25.8%	25.8%	25.8%		17.5%	66.7%		7.5%	56.7%	
Maximum Green (s)	24.0	24.0	24.0	24.0	24.0		15.0	74.0		3.0	62.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.0	6.0		6.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	21.0	21.0	21.0	21.0	21.0			20.0			20.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0			0	
v/c Ratio		0.52	0.89		0.03		1.13	0.70		0.01	1.27	
Control Delay		51.6	52.7		0.2		130.3	13.5		7.0	153.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		51.6	52.7		0.2		130.3	13.5		7.0	153.4	
Queue Length 50th (ft)		86	174		0		~269	362		0	~1125	
Queue Length 95th (ft)		149	#333		0		#453	573		2	#1264	
Internal Link Dist (ft)		1296			390			773			1002	
Turn Bay Length (ft)			150				149			129		
Base Capacity (vph)		267	445		377		279	2368		159	1718	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.47	0.83		0.03		1.13	0.70		0.01	1.27	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 19 (16%), Referenced to phase 2:SBTL and 6:NBTL, 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: 6: Sproul Rd (SR 320) & Paxton Hollow Rd (SR 1022)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	120	1	357	10	0	1	307	1612	2	1	2013	102
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1782	1782	1835	1800	1800	1800	1711	1764	1853	1737	1792	1881
Adj Flow Rate, veh/h	124	1	278	10	0	0	316	1662	2	1	2075	103
Adj No. of Lanes	0	1	1	0	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	1	0	0	0	0	1	1	0	1	1
Cap, veh/h	367	3	317	213	0	0	277	2248	3	172	1751	86
Arrive On Green	0.19	0.20	0.20	0.19	0.00	0.00	0.13	0.65	0.65	0.01	0.53	0.52
Sat Flow, veh/h	1514	13	1560	751	0	0	1629	3436	4	1654	3303	163
Grp Volume(v), veh/h	125	0	278	10	0	0	316	811	853	1	1061	1117
Grp Sat Flow(s),veh/h/ln	1527	0	1560	751	0	0	1629	1676	1764	1654	1702	1763
Q Serve(g_s), s	0.0	0.0	20.7	0.9	0.0	0.0	16.0	38.9	38.9	0.0	63.6	63.6
Cycle Q Clear(g_c), s	7.7	0.0	20.7	8.6	0.0	0.0	16.0	38.9	38.9	0.0	63.6	63.6
Prop In Lane	0.99		1.00	1.00		0.00	1.00		0.00	1.00		0.09
Lane Grp Cap(c), veh/h	357	0	317	206	0	0	277	1097	1154	172	902	935
V/C Ratio(X)	0.35	0.00	0.88	0.05	0.00	0.00	1.14	0.74	0.74	0.01	1.18	1.19
Avail Cap(c_a), veh/h	365	0	325	212	0	0	277	1097	1154	212	902	935
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	46.4	45.3	0.0	0.0	42.1	13.9	13.9	15.1	28.2	28.2
Incr Delay (d2), s/veh	0.6	0.0	22.4	0.1	0.0	0.0	97.2	4.5	4.3	0.0	90.7	98.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	0.0	16.3	0.5	0.0	0.0	30.0	26.3	27.4	0.0	94.2	101.1
LnGrp Delay(d),s/veh	42.2	0.0	68.7	45.4	0.0	0.0	139.3	18.4	18.2	15.2	118.9	126.5
LnGrp LOS	D		E	D			F	B	B	B	F	F
Approach Vol, veh/h		403			10			1980			2179	
Approach Delay, s/veh		60.5			45.4			37.6			122.7	
Approach LOS		E			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.0	68.6		30.4	6.1	83.5		30.4
Change Period (Y+Rc), s	6.0	6.0		7.0	6.0	6.0		7.0
Max Green Setting (Gmax), s	15.0	62.0		24.0	3.0	74.0		24.0
Max Q Clear Time (g_c+I1), s	18.5	66.1		23.2	2.5	41.4		10.6
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	25.1		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	80.2
HCM 2010 LOS	F

Notes

User approved pedestrian interval to be less than phase max green.