



















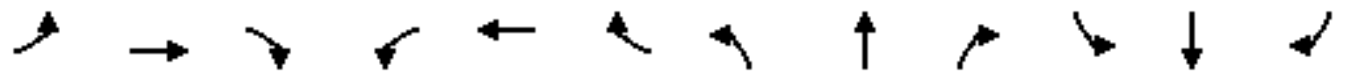


Lanes, Volumes, Timings  
 1: 1st Avenue & Freedom Business Center Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	309	822	13	47	408	98	2	8	12	114	24	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	12	13	10	11	12	12	12	12	10	10	10
Storage Length (ft)	280		0	73		0	115		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	36		25	37		25	77		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				1.00	0.99							
Frt		0.995			0.974			0.903			0.922	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1624	3557	0	1685	3282	0	1805	1621	0	1652	1547	0
Flt Permitted	0.207			0.316			0.687			0.576		
Satd. Flow (perm)	354	3557	0	559	3282	0	1305	1621	0	1001	1547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			30			22			56	
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		771			1204			482			486	
Travel Time (s)		15.0			23.5			13.1			9.5	
Confl. Peds. (#/hr)				1		4						
Peak Hour Factor	0.85	0.94	0.46	0.60	0.83	0.93	0.50	0.67	0.55	0.89	0.46	0.61
Heavy Vehicles (%)	0%	1%	0%	0%	3%	1%	0%	0%	9%	2%	0%	11%
Adj. Flow (vph)	364	874	28	78	492	105	4	12	22	128	52	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	364	902	0	78	597	0	4	34	0	128	108	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)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.00	0.96	1.09	1.04	1.00	1.00	1.00	1.00	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt			pm+pt			Perm			pm+pt		
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	6.0		3.0	6.0		5.0	5.0		4.0	5.0	
Minimum Split (s)	10.0	35.0		8.0	35.0		11.0	11.0		9.0	11.0	
Total Split (s)	27.0	51.0	0.0	11.0	35.0	0.0	13.0	13.0	0.0	15.0	28.0	0.0
Total Split (%)	30.0%	56.7%	0.0%	12.2%	38.9%	0.0%	14.4%	14.4%	0.0%	16.7%	31.1%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	None	Min		None	Min		C-Max	C-Max		None	C-Max	

Convention Center Station Build - AM

Lanes, Volumes, Timings  
 1: 1st Avenue & Freedom Business Center Dr.

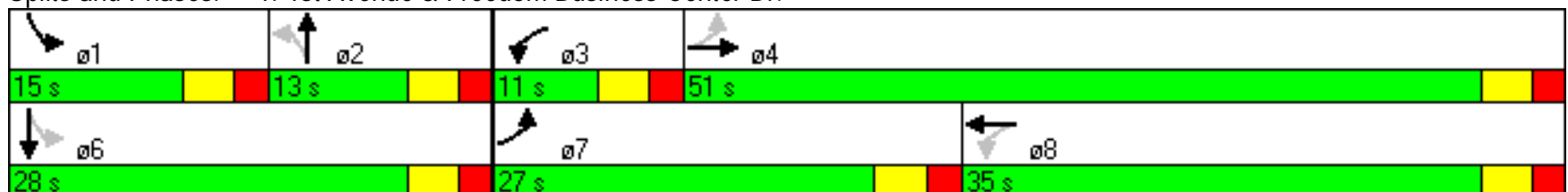


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	46.0	37.2		27.7	21.7		19.0	19.0		34.0	34.0	
Actuated g/C Ratio	0.51	0.41		0.31	0.24		0.21	0.21		0.38	0.38	
v/c Ratio	0.80	0.61		0.32	0.73		0.01	0.09		0.28	0.17	
Control Delay	30.3	22.3		15.7	35.0		36.0	20.8		23.5	12.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.3	22.3		15.7	35.0		36.0	20.8		23.5	12.8	
LOS	C	C		B	D		D	C		C	B	
Approach Delay		24.6			32.8			22.4			18.6	
Approach LOS		C			C			C			B	
Stops (vph)	199	615		30	425		4	11		79	22	
Fuel Used(gal)	5	13		1	11		0	0		2	1	
CO Emissions (g/hr)	358	912		55	783		3	15		108	36	
NOx Emissions (g/hr)	70	178		11	152		1	3		21	7	
VOC Emissions (g/hr)	83	211		13	182		1	3		25	8	
Dilemma Vehicles (#)	0	33		0	20		0	0		0	3	
Queue Length 50th (ft)	125	213		21	156		2	6		49	19	
Queue Length 95th (ft)	178	231		22	176		7	23		103	18	
Internal Link Dist (ft)		691			1124			402			406	
Turn Bay Length (ft)	280			73			115					
Base Capacity (vph)	492	1820		247	1114		276	360		457	619	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.74	0.50		0.32	0.54		0.01	0.09		0.28	0.17	

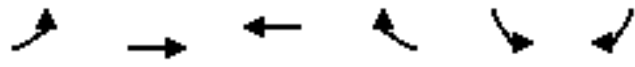
Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	26.4
Intersection LOS:	C
Intersection Capacity Utilization:	57.1%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 1: 1st Avenue & Freedom Business Center Dr.

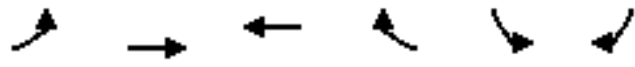


## HCM Unsignalized Intersection Capacity Analysis 2: 1st Avenue & Partial Access Driveway






















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Volume (veh/h)	0	1090	398	46	0	13
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1185	433	50	0	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		475	771			
pX, platoon unblocked	0.96				0.77	0.96
vC, conflicting volume	483				1050	241
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	374				215	122
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	98
cM capacity (veh/h)	1132				578	869
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	592	592	288	194	14	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	50	14	
cSH	1700	1700	1700	1700	869	
Volume to Capacity	0.35	0.35	0.17	0.11	0.02	
Queue Length 95th (ft)	0	0	0	0	1	
Control Delay (s)	0.0	0.0	0.0	0.0	9.2	
Lane LOS						A
Approach Delay (s)	0.0		0.0		9.2	
Approach LOS						A
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			33.5%	ICU Level of Service	A	
Analysis Period (min)			15			

### HCM Unsignalized Intersection Capacity Analysis 3: 1st Avenue & Secondary Access Driveway



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Volume (veh/h)	184	1086	305	106	4	26	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	200	1180	332	115	4	28	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type							
		None	None				
Median storage (veh)							
Upstream signal (ft)							
		345	901				
pX, platoon unblocked							
					0.74		
vC, conflicting volume	447				1379	223	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	447				816	223	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	82				98	96	
cM capacity (veh/h)	1110				192	780	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	200	590	590	221	226	4	28
Volume Left	200	0	0	0	0	4	0
Volume Right	0	0	0	0	115	0	28
cSH	1110	1700	1700	1700	1700	192	780
Volume to Capacity	0.18	0.35	0.35	0.13	0.13	0.02	0.04
Queue Length 95th (ft)	16	0	0	0	0	2	3
Control Delay (s)	9.0	0.0	0.0	0.0	0.0	24.2	9.8
Lane LOS	A					C	A
Approach Delay (s)	1.3			0.0		11.7	
Approach LOS						B	
Intersection Summary							
Average Delay			1.2				
Intersection Capacity Utilization			40.0%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings  
 4: 1st Avenue & Main Access Driveway

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	503	1212	49	0	261	70	0	0	5	53	0	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.968				0.865			0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1770	3539	1583	0	3426	0	0	0	1611	1770	0	1583
Flt Permitted	0.406									0.950		
Satd. Flow (perm)	756	3539	1583	0	3426	0	0	0	1611	1770	0	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53		49				82			114
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		524			345			186			234	
Travel Time (s)		11.9			7.8			4.2			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	547	1317	53	0	284	76	0	0	5	58	0	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	547	1317	53	0	360	0	0	0	5	58	0	114
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			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
Turn Type	pm+pt		Perm						custom	custom		custom
Protected Phases	7	4			8							
Permitted Phases	4		4						2	6		6
Detector Phase	7	4	4		8				2	6		6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0		4.0				4.0	4.0		4.0
Minimum Split (s)	8.0	21.0	21.0		21.0				21.0	21.0		21.0
Total Split (s)	20.0	66.0	66.0	0.0	46.0	0.0	0.0	0.0	24.0	24.0	0.0	24.0
Total Split (%)	22.2%	73.3%	73.3%	0.0%	51.1%	0.0%	0.0%	0.0%	26.7%	26.7%	0.0%	26.7%
Yellow Time (s)	3.5	3.0	3.0		3.0				3.0	3.0		3.0
All-Red Time (s)	0.5	2.0	2.0		2.0				2.0	2.0		2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	None	None		None				Max	Max		Max
Act Effct Green (s)	35.8	34.8	34.8		15.3				19.3	19.3		19.3
Actuated g/C Ratio	0.56	0.54	0.54		0.24				0.30	0.30		0.30
v/c Ratio	0.82	0.69	0.06		0.42				0.01	0.11		0.21
Control Delay	21.1	12.5	2.1		18.5				0.0	20.4		6.3

Convention Center Station Build - AM

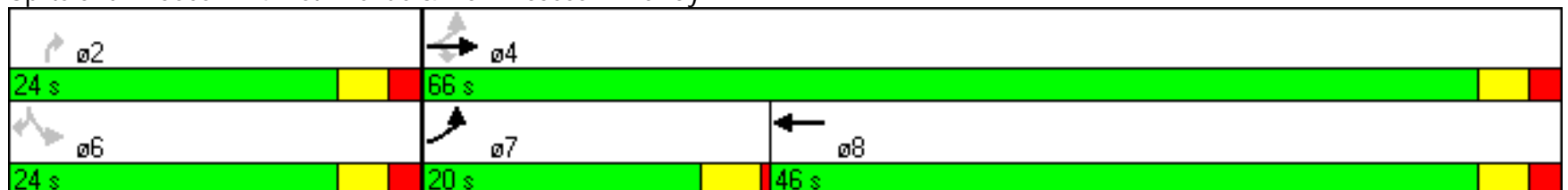
Lanes, Volumes, Timings  
 4: 1st Avenue & Main Access Driveway

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0		0.0				0.0	0.0		0.0
Total Delay	21.1	12.5	2.1		18.5				0.0	20.4		6.3
LOS	C	B	A		B				A	C		A
Approach Delay		14.7			18.5							
Approach LOS		B			B							
Stops (vph)	275	778	6		214				0	38		19
Fuel Used(gal)	6	12	0		3				0	1		0
CO Emissions (g/hr)	401	862	18		232				1	37		30
NOx Emissions (g/hr)	78	168	3		45				0	7		6
VOC Emissions (g/hr)	93	200	4		54				0	9		7
Dilemma Vehicles (#)	0	0	0		0				0	0		0
Queue Length 50th (ft)	121	176	0		53				0	16		0
Queue Length 95th (ft)	#213	232	11		84				0	52		38
Internal Link Dist (ft)		444			265			106				154
Turn Bay Length (ft)	200											
Base Capacity (vph)	678	3283	1472		2239				541	532		555
Starvation Cap Reductn	1	122	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	0.81	0.42	0.04		0.16				0.01	0.11		0.21

























Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 64.3  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 14.9  
 Intersection LOS: B  
 Intersection Capacity Utilization 51.8%  
 ICU Level of Service A  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 4: 1st Avenue & Main Access Driveway



Lanes, Volumes, Timings  
5: 1st Avenue & N. Gulph Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	353	284	155	169	36	4	396	1297	114	624	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	12	10	12	12	10	12	12
Storage Length (ft)	236		236	204		167	301		750	173		0
Storage Lanes	1		0	1		1	1		1	2		0
Taper Length (ft)	120		120	25		25	107		92	56		25
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3539	1615	3255	1749	1495	1685	3539	1599	3268	3526	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	3539	1615	3255	1749	1495	1685	3539	1599	3268	3526	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			319			48			648		10	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		477			524			924			509	
Travel Time (s)		9.3			10.2			15.8			8.7	
Peak Hour Factor	0.50	0.89	0.89	0.91	0.91	0.75	0.50	0.81	0.90	0.87	0.95	0.68
Heavy Vehicles (%)	0%	2%	0%	4%	5%	8%	0%	2%	1%	0%	1%	3%
Adj. Flow (vph)	8	397	319	170	186	48	8	489	1441	131	657	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	397	319	170	186	48	8	489	1441	131	716	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)		23			23			20			20	
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	1.04	1.04	1.00	1.09	1.00	1.00	1.09	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot		Perm	Prot		Perm	Prot		Free	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	12.0	12.0	8.0	4.0	4.0	4.0	26.0		4.0	26.0	
Minimum Split (s)	13.0	21.0	21.0	13.0	21.0	21.0	18.0	32.0		18.0	32.0	
Total Split (s)	13.0	27.0	27.0	13.0	27.0	27.0	18.0	32.0	0.0	18.0	32.0	0.0
Total Split (%)	14.4%	30.0%	30.0%	14.4%	30.0%	30.0%	20.0%	35.6%	0.0%	20.0%	35.6%	0.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	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		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	Min	Min	None	Min	Min	None	Min		None	Min	
Act Effct Green (s)	8.2	16.0	16.0	8.0	25.6	25.6	6.0	26.1	80.9	8.6	38.4	
Actuated g/C Ratio	0.10	0.20	0.20	0.10	0.32	0.32	0.07	0.32	1.00	0.11	0.47	

Convention Center Station Build - AM



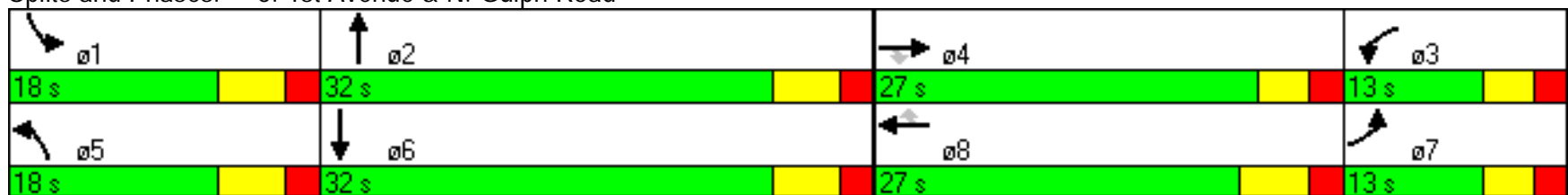
Lanes, Volumes, Timings  
 5: 1st Avenue & N. Gulph Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.04	0.57	0.55	0.53	0.34	0.10	0.06	0.43	0.90	0.38	0.43	
Control Delay	36.0	32.7	7.5	42.3	25.1	8.4	38.2	23.9	9.9	37.6	16.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.0	32.7	7.5	42.3	25.1	8.4	38.2	23.9	9.9	37.6	16.3	
LOS	D	C	A	D	C	A	D	C	A	D	B	
Approach Delay		21.6			30.4			13.5			19.6	
Approach LOS		C			C			B			B	
Stops (vph)	5	301	34	142	126	9	5	300	6	100	416	
Fuel Used(gal)	0	6	2	3	2	0	0	7	11	2	9	
CO Emissions (g/hr)	6	407	117	209	171	19	7	514	755	157	600	
NOx Emissions (g/hr)	1	79	23	41	33	4	1	100	147	31	117	
VOC Emissions (g/hr)	1	94	27	48	40	4	2	119	175	36	139	
Dilemma Vehicles (#)	0	17	0	0	7	0	0	24	0	0	40	
Queue Length 50th (ft)	4	95	0	42	67	0	4	101	0	32	110	
Queue Length 95th (ft)	10	142	60	80	156	19	10	146	#64	60	230	
Internal Link Dist (ft)		397			444			844			429	
Turn Bay Length (ft)	236		236	204		167	301		750	173		
Base Capacity (vph)	183	966	673	323	557	508	251	1142	1599	487	1679	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.04	0.41	0.47	0.53	0.33	0.09	0.03	0.43	0.90	0.27	0.43	

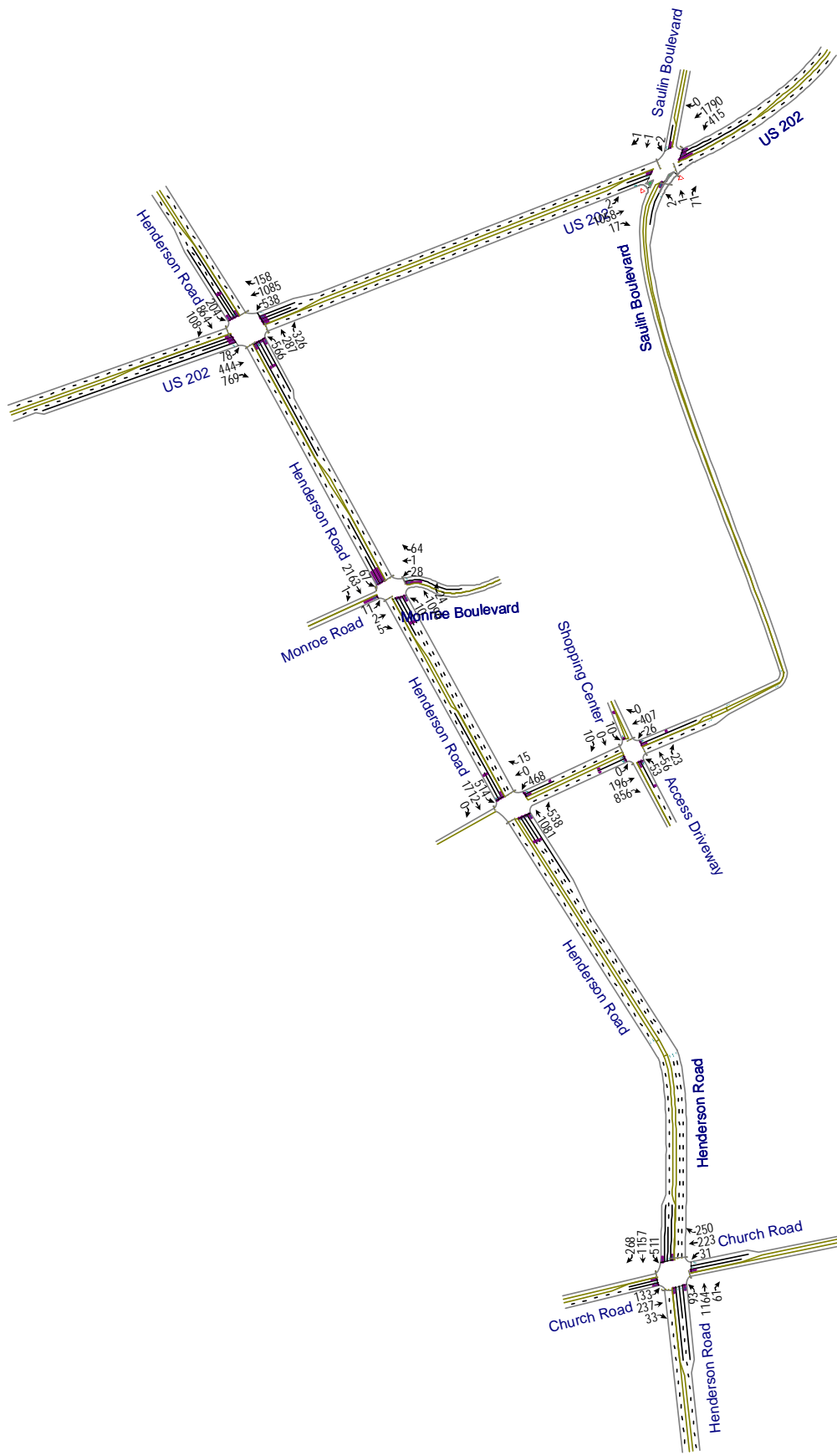
Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 80.9  
 Natural Cycle: 85  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 18.1      Intersection LOS: B  
 Intersection Capacity Utilization 60.0%      ICU Level of Service B  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



















Splits and Phases: 5: 1st Avenue & N. Gulph Road



2030 Build Condition  
AM Peak Hour















Lanes, Volumes, Timings  
 1: Saulin Boulevard & Access Driveway

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	196	856	26	407	0	53	56	23	10	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	200		0	0		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.878						0.956			0.932	
Flt Protected				0.950			0.950				0.976	
Satd. Flow (prot)	0	3107	0	1770	1863	0	1770	1781	0	0	1694	0
Flt Permitted				0.231			0.743				0.801	
Satd. Flow (perm)	0	3107	0	430	1863	0	1384	1781	0	0	1391	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		930						25			11	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		460			320			287			175	
Travel Time (s)		9.0			6.2			7.8			4.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	213	930	28	442	0	58	61	25	11	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1143	0	28	442	0	58	86	0	0	22	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)		12			12			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
Turn Type	Perm			Perm			Perm			Perm		
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	48.0	48.0	0.0	48.0	48.0	0.0	43.0	43.0	0.0	43.0	43.0	0.0
Total Split (%)	52.7%	52.7%	0.0%	52.7%	52.7%	0.0%	47.3%	47.3%	0.0%	47.3%	47.3%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		None	None		None	None		None	None	
Act Effct Green (s)		50.4		50.4	50.4		8.1	8.1		8.1	8.1	
Actuated g/C Ratio		0.77		0.77	0.77		0.12	0.12		0.12	0.12	
v/c Ratio		0.44		0.08	0.31		0.34	0.35		0.12	0.12	
Control Delay		1.3		4.0	4.1		30.4	23.1		18.0	18.0	

Henderson Road Station Build - AM

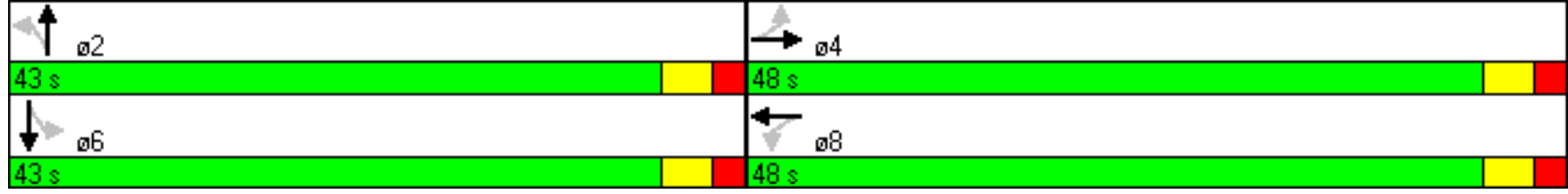
Lanes, Volumes, Timings  
 1: Saulin Boulevard & Access Driveway

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.1		0.0	0.0		0.0	0.0			0.0	
Total Delay		1.4		4.0	4.1		30.4	23.1			18.0	
LOS		A		A	A		C	C			B	
Approach Delay		1.4			4.1			26.0			18.0	
Approach LOS		A			A			C			B	
Stops (vph)		77		8	126		48	54			15	
Fuel Used(gal)		4		1	8		1	1			0	
CO Emissions (g/hr)		304		38	593		45	54			11	
NOx Emissions (g/hr)		59		7	115		9	11			2	
VOC Emissions (g/hr)		71		9	138		10	13			3	
Dilemma Vehicles (#)		69		0	23		0	0			0	
Queue Length 50th (ft)		10		3	48		21	22			4	
Queue Length 95th (ft)		30		11	98		50	56			21	
Internal Link Dist (ft)		380			240			207			95	
Turn Bay Length (ft)				200								
Base Capacity (vph)		2609		332	1437		808	1050			816	
Starvation Cap Reductn		299		0	0		0	0			0	
Spillback Cap Reductn		0		0	0		0	0			0	
Storage Cap Reductn		0		0	0		0	0			0	
Reduced v/c Ratio		0.49		0.08	0.31		0.07	0.08			0.03	



















Intersection Summary

Area Type: Other  
 Cycle Length: 91  
 Actuated Cycle Length: 65.4  
 Natural Cycle: 45  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.44  
 Intersection Signal Delay: 4.3  
 Intersection Capacity Utilization 49.3%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 1: Saulin Boulevard & Access Driveway















Lanes, Volumes, Timings  
 2: Saulin Boulevard & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	468	0	15	0	1081	538	514	1712	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	9	12	12	12	11	14	11	11	12
Storage Length (ft)	0		0	160		0	0		266	325		0
Storage Lanes	0		0	0		0	0		1	1		0
Taper Length (ft)	25		25	100		25	25		120	25		25
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.95	0.95
Frt					0.985				0.850			
Flt Protected				0.950	0.957					0.950		
Satd. Flow (prot)	0	0	0	1498	1642	0	0	4775	1706	1745	3355	0
Flt Permitted				0.950	0.957					0.950		
Satd. Flow (perm)	0	0	0	1498	1642	0	0	4775	1706	1745	3355	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					4				132			
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		270			460			966			833	
Travel Time (s)		6.1			9.0			18.8			16.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.55	0.92	0.92	0.90	0.90	0.95	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	2%	9%	2%	5%	1%	0%	4%	2%
Adj. Flow (vph)	0	0	0	509	0	27	0	1175	598	571	1802	0
Shared Lane Traffic (%)				47%								
Lane Group Flow (vph)	0	0	0	270	266	0	0	1175	598	571	1802	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	L NA	L NA	Left	Right
Median Width(ft)		9			20			10			10	
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	1.14	1.00	1.00	1.00	1.04	0.92	1.04	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm					custom	Prot		
Protected Phases					8			2	2	1	6	
Permitted Phases				8					8			
Detector Phase				8	8			2	2	1	6	
Switch Phase												
Minimum Initial (s)				15.0	15.0			12.0	12.0	20.0	12.0	
Minimum Split (s)				31.0	31.0			32.0	32.0	26.0	22.0	
Total Split (s)	0.0	0.0	0.0	40.0	40.0	0.0	0.0	44.0	44.0	56.0	100.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	28.6%	28.6%	0.0%	0.0%	31.4%	31.4%	40.0%	71.4%	0.0%
Yellow Time (s)				3.0	3.0			4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0			2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	5.0	5.0	4.0	4.0	6.0	6.0	6.0	6.0	4.0
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode				None	None			Min	Min	None	Min	
Act Effct Green (s)				27.9	27.9			37.4	70.4	45.2	88.7	
Actuated g/C Ratio				0.22	0.22			0.29	0.55	0.35	0.69	

Henderson Road Station Build - AM

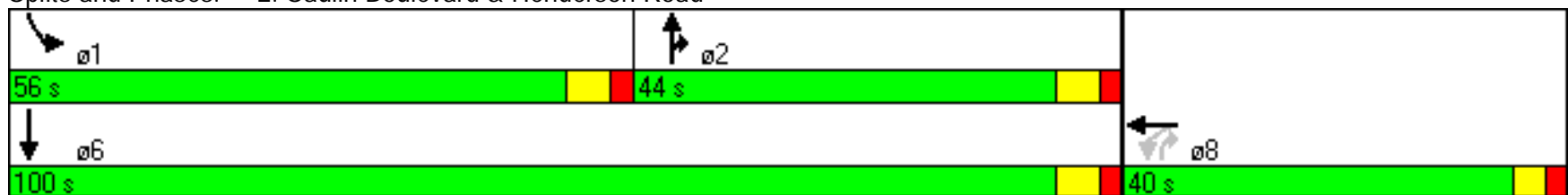
Lanes, Volumes, Timings  
 2: Saulin Boulevard & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.83	0.74			0.84	0.60	0.93	0.77	
Control Delay				69.4	59.3			50.2	17.8	62.6	16.7	
Queue Delay				0.0	0.1			0.0	0.0	0.0	0.6	
Total Delay				69.4	59.4			50.2	17.8	62.6	17.3	
LOS				E	E			D	B	E	B	
Approach Delay					64.4			39.3			28.2	
Approach LOS					E			D			C	
Stops (vph)				230	208			961	276	451	1085	
Fuel Used(gal)				6	5			31	11	13	24	
CO Emissions (g/hr)				423	362			2196	750	911	1697	
NOx Emissions (g/hr)				82	70			427	146	177	330	
VOC Emissions (g/hr)				98	84			509	174	211	393	
Dilemma Vehicles (#)				0	8			39	0	0	52	
Queue Length 50th (ft)				237	226			361	271	466	500	
Queue Length 95th (ft)				350	332			#452	388	#721	672	
Internal Link Dist (ft)		190			380			886			753	
Turn Bay Length (ft)				160					266	325		
Base Capacity (vph)				417	460			1443	995	694	2508	
Starvation Cap Reductn				0	6			0	0	0	316	
Spillback Cap Reductn				0	0			0	0	0	0	
Storage Cap Reductn				0	0			0	0	0	0	
Reduced v/c Ratio				0.65	0.59			0.81	0.60	0.82	0.82	





















Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 127.7  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 36.5      Intersection LOS: D  
 Intersection Capacity Utilization 76.9%      ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 2: Saulin Boulevard & Henderson Road















Lanes, Volumes, Timings  
3: Monroe Road & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	2	5	28	1	64	10	1096	24	67	2163	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	11	11	14	10	12	13
Storage Length (ft)	0		0	0		190	135		0	242		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25		25	25		65	85		25	130		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.966				0.850			0.850			
Flt Protected		0.973			0.956		0.950			0.950		
Satd. Flow (prot)	0	1845	0	0	1816	1524	1745	3323	1595	1589	3471	0
Flt Permitted		0.804			0.716		0.073			0.950		
Satd. Flow (perm)	0	1525	0	0	1360	1524	134	3323	1595	1589	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				30			48			
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		298			386			833			997	
Travel Time (s)		8.1			10.5			16.2			19.4	
Peak Hour Factor	0.50	0.25	0.50	0.69	0.25	0.74	0.63	0.88	0.50	0.71	0.93	0.25
Heavy Vehicles (%)	0%	0%	0%	0%	0%	6%	0%	5%	8%	6%	4%	0%
Adj. Flow (vph)	22	8	10	41	4	86	16	1245	48	94	2326	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	40	0	0	45	86	16	1245	48	94	2330	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			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.00	1.00	1.00	1.04	1.04	0.92	1.09	1.00	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm		pm+ov	Perm		Perm	Prot		
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2			
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	8.0	40.0	40.0	40.0	8.0	40.0	
Minimum Split (s)	31.0	31.0		31.0	31.0	15.0	46.0	46.0	46.0	15.0	46.0	
Total Split (s)	31.0	31.0	0.0	31.0	31.0	19.0	55.0	55.0	55.0	19.0	74.0	0.0
Total Split (%)	29.5%	29.5%	0.0%	29.5%	29.5%	18.1%	52.4%	52.4%	52.4%	18.1%	70.5%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	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	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None		None	None	None	Min	Min	Min	None	Min	
Act Effct Green (s)		7.9			8.1	18.7	54.7	54.7	54.7	10.3	73.6	
Actuated g/C Ratio		0.09			0.09	0.22	0.64	0.64	0.64	0.12	0.86	

Henderson Road Station Build - AM

Lanes, Volumes, Timings  
 3: Monroe Road & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.27			0.35	0.24	0.19	0.59	0.05	0.49	0.78	
Control Delay		35.2			44.0	18.0	16.9	12.1	3.1	44.3	8.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		35.2			44.0	18.0	16.9	12.1	3.1	44.3	8.1	
LOS		D			D	B	B	B	A	D	A	
Approach Delay		35.2			26.9			11.8			9.5	
Approach LOS		D			C			B			A	
Stops (vph)		14			27	32	6	623	4	61	993	
Fuel Used(gal)		0			0	1	0	14	0	2	27	
CO Emissions (g/hr)		16			32	40	10	977	13	108	1861	
NOx Emissions (g/hr)		3			6	8	2	190	3	21	362	
VOC Emissions (g/hr)		4			7	9	2	226	3	25	431	
Dilemma Vehicles (#)		0			0	0	0	53	0	0	78	
Queue Length 50th (ft)		17			24	23	4	214	0	49	337	
Queue Length 95th (ft)		10			15	43	12	317	3	75	565	
Internal Link Dist (ft)		218			306			753			917	
Turn Bay Length (ft)						190	135			242		
Base Capacity (vph)		472			415	405	86	2128	1039	243	2939	
Starvation Cap Reductn		0			0	0	0	0	0	0	0	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.08			0.11	0.21	0.19	0.59	0.05	0.39	0.79	

Intersection Summary





















Area Type:	Other
Cycle Length:	105
Actuated Cycle Length:	85.5
Natural Cycle:	105
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	11.1
Intersection LOS:	B
Intersection Capacity Utilization:	76.7%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 3: Monroe Road & Henderson Road





Lanes, Volumes, Timings  
4: US 202 & Saulin Boulevard

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	1058	17	415	1790	0	2	1	71	2	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	11	11	11	10	14	14	10	12	12
Storage Length (ft)	65		0	240		0	0		123	60		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	70		25	120		25	25		75	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00							0.99	1.00		
Frt		0.996							0.850		0.950	
Flt Protected	0.950			0.950				0.966		0.950		
Satd. Flow (prot)	1123	3504	0	1711	3455	0	0	1575	1672	1685	1354	0
Flt Permitted	0.107			0.118								
Satd. Flow (perm)	126	3504	0	212	3455	0	0	1631	1650	1767	1354	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2							36		2	
Link Speed (mph)		45			45			35			25	
Link Distance (ft)		1518			675			1804			327	
Travel Time (s)		23.0			10.2			35.1			8.9	
Confl. Peds. (#/hr)			1	1					2	2		
Peak Hour Factor	0.50	0.93	0.54	0.92	0.91	0.25	0.44	0.50	0.88	0.25	0.25	0.50
Heavy Vehicles (%)	50%	2%	23%	2%	1%	0%	14%	50%	3%	0%	0%	100%
Adj. Flow (vph)	4	1138	31	451	1967	0	5	2	81	8	4	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	1169	0	451	1967	0	0	7	81	8	6	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)		11			11			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.00	1.04	1.04	1.04	1.09	0.92	0.92	1.09	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0		25.0	20.0		10.0	10.0	25.0	8.0	8.0	
Minimum Split (s)	26.0	26.0		30.0	31.0		22.0	22.0	30.0	30.0	30.0	
Total Split (s)	26.0	69.0	0.0	41.0	84.0	0.0	30.0	30.0	41.0	30.0	30.0	0.0
Total Split (%)	18.6%	49.3%	0.0%	29.3%	60.0%	0.0%	21.4%	21.4%	29.3%	21.4%	21.4%	0.0%
Yellow Time (s)	4.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.0	6.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Recall Mode	None	Min		None	Min		None	None	None	None	None	

Henderson Road Station Build - AM

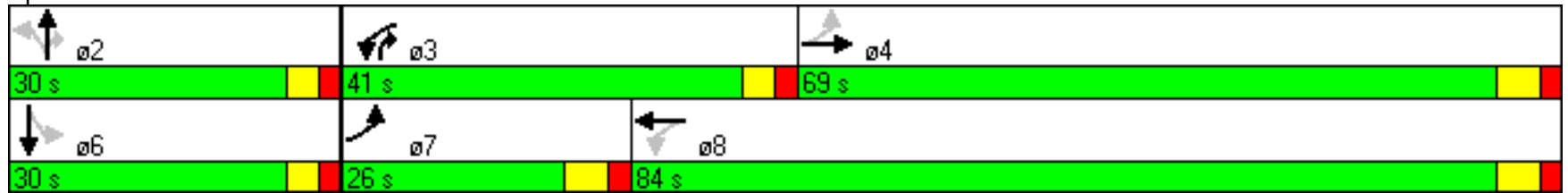
Lanes, Volumes, Timings  
4: US 202 & Saulin Boulevard

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	58.4	36.6		73.0	73.2			10.9	32.8	9.3	9.3	
Actuated g/C Ratio	0.70	0.44		0.88	0.88			0.13	0.40	0.11	0.11	
v/c Ratio	0.01	0.75		0.62	0.64			0.03	0.12	0.04	0.04	
Control Delay	3.5	23.2		19.8	8.2			45.7	11.9	46.0	40.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	3.5	23.2		19.8	8.2			45.7	11.9	46.0	40.5	
LOS	A	C		B	A			D	B	D	D	
Approach Delay		23.2			10.4			14.6			43.6	
Approach LOS		C			B			B			D	
Stops (vph)	1	818		210	544			4	25	2	2	
Fuel Used(gal)	0	26		6	18			0	2	0	0	
CO Emissions (g/hr)	2	1807		427	1231			8	111	2	2	
NOx Emissions (g/hr)	0	352		83	240			1	22	0	0	
VOC Emissions (g/hr)	1	419		99	285			2	26	1	0	
Dilemma Vehicles (#)	0	68		0	35			0	0	0	0	
Queue Length 50th (ft)	0	191		79	0			2	12	3	2	
Queue Length 95th (ft)	1	434		345	826			11	53	6	4	
Internal Link Dist (ft)		1438			595			1724			247	
Turn Bay Length (ft)	65			240					123	60		
Base Capacity (vph)	351	2850		897	3052			537	869	581	447	
Starvation Cap Reductn	0	0		0	0			0	0	0	0	
Spillback Cap Reductn	0	0		0	0			0	0	0	0	
Storage Cap Reductn	0	0		0	0			0	0	0	0	
Reduced v/c Ratio	0.01	0.41		0.50	0.64			0.01	0.09	0.01	0.01	

























Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 82.9  
 Natural Cycle: 140  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 14.7  
 Intersection Capacity Utilization 89.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service E

Splits and Phases: 4: US 202 & Saulin Boulevard



Lanes, Volumes, Timings  
 5: Church Road & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	133	237	33	31	223	250	93	1164	61	511	1157	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	10	11	11	14	12	12	14	11	11	12
Storage Length (ft)	98		0	170		195	243		243	173		173
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60		25	70		35	50		45	35		35
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98			0.99			0.98			
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1728	1739	1334	1572	1783	1625	1736	3505	1625	1694	3388	1553
Flt Permitted	0.174			0.211			0.205			0.078		
Satd. Flow (perm)	316	1739	1313	349	1783	1604	375	3505	1588	139	3388	1553
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			573			598			768	
Travel Time (s)		7.3			11.2			11.6			15.0	
Confl. Peds. (#/hr)			2			1			1			
Peak Hour Factor	0.74	0.76	0.73	0.56	0.84	0.84	0.69	0.93	0.75	0.91	0.92	0.86
Heavy Vehicles (%)	1%	2%	13%	11%	3%	6%	4%	3%	6%	3%	3%	4%
Adj. Flow (vph)	180	312	45	55	265	298	135	1252	81	562	1258	312
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	312	45	55	265	298	135	1252	81	562	1258	312
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)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.09	1.09	1.04	1.04	0.92	1.00	1.00	0.92	1.04	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	20.0	5.0	5.0	15.0	5.0
Minimum Split (s)	10.0	28.0	10.0	10.0	20.0	10.0	10.0	28.0	10.0	10.0	22.0	10.0
Total Split (s)	14.0	29.0	16.0	10.0	25.0	39.0	16.0	52.0	10.0	39.0	75.0	14.0
Total Split (%)	10.8%	22.3%	12.3%	7.7%	19.2%	30.0%	12.3%	40.0%	7.7%	30.0%	57.7%	10.8%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Henderson Road Station Build - AM

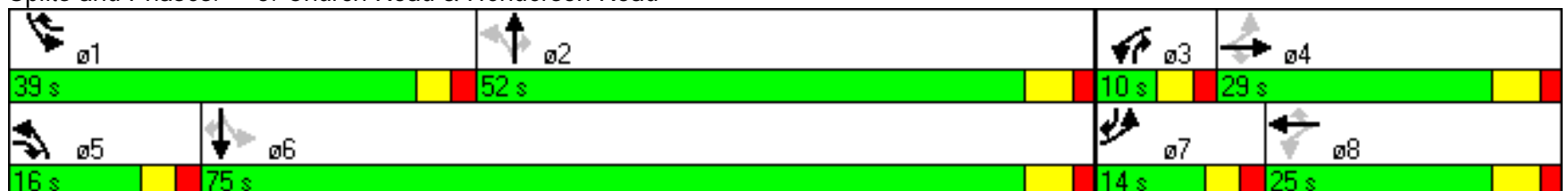
Lanes, Volumes, Timings  
 5: Church Road & Henderson Road

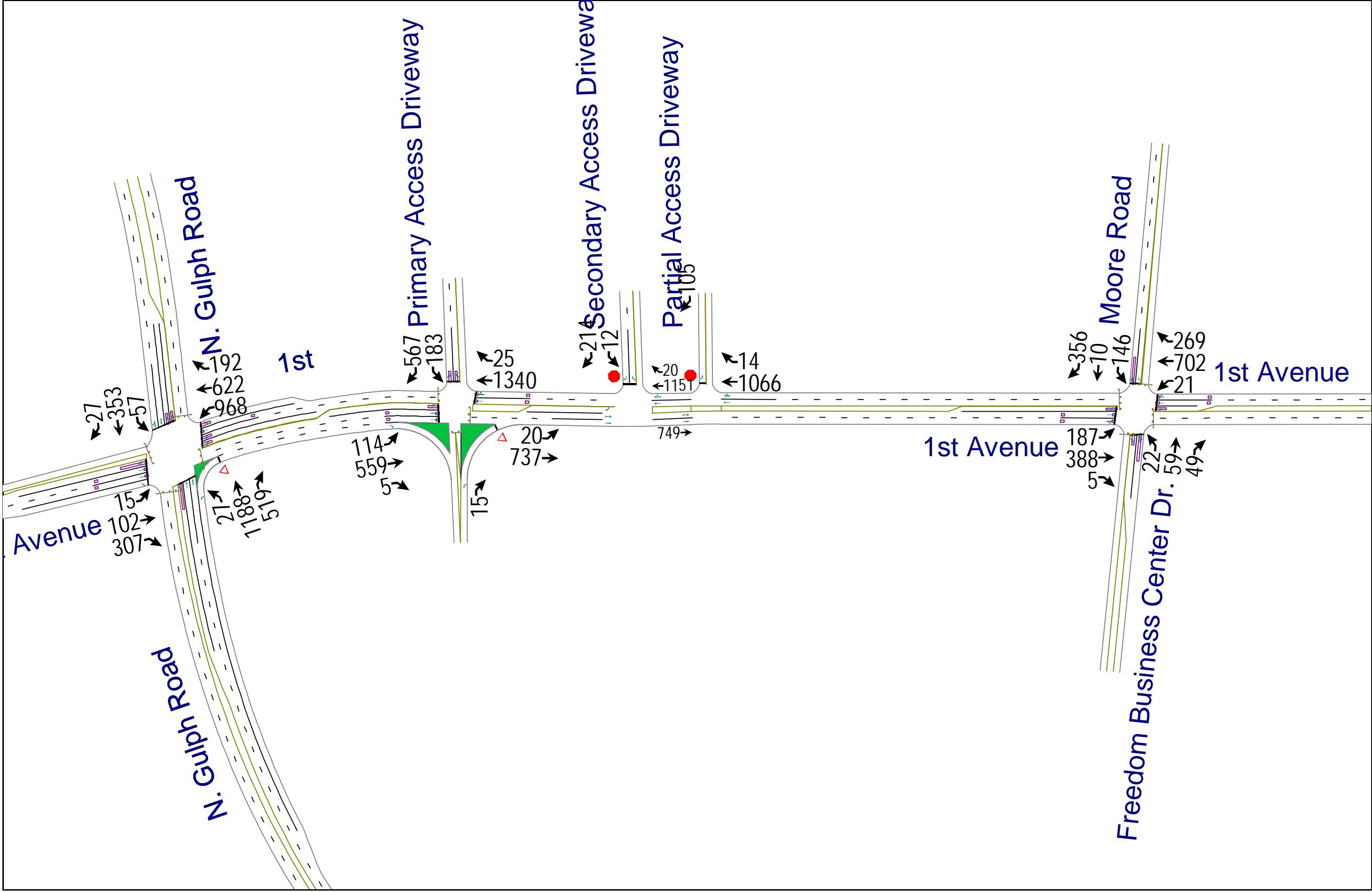
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	33.0	23.0	33.1	25.0	19.0	54.0	56.1	46.0	52.0	86.0	70.9	85.9
Actuated g/C Ratio	0.25	0.18	0.25	0.19	0.15	0.42	0.43	0.35	0.40	0.66	0.55	0.66
v/c Ratio	1.01	1.01	0.13	0.48	1.02	0.44	0.53	1.01	0.13	1.13	0.68	0.30
Control Delay	113.2	107.4	34.4	52.9	114.3	26.7	21.6	69.7	22.4	115.9	24.0	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.2	107.4	34.4	52.9	114.3	26.7	21.6	69.7	22.4	115.9	24.0	10.5
LOS	F	F	C	D	F	C	C	E	C	F	C	B
Approach Delay		103.2			66.6			62.7			46.2	
Approach LOS		F			E			E			D	
Stops (vph)	93	206	24	26	192	174	53	1044	36	382	813	111
Fuel Used(gal)	4	7	1	1	8	4	1	29	1	21	26	5
CO Emissions (g/hr)	288	515	35	46	528	259	84	2055	57	1478	1810	334
NOx Emissions (g/hr)	56	100	7	9	103	50	16	400	11	288	352	65
VOC Emissions (g/hr)	67	119	8	11	122	60	20	476	13	343	420	77
Dilemma Vehicles (#)	0	8	0	0	7	0	0	42	0	0	45	0
Queue Length 50th (ft)	~128	~271	28	36	~232	165	39	~563	40	~499	389	104
Queue Length 95th (ft)	#175	#349	46	44	#369	220	48	#720	60	#727	485	150
Internal Link Dist (ft)		295			493			518			688	
Turn Bay Length (ft)	98			170		195	243		243	173		173
Base Capacity (vph)	178	308	355	114	261	672	282	1240	637	499	1848	1026
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	1.01	0.13	0.48	1.02	0.44	0.48	1.01	0.13	1.13	0.68	0.30

Intersection Summary





















Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 130  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.13  
 Intersection Signal Delay: 60.4  
 Intersection LOS: E  
 Intersection Capacity Utilization 98.0%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 ~ 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: 5: Church Road & Henderson Road





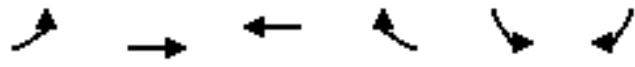
Lanes, Volumes, Timings  
1: 1st Avenue & Moore Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	187	388	5	21	702	269	22	59	49	146	10	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	12	13	10	11	12	12	12	12	10	10	10
Storage Length (ft)	280		0	73		0	115		0	0		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	37		25	77		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor				0.99	0.99							
Frt		0.997			0.957			0.932			0.857	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1624	3530	0	1685	3283	0	1805	1771	0	1668	1520	0
Flt Permitted	0.133			0.462			0.800			0.400		
Satd. Flow (perm)	227	3530	0	811	3283	0	1520	1771	0	702	1520	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			100			53			268	
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		786			1204			482			486	
Travel Time (s)		15.3			23.5			13.1			9.5	
Confl. Peds. (#/hr)				4		1						
Peak Hour Factor	0.76	0.77	0.50	0.83	0.87	0.83	0.88	0.68	0.67	0.69	0.50	0.83
Heavy Vehicles (%)	0%	2%	0%	0%	1%	1%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	246	504	10	25	807	324	25	87	73	212	20	429
Shared Lane Traffic (%)												
Lane Group Flow (vph)	246	514	0	25	1131	0	25	160	0	212	449	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)		10			10			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.00	0.96	1.09	1.04	1.00	1.00	1.00	1.00	1.09	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt			pm+pt			Perm			pm+pt		
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		4.0	4.0		5.0	5.0		4.0	5.0	
Minimum Split (s)	15.0	15.0		11.0	11.0		12.0	12.0		9.0	12.0	
Total Split (s)	15.0	31.0	0.0	11.0	27.0	0.0	13.0	13.0	0.0	10.0	23.0	0.0
Total Split (%)	23.1%	47.7%	0.0%	16.9%	41.5%	0.0%	20.0%	20.0%	0.0%	15.4%	35.4%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Recall Mode	Min	Min		None	Min		C-Max	C-Max		None	C-Max	

Convention Center Station Build - PM



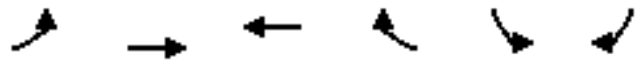
## HCM Unsignalized Intersection Capacity Analysis 2: 1st Avenue & Partial Access Driveway



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Volume (veh/h)	0	749	1066	14	0	105
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	814	1159	15	0	114
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		475	786			
pX, platoon unblocked	0.92				0.96	0.92
vC, conflicting volume	1174				1573	587
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1009				1120	369
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	80
cM capacity (veh/h)	626				192	576
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	
Volume Total	407	407	772	401	114	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	15	114	
cSH	1700	1700	1700	1700	576	
Volume to Capacity	0.24	0.24	0.45	0.24	0.20	
Queue Length 95th (ft)	0	0	0	0	18	
Control Delay (s)	0.0	0.0	0.0	0.0	12.8	
Lane LOS						B
Approach Delay (s)	0.0		0.0		12.8	
Approach LOS						B
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			43.1%	ICU Level of Service	A	
Analysis Period (min)			15			






















### HCM Unsignalized Intersection Capacity Analysis 3: 1st Avenue & Secondary Access Driveway



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Volume (veh/h)	20	737	1151	20	12	214	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	22	801	1251	22	13	233	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type							
		None	None				
Median storage (veh)							
Upstream signal (ft)							
		345	918				
pX, platoon unblocked	0.98				0.92	0.98	
vC, conflicting volume	1273				1706	636	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1235				1492	585	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	96				87	48	
cM capacity (veh/h)	548				101	445	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1	SB 2
Volume Total	22	401	401	834	439	13	233
Volume Left	22	0	0	0	0	13	0
Volume Right	0	0	0	0	22	0	233
cSH	548	1700	1700	1700	1700	101	445
Volume to Capacity	0.04	0.24	0.24	0.49	0.26	0.13	0.52
Queue Length 95th (ft)	3	0	0	0	0	11	74
Control Delay (s)	11.8	0.0	0.0	0.0	0.0	45.8	21.6
Lane LOS	B					E	C
Approach Delay (s)	0.3			0.0		22.9	
Approach LOS						C	
Intersection Summary							
Average Delay			2.5				
Intersection Capacity Utilization			52.4%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings  
 4: 1st Avenue & Primary Access Driveway

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	559	5	0	1340	25	0	0	15	183	0	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	0		0	0		0	0		0
Storage Lanes	1		1	0		0	0		1	1		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997				0.865			0.850
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1770	3539	1583	0	3529	0	0	0	1611	1770	0	1583
Flt Permitted	0.092									0.950		
Satd. Flow (perm)	171	3539	1583	0	3529	0	0	0	1611	1770	0	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			5		3				247			12
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		528			322			247			236	
Travel Time (s)		12.0			7.3			5.6			5.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	124	608	5	0	1457	27	0	0	16	199	0	616
Shared Lane Traffic (%)												
Lane Group Flow (vph)	124	608	5	0	1484	0	0	0	16	199	0	616
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			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
Turn Type	pm+pt		Perm						custom	custom		custom
Protected Phases	7	4			8							
Permitted Phases	4		4						2	6		6
Detector Phase	7	4	4		8				2	6		6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0		4.0				4.0	4.0		
Minimum Split (s)	8.0	21.0	21.0		21.0				21.0	21.0		
Total Split (s)	8.0	53.0	53.0	0.0	45.0	0.0	0.0	0.0	37.0	37.0	0.0	45.0
Total Split (%)	8.9%	58.9%	58.9%	0.0%	50.0%	0.0%	0.0%	0.0%	41.1%	41.1%	0.0%	50.0%
Yellow Time (s)	3.5	3.0	3.0		3.0				3.0	3.0		
All-Red Time (s)	0.5	2.0	2.0		2.0				2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.0	5.0	4.0	5.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Recall Mode	None	None	None		None				Min	Min		
Act Effct Green (s)	48.7	47.7	47.7		39.7				30.5	30.5		38.6
Actuated g/C Ratio	0.55	0.54	0.54		0.45				0.35	0.35		0.44
v/c Ratio	0.74	0.32	0.01		0.93				0.02	0.33		0.88
Control Delay	39.8	12.1	6.2		35.8				0.1	23.0		38.8

Convention Center Station Build - PM

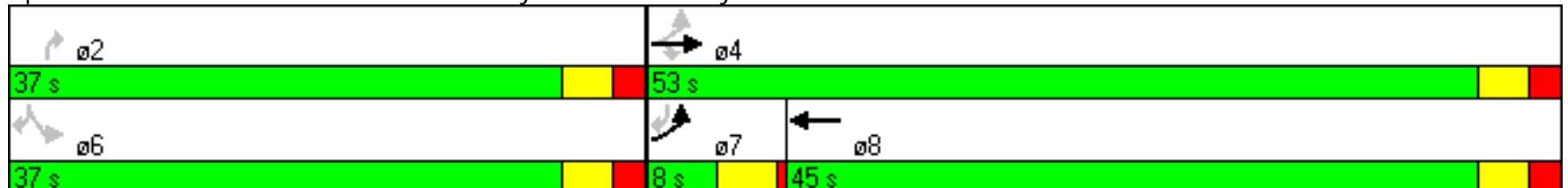
Lanes, Volumes, Timings  
 4: 1st Avenue & Primary Access Driveway

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0		0.0				0.0	0.0		0.0
Total Delay	39.8	12.1	6.2		35.8				0.1	23.0		38.8
LOS	D	B	A		D				A	C		D
Approach Delay		16.7			35.8							
Approach LOS		B			D							
Stops (vph)	49	292	3		1165				0	129		469
Fuel Used(gal)	2	5	0		20				0	2		8
CO Emissions (g/hr)	116	370	3		1385				2	133		567
NOx Emissions (g/hr)	23	72	1		269				0	26		110
VOC Emissions (g/hr)	27	86	1		321				0	31		131
Dilemma Vehicles (#)	0	0	0		0				0	0		0
Queue Length 50th (ft)	32	96	0		411				0	81		302
Queue Length 95th (ft)	#91	131	5		#574				0	136		#514
Internal Link Dist (ft)		448			242			167				156
Turn Bay Length (ft)	200											
Base Capacity (vph)	167	1926	864		1602				742	642		698
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	0.74	0.32	0.01		0.93				0.02	0.31		0.88

























Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 88.3  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 30.8  
 Intersection LOS: C  
 Intersection Capacity Utilization 81.3%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 4: 1st Avenue & Primary Access Driveway



Lanes, Volumes, Timings  
4: 1st Avenue & N. Gulph Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	102	307	968	622	192	27	1188	519	65	353	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	11	11	12	10	12	12	10	12	12
Storage Length (ft)	236		236	204		167	301		667	173		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	120		120	25		25	107		92	56		25
Lane Util. Factor	1.00	0.95	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3471	1615	3351	1818	1583	1685	3610	1599	3268	3534	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	3471	1615	3351	1818	1583	1685	3610	1599	3268	3534	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			70			80			611		7	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		477			501			924			509	
Travel Time (s)		9.3			9.8			15.8			8.7	
Peak Hour Factor	0.70	0.88	0.82	0.85	0.78	0.65	0.59	0.96	0.85	0.78	0.95	0.82
Heavy Vehicles (%)	0%	4%	0%	1%	1%	2%	0%	0%	1%	0%	1%	0%
Adj. Flow (vph)	21	116	374	1139	797	295	46	1238	611	83	372	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	116	374	1139	797	295	46	1238	611	83	405	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)		22			22			20			20	
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	1.04	1.04	1.00	1.09	1.00	1.00	1.09	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		Free	Prot		
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			Free			
Detector Phase	7	4	5	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	4.0	5.0	5.0	4.0	4.0	35.0		4.0	26.0	
Minimum Split (s)	10.0	10.0	10.0	12.0	12.0	12.0	10.0	41.0		12.0	32.0	
Total Split (s)	10.0	14.0	22.0	49.0	53.0	12.0	22.0	45.0	0.0	12.0	35.0	0.0
Total Split (%)	8.3%	11.7%	18.3%	40.8%	44.2%	10.0%	18.3%	37.5%	0.0%	10.0%	29.2%	0.0%
Yellow Time (s)	3.0	3.0	4.0	3.0	3.0	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		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	6.0	5.0	5.0	6.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None	Min	Min	None	None	Min		None	Min	
Act Effct Green (s)	5.0	8.4	28.7	42.6	52.0	63.0	15.3	39.0	118.0	6.0	29.7	
Actuated g/C Ratio	0.04	0.07	0.24	0.36	0.44	0.53	0.13	0.33	1.00	0.05	0.25	

Convention Center Station Build - PM

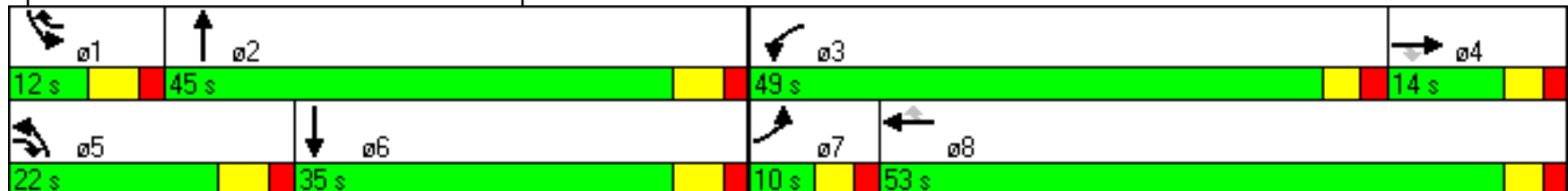
Lanes, Volumes, Timings  
 4: 1st Avenue & N. Gulph Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.28	0.47	0.84	0.94	1.00	0.33	0.21	1.04	0.38	0.50	0.45	
Control Delay	64.9	59.7	52.1	52.2	64.3	12.9	49.1	75.3	0.7	66.1	39.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	64.9	59.7	52.1	52.2	64.3	12.9	49.1	75.3	0.7	66.1	39.2	
LOS	E	E	D	D	E	B	D	E	A	E	D	
Approach Delay		54.3			51.3			50.6			43.8	
Approach LOS		D			D			D			D	
Stops (vph)	16	97	231	874	499	78	24	1034	0	62	309	
Fuel Used(gal)	0	2	6	20	14	2	1	36	3	2	7	
CO Emissions (g/hr)	26	162	423	1423	989	125	47	2503	233	119	516	
NOx Emissions (g/hr)	5	32	82	277	192	24	9	487	45	23	100	
VOC Emissions (g/hr)	6	38	98	330	229	29	11	580	54	28	120	
Dilemma Vehicles (#)	0	4	0	0	20	0	0	46	0	0	16	
Queue Length 50th (ft)	16	46	227	432	552	79	32	-552	0	32	139	
Queue Length 95th (ft)	33	75	302	485	#736	96	45	#690	0	52	190	
Internal Link Dist (ft)		397			421			844			429	
Turn Bay Length (ft)	236		236	204		167	301		667	173		
Base Capacity (vph)	76	265	455	1251	801	883	229	1194	1599	166	895	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.44	0.82	0.91	1.00	0.33	0.20	1.04	0.38	0.50	0.45	

























Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 118  
 Natural Cycle: 140  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.04  
 Intersection Signal Delay: 50.6      Intersection LOS: D  
 Intersection Capacity Utilization 82.5%      ICU Level of Service E  
 Analysis Period (min) 15  
 ~ 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: 4: 1st Avenue & N. Gulph Road















Lanes, Volumes, Timings  
6: US 202 & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	444	769	538	1085	158	566	287	326	204	864	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	14	10	11	14	10	12	12	10	10	12
Storage Length (ft)	318		675	120		120	435		200	275		275
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100		25	85		85	85		25	85		85
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	1.00	0.91	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950	0.976		0.950	0.999	
Satd. Flow (prot)	1652	3421	1689	1652	3421	1689	1503	3309	1583	1503	3161	1583
Flt Permitted	0.950			0.950			0.950	0.976		0.950	0.999	
Satd. Flow (perm)	1652	3421	1689	1652	3421	1689	1503	3309	1583	1503	3161	1583
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									178			19
Link Speed (mph)		45			45			35			40	
Link Distance (ft)		844			1518			997			554	
Travel Time (s)		12.8			23.0			19.4			9.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	483	836	585	1179	172	615	312	354	222	939	117
Shared Lane Traffic (%)							50%			10%		
Lane Group Flow (vph)	85	483	836	585	1179	172	307	620	354	200	961	117
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)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	0.92	1.09	1.04	0.92	1.09	1.00	1.00	1.09	1.09	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot		pm+ov	Prot		pm+ov	Split		pm+ov	Split		pm+ov
Protected Phases	7	4	5	3	8	6	5	5	3	6	6	7
Permitted Phases			4			8			5			6
Detector Phase	7	4	5	3	8	6	5	5	3	6	6	7
Switch Phase												
Minimum Initial (s)	11.0	40.0	11.0	15.0	33.0	11.0	11.0	11.0	15.0	11.0	11.0	11.0
Minimum Split (s)	17.0	47.0	17.0	21.0	40.0	22.0	17.0	17.0	21.0	22.0	22.0	17.0
Total Split (s)	17.0	49.0	26.0	39.0	71.0	36.0	26.0	26.0	39.0	36.0	36.0	17.0
Total Split (%)	11.3%	32.7%	17.3%	26.0%	47.3%	24.0%	17.3%	17.3%	26.0%	24.0%	24.0%	11.3%
Yellow Time (s)	4.0	5.0	4.0	4.0	5.0	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	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	7.0	6.0	6.0	7.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	Min	None	C-Min	Min	Min	Min	None	Min	Min	None
Act Effct Green (s)	11.0	42.0	63.0	33.0	64.0	95.0	20.0	20.0	59.0	30.0	30.0	47.0
Actuated g/C Ratio	0.07	0.28	0.42	0.22	0.43	0.63	0.13	0.13	0.39	0.20	0.20	0.31
v/c Ratio	0.70	0.50	1.18	1.61	0.81	0.16	1.53	1.41	0.48	0.66	1.52	0.23

Henderson Road Station Build - AM

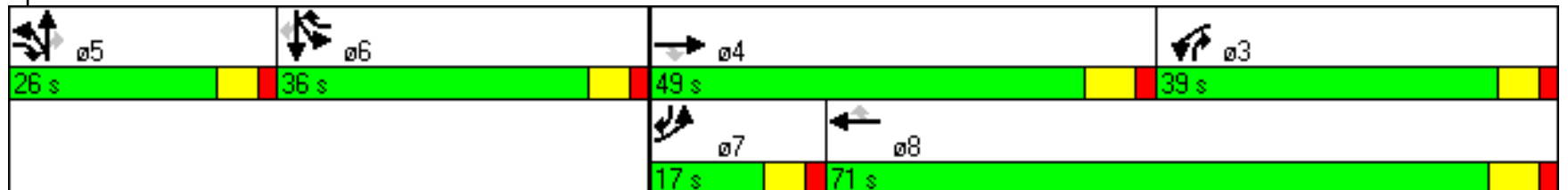
Lanes, Volumes, Timings  
 6: US 202 & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	96.8	47.5	124.1	324.3	43.0	6.2	305.4	241.0	18.5	67.3	281.7	33.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.8	47.5	124.1	324.3	43.0	6.2	305.4	241.0	18.5	67.3	281.7	33.1
LOS	F	D	F	F	D	A	F	F	B	E	F	C
Approach Delay		96.1			124.7			195.0			225.4	
Approach LOS		F			F			F			F	
Stops (vph)	72	365	729	372	929	59	200	430	122	170	634	66
Fuel Used(gal)	3	11	33	45	32	2	21	35	4	5	60	2
CO Emissions (g/hr)	200	787	2286	3177	2218	174	1473	2468	314	341	4212	125
NOx Emissions (g/hr)	39	153	445	618	432	34	287	480	61	66	819	24
VOC Emissions (g/hr)	46	182	530	736	514	40	341	572	73	79	976	29
Dilemma Vehicles (#)	0	15	0	0	36	0	0	14	0	0	19	0
Queue Length 50th (ft)	83	209	~732	~818	526	35	~461	~445	124	201	~718	70
Queue Length 95th (ft)	#167	267	#1232	#1055	620	53	#674	#578	219	303	#862	125
Internal Link Dist (ft)		764			1438			917			474	
Turn Bay Length (ft)	318		675	120		120	435		200	275		275
Base Capacity (vph)	121	958	709	363	1460	1070	200	441	731	301	632	509
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.50	1.18	1.61	0.81	0.16	1.53	1.41	0.48	0.66	1.52	0.23

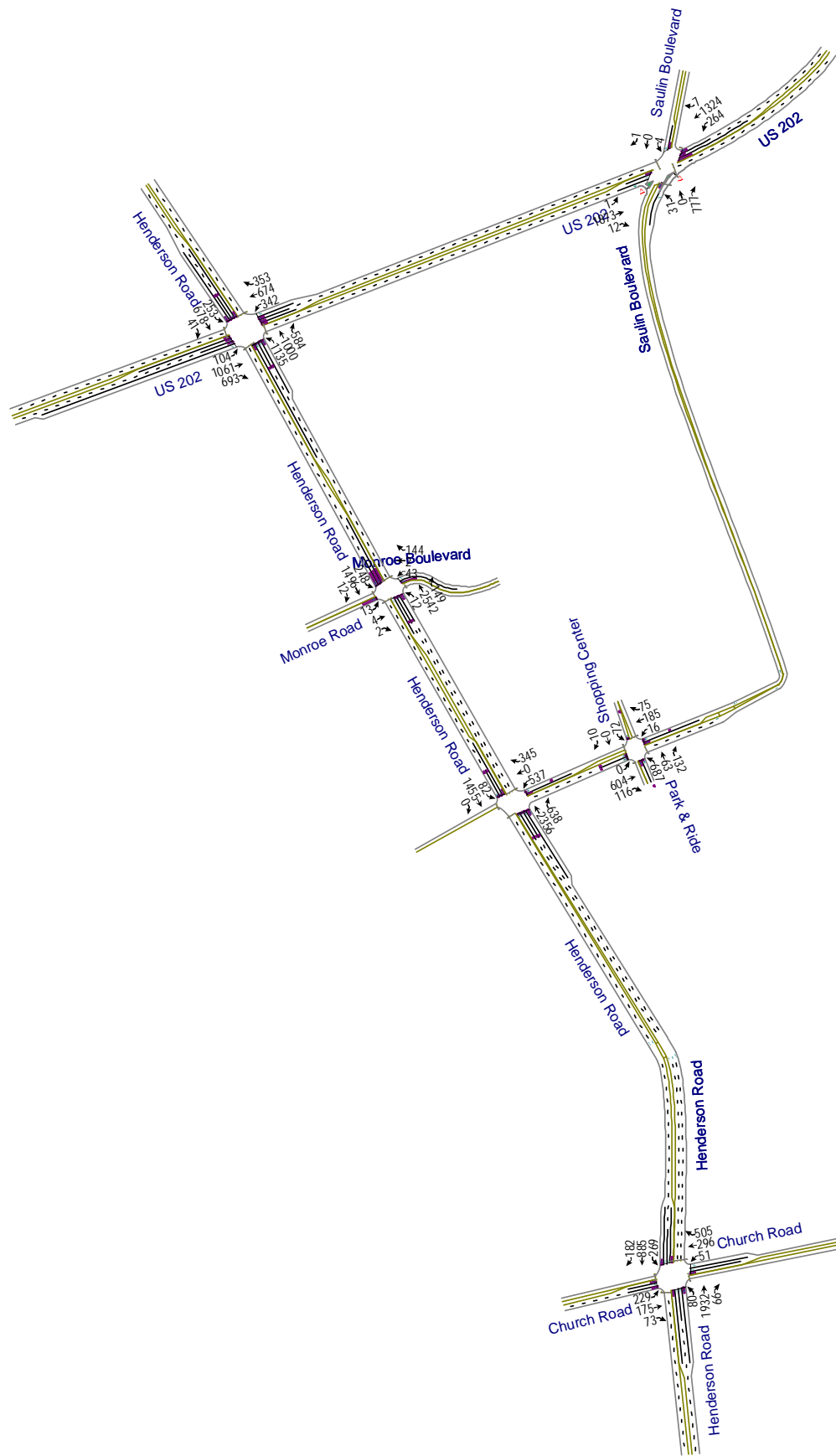
Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.61  
 Intersection Signal Delay: 155.0 Intersection LOS: F  
 Intersection Capacity Utilization 124.1% ICU Level of Service H  
 Analysis Period (min) 15  
 ~ 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: US 202 & Henderson Road





















2030 Build Condition  
PM Peak Hour

















Lanes, Volumes, Timings  
1: Saulin Boulevard & Access Driveway

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	604	116	16	185	75	687	63	132	72	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	200		0	0		0	0		0
Storage Lanes	0		0	1		0	1		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.957			0.898			0.983	
Flt Protected				0.950			0.950				0.958	
Satd. Flow (prot)	0	3454	0	1770	1783	0	1770	1673	0	0	1754	0
Flt Permitted				0.177			0.699				0.682	
Satd. Flow (perm)	0	3454	0	330	1783	0	1302	1673	0	0	1249	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			23			58			11	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		462			333			128			164	
Travel Time (s)		9.0			6.5			3.5			4.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	657	126	17	201	82	747	68	143	78	0	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	783	0	17	283	0	747	211	0	0	89	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)		12			12			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
Turn Type	Perm			Perm			Perm			Perm		
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)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	21.0	21.0		21.0	21.0		21.0	21.0		21.0	21.0	
Total Split (s)	32.0	32.0	0.0	32.0	32.0	0.0	58.0	58.0	0.0	58.0	58.0	0.0
Total Split (%)	35.6%	35.6%	0.0%	35.6%	35.6%	0.0%	64.4%	64.4%	0.0%	64.4%	64.4%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	5.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		None	None		None	None		None	None	
Act Effct Green (s)		27.0		27.0	27.0		52.5	52.5		52.5	52.5	
Actuated g/C Ratio		0.30		0.30	0.30		0.59	0.59		0.59	0.59	
v/c Ratio		0.74		0.17	0.51		0.98	0.21		0.12	0.12	
Control Delay		32.2		28.6	27.6		47.7	6.8		7.7	7.7	

Henderson Road Station Build - PM

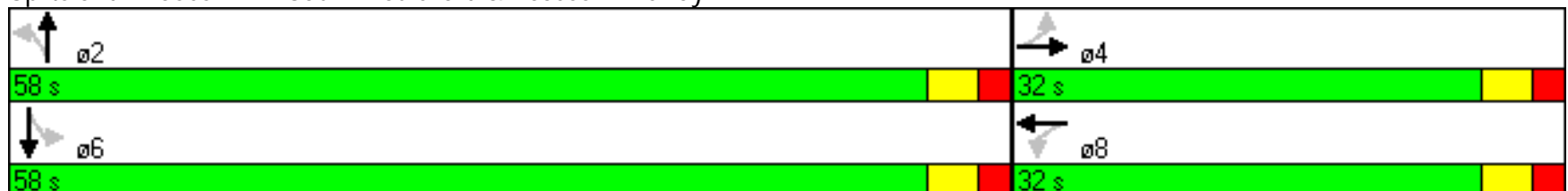
Lanes, Volumes, Timings  
 1: Saulin Boulevard & Access Driveway

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay		32.2		28.6	27.6		47.7	6.8			7.7	
LOS		C		C	C		D	A			A	
Approach Delay		32.3			27.7			38.7			7.7	
Approach LOS		C			C			D			A	
Stops (vph)		611		14	193		547	63			29	
Fuel Used(gal)		12		0	7		10	1			0	
CO Emissions (g/hr)		820		32	510		665	50			25	
NOx Emissions (g/hr)		159		6	99		129	10			5	
VOC Emissions (g/hr)		190		8	118		154	12			6	
Dilemma Vehicles (#)		40		0	10		0	0			0	
Queue Length 50th (ft)		203		7	121		378	36			18	
Queue Length 95th (ft)		272		26	199		#651	69			39	
Internal Link Dist (ft)		382			253			48			84	
Turn Bay Length (ft)				200								
Base Capacity (vph)		1060		100	554		771	1014			744	
Starvation Cap Reductn		0		0	0		0	0			0	
Spillback Cap Reductn		0		0	0		0	0			0	
Storage Cap Reductn		0		0	0		0	0			0	
Reduced v/c Ratio		0.74		0.17	0.51		0.97	0.21			0.12	



















Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 89.5  
 Natural Cycle: 75  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 33.5      Intersection LOS: C  
 Intersection Capacity Utilization 75.6%      ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Saulin Boulevard & Access Driveway



Lanes, Volumes, Timings  
 2: Saulin Boulevard & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	537	0	345	0	2356	638	82	1455	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	9	12	12	12	11	14	11	11	12
Storage Length (ft)	0		0	160		0	0	266	200			0
Storage Lanes	0		0	1		0	0	1	1			0
Taper Length (ft)	25		25	100		25	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.95	0.95
Ped Bike Factor					0.99				0.98	1.00		
Frt					0.877				0.850			
Flt Protected				0.950	0.991					0.950		
Satd. Flow (prot)	0	0	0	1528	1544	0	0	4964	1706	1572	3455	0
Flt Permitted				0.950	0.991					0.950		
Satd. Flow (perm)	0	0	0	1528	1544	0	0	4964	1677	1572	3455	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					125				170			
Link Speed (mph)		30			35			35			35	
Link Distance (ft)		352			462			977			821	
Travel Time (s)		8.0			9.0			19.0			16.0	
Confl. Peds. (#/hr)						2			3	3		
Peak Hour Factor	0.92	0.92	0.92	0.91	0.92	0.90	0.92	0.93	0.89	0.90	0.94	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	2%	0%	2%	1%	1%	11%	1%	2%
Adj. Flow (vph)	0	0	0	590	0	383	0	2533	717	91	1548	0
Shared Lane Traffic (%)				14%								
Lane Group Flow (vph)	0	0	0	507	466	0	0	2533	717	91	1548	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)		9			9			2			10	
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	1.14	1.00	1.00	1.00	1.04	0.92	1.04	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm					custom	Prot		
Protected Phases					8			2	3	1	6	
Permitted Phases				8					2			
Detector Phase				8	8			2	3	1	6	
Switch Phase												
Minimum Initial (s)				4.0	4.0			12.0	4.0	4.0	12.0	
Minimum Split (s)				20.0	20.0			35.0	20.0	15.0	25.0	
Total Split (s)	0.0	0.0	0.0	49.0	49.0	0.0	0.0	76.0	49.0	15.0	91.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	35.0%	35.0%	0.0%	0.0%	54.3%	35.0%	10.7%	65.0%	0.0%
Yellow Time (s)				3.5	3.5			4.0	3.0	4.0	4.0	
All-Red Time (s)				0.5	0.5			2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0	5.0	6.0	6.0	4.0
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?								Yes		Yes		
Recall Mode				None	None			Min	None	None	Min	

Henderson Road Station Build - PM

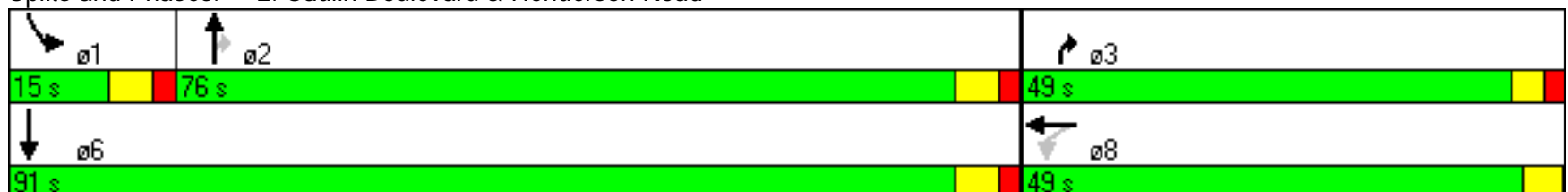
Lanes, Volumes, Timings  
 2: Saulin Boulevard & Henderson Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)				45.0	45.0			70.0	115.0	9.0	85.0	
Actuated g/C Ratio				0.32	0.32			0.50	0.82	0.06	0.61	
v/c Ratio				1.03	0.80			1.02	0.51	0.90	0.74	
Control Delay				95.4	43.1			58.1	3.2	129.8	22.3	
Queue Delay				64.2	5.8			0.0	0.0	0.0	1.3	
Total Delay				159.6	48.9			58.1	3.2	129.8	23.6	
LOS				F	D			E	A	F	C	
Approach Delay					106.6			46.0			29.5	
Approach LOS					F			D			C	
Stops (vph)				398	290			2113	115	70	1001	
Fuel Used(gal)				13	7			73	9	3	23	
CO Emissions (g/hr)				942	508			5072	661	222	1591	
NOx Emissions (g/hr)				183	99			987	129	43	310	
VOC Emissions (g/hr)				218	118			1176	153	51	369	
Dilemma Vehicles (#)				0	15			80	0	0	37	
Queue Length 50th (ft)				-520	309			-894	80	84	502	
Queue Length 95th (ft)				#756	467			#980	114	#196	591	
Internal Link Dist (ft)		272			382			897			741	
Turn Bay Length (ft)				160				266	200			
Base Capacity (vph)				491	581			2482	1417	101	2098	
Starvation Cap Reductn				67	73			0	0	0	320	
Spillback Cap Reductn				0	0			0	0	0	0	
Storage Cap Reductn				0	0			0	0	0	0	
Reduced v/c Ratio				1.20	0.92			1.02	0.51	0.90	0.87	






















Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Natural Cycle: 140  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 51.4      Intersection LOS: D  
 Intersection Capacity Utilization 88.9%      ICU Level of Service E  
 Analysis Period (min) 15  
 ~ 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: 2: Saulin Boulevard & Henderson Road















Lanes, Volumes, Timings  
3: Monroe Road & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	4	2	43	2	144	12	2542	149	248	1496	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	12	12	12	11	11	14	10	12	13
Storage Length (ft)	0		0	0		190	135		0	242		0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (ft)	25		25	25		65	85		25	130		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor		1.00				0.98			0.97	1.00		
Frt		0.972				0.850			0.850		0.997	
Flt Protected		0.976			0.955		0.950			0.950		
Satd. Flow (prot)	0	1863	0	0	1814	1599	1745	3455	1723	1652	3530	0
Flt Permitted		0.810			0.822		0.142			0.950		
Satd. Flow (perm)	0	1543	0	0	1562	1575	261	3455	1679	1651	3530	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				1			94		4	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		298			390			821			997	
Travel Time (s)		8.1			10.6			16.0			19.4	
Confl. Peds. (#/hr)	2					2			2	2		
Peak Hour Factor	0.69	0.38	0.25	0.75	0.50	0.93	0.75	0.93	0.73	0.86	0.90	0.38
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%	0%	1%	0%	2%	2%	0%
Adj. Flow (vph)	19	11	8	57	4	155	16	2733	204	288	1662	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	61	155	16	2733	204	288	1694	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			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	1.00	1.00	1.00	1.04	1.04	0.92	1.09	1.00	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm		pm+ov	Perm		Perm	Prot		
Protected Phases		4			8	1		2		1	6	
Permitted Phases	4			8		8	2		2			
Detector Phase	4	4		8	8	1	2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	8.0	40.0	40.0	40.0	8.0	40.0	
Minimum Split (s)	31.0	31.0		31.0	31.0	15.0	46.0	46.0	46.0	15.0	46.0	
Total Split (s)	31.0	31.0	0.0	31.0	31.0	23.0	86.0	86.0	86.0	23.0	109.0	0.0
Total Split (%)	22.1%	22.1%	0.0%	22.1%	22.1%	16.4%	61.4%	61.4%	61.4%	16.4%	77.9%	0.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	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	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0
Lead/Lag						Lead	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	None		None	None	None	Min	Min	Min	None	Min	

Henderson Road Station Build - PM

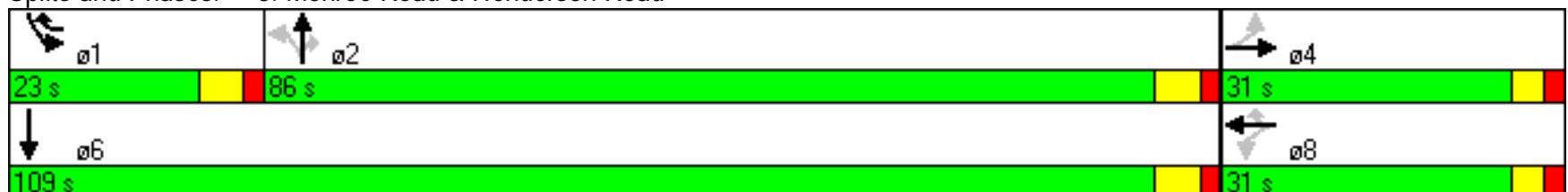
Lanes, Volumes, Timings  
 3: Monroe Road & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)		10.6			10.7	25.6	80.3	80.3	80.3	17.1	104.7	
Actuated g/C Ratio		0.09			0.09	0.21	0.65	0.65	0.65	0.14	0.85	
v/c Ratio		0.27			0.45	0.47	0.09	1.21	0.18	1.25	0.56	
Control Delay		48.7			64.2	42.9	11.2	121.2	5.5	187.7	4.5	
Queue Delay		0.0			0.0	0.0	0.0	23.4	0.0	0.0	0.2	
Total Delay		48.7			64.2	42.9	11.2	144.6	5.5	187.7	4.6	
LOS		D			E	D	B	F	A	F	A	
Approach Delay		48.7			48.9			134.2			31.2	
Approach LOS		D			D			F			C	
Stops (vph)		15			41	122	5	1950	31	189	412	
Fuel Used(gal)		0			1	2	0	92	1	13	15	
CO Emissions (g/hr)		21			63	154	10	6462	90	887	1071	
NOx Emissions (g/hr)		4			12	30	2	1257	17	173	208	
VOC Emissions (g/hr)		5			14	36	2	1498	21	205	248	
Dilemma Vehicles (#)		0			0	0	0	85	0	0	45	
Queue Length 50th (ft)		23			48	102	5	~1436	32	~295	188	
Queue Length 95th (ft)		21			51	166	14	#1655	48	#464	292	
Internal Link Dist (ft)		218			310			741			917	
Turn Bay Length (ft)						190	135			242		
Base Capacity (vph)		335			332	333	171	2262	1132	230	3015	
Starvation Cap Reductn		0			0	0	0	94	0	0	409	
Spillback Cap Reductn		0			0	0	0	0	0	0	0	
Storage Cap Reductn		0			0	0	0	0	0	0	0	
Reduced v/c Ratio		0.11			0.18	0.47	0.09	1.26	0.18	1.25	0.65	






















Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 122.6  
 Natural Cycle: 145  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.25  
 Intersection Signal Delay: 90.7  
 Intersection LOS: F  
 Intersection Capacity Utilization 105.9%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Road & Henderson Road



Lanes, Volumes, Timings  
4: US 202 & Saulin Boulevard

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	1873	12	264	1324	7	31	0	777	4	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	11	11	11	10	14	14	10	12	12
Storage Length (ft)	65		0	240		0	0		123	60		0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (ft)	70		25	120		25	25		75	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor									0.99	1.00		
Frt		0.999			0.998				0.850		0.850	
Flt Protected	0.950			0.950				0.950		0.950		
Satd. Flow (prot)	1685	3604	0	1711	3433	0	0	1750	1706	1123	1615	0
Flt Permitted	0.178			0.049				0.755		0.726		
Satd. Flow (perm)	316	3604	0	88	3433	0	0	1391	1683	855	1615	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			1				3		234	
Link Speed (mph)		45			45			35			25	
Link Distance (ft)		1518			675			1804			327	
Travel Time (s)		23.0			10.2			35.1			8.9	
Confl. Peds. (#/hr)									2	2		
Peak Hour Factor	0.25	0.94	0.69	0.95	0.91	0.42	0.66	1.00	0.95	1.00	1.00	0.25
Heavy Vehicles (%)	0%	0%	9%	2%	1%	40%	10%	0%	1%	50%	0%	0%
Adj. Flow (vph)	4	1993	17	278	1455	17	47	0	818	4	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	2010	0	278	1472	0	0	47	818	4	4	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)		11			11			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.00	1.00	1.04	1.04	1.04	1.09	0.92	0.92	1.09	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		
Protected Phases	7	4		3	8			2	3		6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		2	2	3	6	6	
Switch Phase												
Minimum Initial (s)	10.0	20.0		10.0	20.0		8.0	8.0	10.0	5.0	5.0	
Minimum Split (s)	25.0	35.0		15.0	35.0		22.0	22.0	15.0	30.0	30.0	
Total Split (s)	25.0	78.0	0.0	42.0	95.0	0.0	30.0	30.0	42.0	30.0	30.0	0.0
Total Split (%)	16.7%	52.0%	0.0%	28.0%	63.3%	0.0%	20.0%	20.0%	28.0%	20.0%	20.0%	0.0%
Yellow Time (s)	4.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	5.0	6.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Recall Mode	None	Min		Min	Min		Min	Min	Min	None	None	

Henderson Road Station Build - PM

Lanes, Volumes, Timings  
4: US 202 & Saulin Boulevard

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	82.0	72.0		115.0	110.9			10.4	47.4	10.4	10.4	
Actuated g/C Ratio	0.61	0.53		0.85	0.82			0.08	0.35	0.08	0.08	
v/c Ratio	0.01	1.05		0.54	0.52			0.44	1.37	0.06	0.01	
Control Delay	6.0	66.0		33.8	5.7			72.6	211.5	59.2	0.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	6.0	66.0		33.8	5.7			72.6	211.5	59.2	0.0	
LOS	A	E		C	A			E	F	E	A	
Approach Delay		65.9			10.1			203.9			29.6	
Approach LOS		E			B			F			C	
Stops (vph)	1	1633		169	401			28	561	6	0	
Fuel Used(gal)	0	64		5	12			1	51	0	0	
CO Emissions (g/hr)	2	4489		355	863			83	3554	6	0	
NOx Emissions (g/hr)	0	873		69	168			16	692	1	0	
VOC Emissions (g/hr)	0	1040		82	200			19	824	1	0	
Dilemma Vehicles (#)	0	64		0	49			1	0	0	0	
Queue Length 50th (ft)	1	~1004		155	140			40	~953	3	0	
Queue Length 95th (ft)	1	#1206		260	393			83	#1205	16	0	
Internal Link Dist (ft)		1438			595			1724			247	
Turn Bay Length (ft)	65			240					123	60		
Base Capacity (vph)	405	1917		518	2812			257	597	158	489	
Starvation Cap Reductn	0	0		0	0			0	0	0	0	
Spillback Cap Reductn	0	0		0	0			0	0	0	0	
Storage Cap Reductn	0	0		0	0			0	0	0	0	
Reduced v/c Ratio	0.01	1.05		0.54	0.52			0.18	1.37	0.03	0.01	

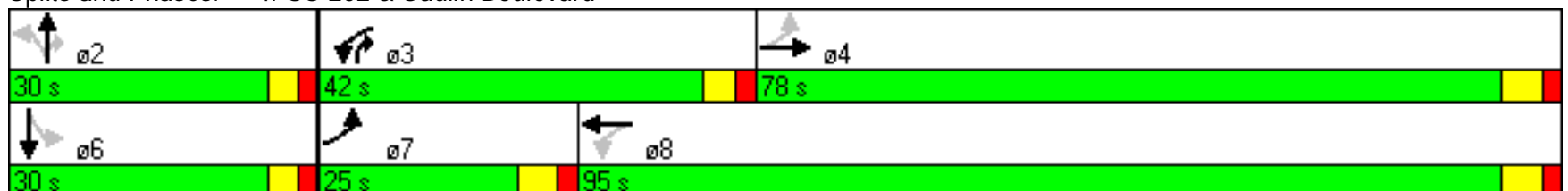
Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 135.4  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.37  
 Intersection Signal Delay: 70.5  
 Intersection Capacity Utilization 118.0%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service H

~ 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: 4: US 202 & Saulin Boulevard





Lanes, Volumes, Timings  
 5: Church Road & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	229	175	73	51	296	505	80	1932	66	269	885	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	10	10	11	11	14	12	12	14	11	11	12
Storage Length (ft)	98		0	170		195	243		243	173		173
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	60		25	70		35	50		45	35		35
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.99	1.00			1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	1773	1492	1711	1837	1706	1805	3574	1672	1728	3455	1583
Flt Permitted	0.157			0.415			0.248			0.053		
Satd. Flow (perm)	288	1773	1472	746	1837	1706	471	3574	1672	96	3455	1549
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		375			573			598			768	
Travel Time (s)		7.3			11.2			11.6			15.0	
Confl. Peds. (#/hr)			1	1			2					2
Peak Hour Factor	0.87	0.79	0.68	0.88	0.83	0.97	0.66	0.93	0.85	0.98	0.92	0.79
Heavy Vehicles (%)	0%	0%	1%	2%	0%	1%	0%	1%	3%	1%	1%	2%
Adj. Flow (vph)	263	222	107	58	357	521	121	2077	78	274	962	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	222	107	58	357	521	121	2077	78	274	962	230
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)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.09	1.09	1.04	1.04	0.92	1.00	1.00	0.92	1.04	1.04	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	9.0	5.0	19.0	5.0	9.0	10.0	5.0
Minimum Split (s)	15.0	28.0	10.0	15.0	22.0	14.0	10.0	30.0	15.0	14.0	22.0	15.0
Total Split (s)	16.0	30.0	12.0	15.0	29.0	19.0	12.0	76.0	15.0	19.0	83.0	16.0
Total Split (%)	11.4%	21.4%	8.6%	10.7%	20.7%	13.6%	8.6%	54.3%	10.7%	13.6%	59.3%	11.4%
Yellow Time (s)	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0	3.0	4.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0	5.0	6.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	None	Min	None	None	Min	None	None	Min	None

Henderson Road Station Build - PM

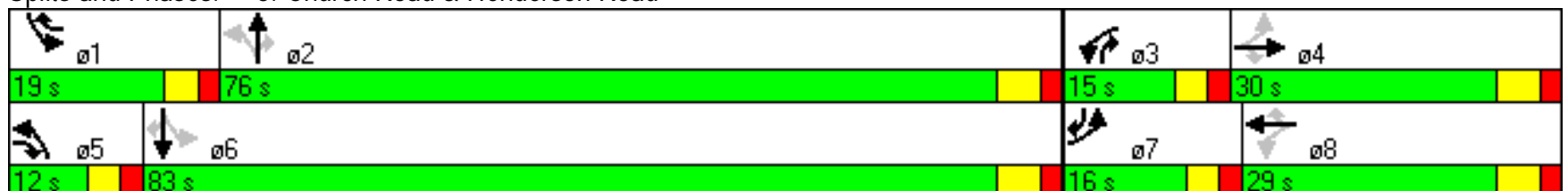
Lanes, Volumes, Timings  
 5: Church Road & Henderson Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effct Green (s)	37.5	25.5	33.4	32.5	23.0	43.0	78.0	70.0	84.5	90.0	77.0	89.0
Actuated g/C Ratio	0.27	0.18	0.24	0.23	0.16	0.31	0.56	0.50	0.60	0.64	0.55	0.64
v/c Ratio	1.37	0.69	0.30	0.25	1.18	0.99	0.37	1.16	0.08	1.22	0.51	0.23
Control Delay	230.7	66.0	43.2	40.2	160.1	86.1	13.6	112.8	11.5	167.6	20.8	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	230.7	66.0	43.2	40.2	160.1	86.1	13.6	112.8	11.5	167.6	20.8	9.7
LOS	F	E	D	D	F	F	B	F	B	F	C	A
Approach Delay	135.0			111.5			104.0			46.5		
Approach LOS	F			F			F			D		
Stops (vph)	144	161	59	40	243	446	34	1642	26	166	532	70
Fuel Used(gal)	12	4	1	1	13	14	1	65	1	14	19	3
CO Emissions (g/hr)	871	282	90	65	888	999	57	4546	44	962	1311	223
NOx Emissions (g/hr)	169	55	17	13	173	194	11	885	9	187	255	43
VOC Emissions (g/hr)	202	65	21	15	206	232	13	1054	10	223	304	52
Dilemma Vehicles (#)	0	6	0	0	9	0	0	60	0	0	31	0
Queue Length 50th (ft)	~264	192	77	39	~390	474	40	~1176	28	~256	277	75
Queue Length 95th (ft)	#430	247	97	75	#522	#714	47	#1310	47	#442	335	95
Internal Link Dist (ft)	295			493			518			688		
Turn Bay Length (ft)	98	170			195	243	243			173	173	
Base Capacity (vph)	192	323	353	250	302	524	329	1787	1027	225	1901	988
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.37	0.69	0.30	0.23	1.18	0.99	0.37	1.16	0.08	1.22	0.51	0.23

























Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Natural Cycle: 140  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.37  
 Intersection Signal Delay: 92.8  
 Intersection LOS: F  
 Intersection Capacity Utilization 114.9%  
 ICU Level of Service H  
 Analysis Period (min) 15  
 ~ 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: 5: Church Road & Henderson Road



Lanes, Volumes, Timings  
6: US 202 & Henderson Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	104	1061	693	342	674	353	1135	1000	584	253	678	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	14	10	11	14	10	12	12	10	10	12
Storage Length (ft)	318		675	120		120	435		200	275		275
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100		25	85		85	85		25	85		100
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.91	0.91	1.00	0.91	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950	0.985		0.950	0.998	
Satd. Flow (prot)	1652	3421	1689	1652	3421	1689	1503	3339	1583	1503	3158	1583
Flt Permitted	0.950			0.950			0.950	0.985		0.950	0.998	
Satd. Flow (perm)	1652	3421	1689	1652	3421	1689	1503	3339	1583	1503	3158	1583
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									75			21
Link Speed (mph)		45			45			35			40	
Link Distance (ft)		834			1518			997			592	
Travel Time (s)		12.6			23.0			19.4			10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	1153	753	372	733	384	1234	1087	635	275	737	45
Shared Lane Traffic (%)							39%			10%		
Lane Group Flow (vph)	113	1153	753	372	733	384	753	1568	635	247	765	45
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)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.04	0.92	1.09	1.04	0.92	1.09	1.00	1.00	1.09	1.09	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Prot		pm+ov	Prot		pm+ov	Split		pm+ov	Split		pm+ov
Protected Phases	7	4	5	3	8	6	5	5	3	6	6	7
Permitted Phases			4			8			5			6
Detector Phase	7	4	5	3	8	6	5	5	3	6	6	7
Switch Phase												
Minimum Initial (s)	11.0	40.0	11.0	11.0	40.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Minimum Split (s)	17.0	47.0	17.0	17.0	47.0	32.0	17.0	17.0	17.0	32.0	32.0	17.0
Total Split (s)	24.0	50.0	37.0	24.0	50.0	34.0	37.0	37.0	24.0	34.0	34.0	24.0
Total Split (%)	16.6%	34.5%	25.5%	16.6%	34.5%	23.4%	25.5%	25.5%	16.6%	23.4%	23.4%	16.6%
Yellow Time (s)	4.0	5.0	4.0	4.0	5.0	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	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	7.0	6.0	6.0	7.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	Min	None	C-Min	Min	Min	Min	None	Min	Min	None
Act Effct Green (s)	14.9	43.0	75.0	18.0	46.1	75.1	31.0	31.0	55.0	28.0	28.0	48.9
Actuated g/C Ratio	0.10	0.30	0.52	0.12	0.32	0.52	0.21	0.21	0.38	0.19	0.19	0.34
v/c Ratio	0.66	1.14	0.86	1.81	0.67	0.44	2.35	2.20	0.98	0.85	1.25	0.08

Henderson Road Station Build - PM

Lanes, Volumes, Timings  
6: US 202 & Henderson Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	81.0	119.2	27.5	419.3	47.2	13.5	640.3	569.5	70.2	82.5	174.2	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.0	119.2	27.5	419.3	47.2	13.5	640.3	569.5	70.2	82.5	174.2	19.6
LOS	F	F	C	F	D	B	F	F	E	F	F	B
Approach Delay		82.9			131.5			480.3			146.2	
Approach LOS		F			F			F			F	
Stops (vph)	98	914	560	224	577	207	422	888	469	208	571	16
Fuel Used(gal)	3	43	15	35	20	7	98	184	16	7	33	0
CO Emissions (g/hr)	244	2996	1020	2471	1418	491	6885	12888	1124	473	2335	34
NOx Emissions (g/hr)	48	583	198	481	276	96	1339	2508	219	92	454	7
VOC Emissions (g/hr)	57	694	236	573	329	114	1596	2987	261	110	541	8
Dilemma Vehicles (#)	0	32	0	0	23	0	0	23	0	0	19	0
Queue Length 50th (ft)	104	~665	321	~528	317	128	~1274	~1303	540	250	~495	15
Queue Length 95th (ft)	170	#805	#463	#734	403	178	#1548	#1450	#807	#415	#632	44
Internal Link Dist (ft)		754			1438			917			512	
Turn Bay Length (ft)	318		675	120		120	435		200	275		275
Base Capacity (vph)	205	1015	874	205	1087	874	321	714	647	290	610	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	1.14	0.86	1.81	0.67	0.44	2.35	2.20	0.98	0.85	1.25	0.08

Intersection Summary

Area Type: Other  
 Cycle Length: 145  
 Actuated Cycle Length: 145  
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green  
 Natural Cycle: 145  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 2.35  
 Intersection Signal Delay: 257.6      Intersection LOS: F  
 Intersection Capacity Utilization 132.3%      ICU Level of Service H  
 Analysis Period (min) 15  
 ~ 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: US 202 & Henderson Road

