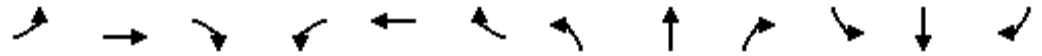


APPENDIX O

QUEUE LENGTH WORKSHEETS

Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. A
A.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑						↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1700	1900	1900	1900	1900	1900	1900	1800	1900
Storage Length (ft)	0		0	250		0	0		0	0		200
Storage Lanes	0		1	1		0	0		0	0		1
Total Lost 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
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	*1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Flt Permitted												
Satd. Flow (perm)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		372	437									9
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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		328			507			643			652	
Travel Time (s)		5.0			7.7			9.7			9.9	
Volume (vph)	0	312	829	747	1701	0	0	0	0	269	0	449
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	328	873	786	1791	0	0	0	0	283	0	473
Lane Group Flow (vph)	0	764	437	786	1791	0	0	0	0	0	283	473
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6							4
Permitted Phases			2							4		4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Minimum Split (s)		17.0	17.0	10.0	17.0					10.0	10.0	10.0
Total Split (s)	0.0	17.0	17.0	26.0	43.0	0.0	0.0	0.0	0.0	37.0	37.0	37.0
Total Split (%)	0.0%	21.3%	21.3%	32.5%	53.8%	0.0%	0.0%	0.0%	0.0%	46.3%	46.3%	46.3%
Maximum Green (s)		13.0	13.0	22.0	39.0					33.0	33.0	33.0
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		0.5	0.5	0.5	0.5					0.5	0.5	0.5
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		8.0	8.0		8.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		16.0	16.0	23.0	41.0					35.0	35.0	
Actuated g/C Ratio		0.20	0.20	0.29	0.51					0.44	0.44	
v/c Ratio		0.53	0.60	0.81	0.61					0.36	0.57	
Control Delay		16.0	7.0	28.1	9.3					16.7	19.8	
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	
Total Delay		16.0	7.0	28.1	9.3					16.7	19.8	
LOS		B	A	C	A					B	B	

Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. A
A.M. Peak Hour

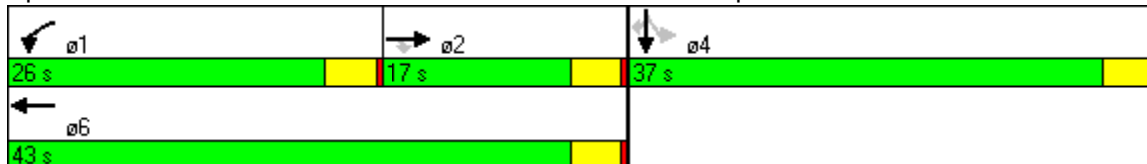


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		12.8			15.1						18.6	
Approach LOS		B			B						B	
90th %ile Green (s)		13.0	13.0	22.0	39.0					33.0	33.0	33.0
90th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
70th %ile Green (s)		13.0	13.0	22.0	39.0					33.0	33.0	33.0
70th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
50th %ile Green (s)		13.0	13.0	22.0	39.0					33.0	33.0	33.0
50th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
30th %ile Green (s)		13.8	13.8	21.2	39.0					33.0	33.0	33.0
30th %ile Term Code		Coord	Coord	Gap	Coord					MaxR	MaxR	MaxR
10th %ile Green (s)		17.4	17.4	17.6	39.0					33.0	33.0	33.0
10th %ile Term Code		Coord	Coord	Gap	Coord					MaxR	MaxR	MaxR
Queue Length 50th (ft)		46	0	134	94						73	134
Queue Length 95th (ft)		72	59	174	157						119	207
Internal Link Dist (ft)		248			427			563			572	
Turn Bay Length (ft)				250								200
Base Capacity (vph)		1440	730	1020	2921						788	836
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		0.53	0.60	0.77	0.61						0.36	0.57

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 15.0 Intersection LOS: B
 Intersection Capacity Utilization 83.8% ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: 5th Street & SR-30 Southbound Ramps



Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. A
A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1900	1900	1900	1900	1900	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	8	12	12	12	12	12	12
Storage Length (ft)	150		0	0		200	650		0	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost 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
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Flt Permitted												
Satd. Flow (perm)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						292			349			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		507			296			792			736	
Travel Time (s)		7.7			4.5			12.0			11.2	
Volume (vph)	121	460	0	0	1551	277	897	0	416	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	127	484	0	0	1633	292	944	0	438	0	0	0
Lane Group Flow (vph)	127	484	0	0	1633	292	472	472	438	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	10.0	25.0			25.0	25.0	10.0	10.0	10.0			
Total Split (s)	14.0	46.0	0.0	0.0	32.0	32.0	34.0	34.0	34.0	0.0	0.0	0.0
Total Split (%)	17.5%	57.5%	0.0%	0.0%	40.0%	40.0%	42.5%	42.5%	42.5%	0.0%	0.0%	0.0%
Maximum Green (s)	10.0	42.0			28.0	28.0	30.0	30.0	30.0			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5	3.5			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.5	0.5	0.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			
Walk Time (s)		5.0			5.0	5.0						
Flash Dont Walk (s)		16.0			16.0	16.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	11.1	44.0			33.0	33.0	32.0	32.0	32.0			
Actuated g/C Ratio	0.14	0.55			0.41	0.41	0.40	0.40	0.40			
v/c Ratio	0.51	0.15			0.69	0.34	0.66	0.66	0.45			
Control Delay	27.7	7.3			22.2	3.5	24.8	24.8	5.6			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	27.7	7.3			22.2	3.5	24.8	24.8	5.6			

Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. A
A.M. Peak Hour

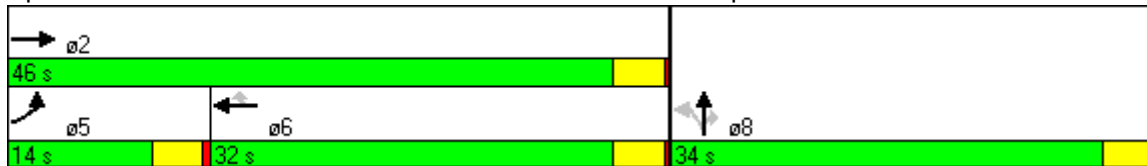


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	A			C	A	C	C	A			
Approach Delay		11.5			19.3			18.7				
Approach LOS		B			B			B				
90th %ile Green (s)	10.0	42.0			28.0	28.0	30.0	30.0	30.0			
90th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
70th %ile Green (s)	10.0	42.0			28.0	28.0	30.0	30.0	30.0			
70th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
50th %ile Green (s)	10.0	42.0			28.0	28.0	30.0	30.0	30.0			
50th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
30th %ile Green (s)	8.9	42.0			29.1	29.1	30.0	30.0	30.0			
30th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
10th %ile Green (s)	0.0	42.0			42.0	42.0	30.0	30.0	30.0			
10th %ile Term Code	Skip	Coord			Coord	Coord	MaxR	MaxR	MaxR			
Queue Length 50th (ft)	35	27			186	0	149	149	22			
Queue Length 95th (ft)	71	41			227	38	232	232	69			
Internal Link Dist (ft)		427			216			712			656	
Turn Bay Length (ft)	150					200	650					
Base Capacity (vph)	270	3135			2353	851	720	720	969			
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	0.15			0.69	0.34	0.66	0.66	0.45			

Intersection Summary

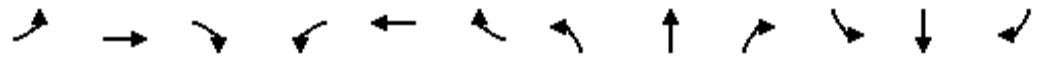
Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 55 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.9 Intersection LOS: B
 Intersection Capacity Utilization 83.8% ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 8: 5th Street & SR-30 Northbound Ramps



Queues
7: 5th Street & SR-30 Southbound Ramps

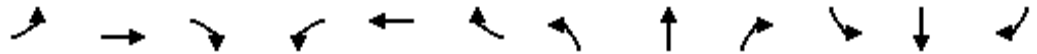
Year 2030 Land Use Alt. 1, Acc. Alt. A
P.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑						↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1700	1900	1900	1900	1900	1900	1900	1800	1900
Storage Length (ft)	0		0	250		0	0		0	0		200
Storage Lanes	0		1	1		0	0		0	0		1
Total Lost 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
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	*1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Flt Permitted												
Satd. Flow (perm)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44	600									142
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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		328			507			643			652	
Travel Time (s)		5.0			7.7			9.7			9.9	
Volume (vph)	0	1434	961	488	1003	0	0	0	0	248	0	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1509	1012	514	1056	0	0	0	0	261	0	142
Lane Group Flow (vph)	0	1726	795	514	1056	0	0	0	0	0	261	142
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6							4
Permitted Phases			2							4		4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Minimum Split (s)		17.0	17.0	10.0	17.0					10.0	10.0	10.0
Total Split (s)	0.0	42.0	42.0	23.0	65.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)	0.0%	46.7%	46.7%	25.6%	72.2%	0.0%	0.0%	0.0%	0.0%	27.8%	27.8%	27.8%
Maximum Green (s)		38.0	38.0	19.0	61.0					21.0	21.0	21.0
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		0.5	0.5	0.5	0.5					0.5	0.5	0.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		8.0	8.0		8.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		40.0	40.0	21.0	63.0					23.0	23.0	
Actuated g/C Ratio		0.44	0.44	0.23	0.70					0.26	0.26	
v/c Ratio		0.67	0.67	0.65	0.26					0.57	0.24	
Control Delay		20.9	7.8	23.1	2.6					34.8	6.0	
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	
Total Delay		20.9	7.8	23.1	2.6					34.8	6.0	
LOS		C	A	C	A					C	A	

Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. A
P.M. Peak Hour

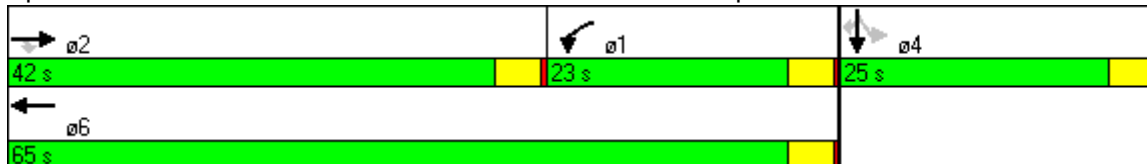


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		16.8			9.3						24.7	
Approach LOS		B			A						C	
90th %ile Green (s)		38.0	38.0	19.0	61.0					21.0	21.0	21.0
90th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
70th %ile Green (s)		38.0	38.0	19.0	61.0					21.0	21.0	21.0
70th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
50th %ile Green (s)		38.0	38.0	19.0	61.0					21.0	21.0	21.0
50th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
30th %ile Green (s)		38.0	38.0	19.0	61.0					21.0	21.0	21.0
30th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
10th %ile Green (s)		38.0	38.0	19.0	61.0					21.0	21.0	21.0
10th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
Queue Length 50th (ft)		244	66	108	23						129	0
Queue Length 95th (ft)		292	188	161	48						208	43
Internal Link Dist (ft)		248			427			563			572	
Turn Bay Length (ft)				250								200
Base Capacity (vph)		2558	1178	793	3990						460	591
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		0.67	0.67	0.65	0.26						0.57	0.24

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 14.9 Intersection LOS: B
 Intersection Capacity Utilization 80.9% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: 5th Street & SR-30 Southbound Ramps



Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. A
P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1900	1900	1900	1900	1900	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	8	12	12	12	12	12	12
Storage Length (ft)	150		0	0		200	650		0	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost 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
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Flt Permitted												
Satd. Flow (perm)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						201			25			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		507			296			792			736	
Travel Time (s)		7.7			4.5			12.0			11.2	
Volume (vph)	243	1439	0	0	865	191	626	0	750	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	256	1515	0	0	911	201	659	0	789	0	0	0
Lane Group Flow (vph)	256	1515	0	0	911	201	330	329	789	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	10.0	25.0			25.0	25.0	10.0	10.0	10.0			
Total Split (s)	26.0	51.0	0.0	0.0	25.0	25.0	39.0	39.0	39.0	0.0	0.0	0.0
Total Split (%)	28.9%	56.7%	0.0%	0.0%	27.8%	27.8%	43.3%	43.3%	43.3%	0.0%	0.0%	0.0%
Maximum Green (s)	22.0	47.0			21.0	21.0	35.0	35.0	35.0			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5	3.5			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.5	0.5	0.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			
Walk Time (s)		5.0			5.0	5.0						
Flash Dont Walk (s)		16.0			16.0	16.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	18.8	49.0			28.2	28.2	37.0	37.0	37.0			
Actuated g/C Ratio	0.21	0.54			0.31	0.31	0.41	0.41	0.41			
v/c Ratio	0.68	0.49			0.51	0.31	0.45	0.44	0.99			
Control Delay	54.2	4.1			27.3	5.4	21.5	21.5	57.1			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	54.2	4.1			27.3	5.4	21.5	21.5	57.1			

Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. A
P.M. Peak Hour

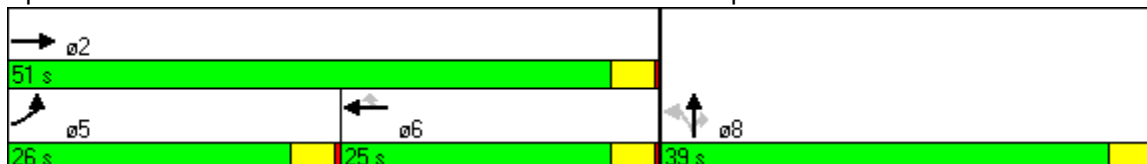


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	A			C	A	C	C	E			
Approach Delay		11.4			23.3			40.9				
Approach LOS		B			C			D				
90th %ile Green (s)	22.0	47.0			21.0	21.0	35.0	35.0	35.0			
90th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
70th %ile Green (s)	19.6	47.0			23.4	23.4	35.0	35.0	35.0			
70th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
50th %ile Green (s)	17.0	47.0			26.0	26.0	35.0	35.0	35.0			
50th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
30th %ile Green (s)	14.5	47.0			28.5	28.5	35.0	35.0	35.0			
30th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
10th %ile Green (s)	10.9	47.0			32.1	32.1	35.0	35.0	35.0			
10th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
Queue Length 50th (ft)	146	46			140	0	132	132	425			
Queue Length 95th (ft)	m187	44			193	51	206	205	#683			
Internal Link Dist (ft)		427			216			712			656	
Turn Bay Length (ft)	150					200	650					
Base Capacity (vph)	480	3103			1786	654	740	740	796			
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	0.53	0.49			0.51	0.31	0.45	0.44	0.99			

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 24.3 Intersection LOS: C
 Intersection Capacity Utilization 80.9% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: 5th Street & SR-30 Northbound Ramps



Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. B
A.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑						↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1700	1900	1900	1900	1900	1900	1900	1800	1900
Storage Length (ft)	0		240	250		0	0		0	0		200
Storage Lanes	0		1	1		0	0		0	0		1
Total Lost 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
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	*1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Flt Permitted												
Satd. Flow (perm)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		372	437									9
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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		328			507			643			652	
Travel Time (s)		5.0			7.7			9.7			9.9	
Volume (vph)	0	312	829	747	1701	0	0	0	0	269	0	449
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	328	873	786	1791	0	0	0	0	283	0	473
Lane Group Flow (vph)	0	764	437	786	1791	0	0	0	0	0	283	473
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6							4
Permitted Phases			2							4		4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Minimum Split (s)		17.0	17.0	10.0	17.0					10.0	10.0	10.0
Total Split (s)	0.0	17.0	17.0	26.0	43.0	0.0	0.0	0.0	0.0	37.0	37.0	37.0
Total Split (%)	0.0%	21.3%	21.3%	32.5%	53.8%	0.0%	0.0%	0.0%	0.0%	46.3%	46.3%	46.3%
Maximum Green (s)		13.0	13.0	22.0	39.0					33.0	33.0	33.0
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		0.5	0.5	0.5	0.5					0.5	0.5	0.5
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		8.0	8.0		8.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		16.0	16.0	23.0	41.0					35.0	35.0	
Actuated g/C Ratio		0.20	0.20	0.29	0.51					0.44	0.44	
v/c Ratio		0.53	0.60	0.81	0.61					0.36	0.57	
Control Delay		16.0	7.0	28.1	9.3					16.7	19.8	
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	
Total Delay		16.0	7.0	28.1	9.3					16.7	19.8	
LOS		B	A	C	A					B	B	

Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. B
A.M. Peak Hour

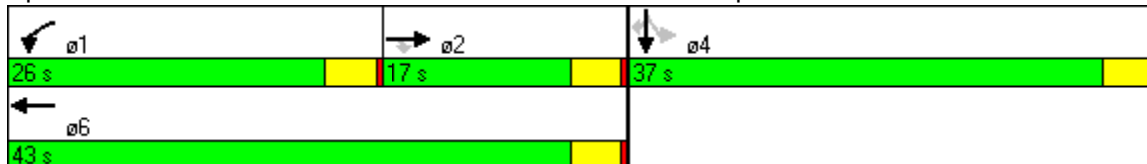


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		12.8			15.1							18.6
Approach LOS		B			B							B
90th %ile Green (s)		13.0	13.0	22.0	39.0					33.0	33.0	33.0
90th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
70th %ile Green (s)		13.0	13.0	22.0	39.0					33.0	33.0	33.0
70th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
50th %ile Green (s)		13.0	13.0	22.0	39.0					33.0	33.0	33.0
50th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
30th %ile Green (s)		13.8	13.8	21.2	39.0					33.0	33.0	33.0
30th %ile Term Code		Coord	Coord	Gap	Coord					MaxR	MaxR	MaxR
10th %ile Green (s)		17.4	17.4	17.6	39.0					33.0	33.0	33.0
10th %ile Term Code		Coord	Coord	Gap	Coord					MaxR	MaxR	MaxR
Queue Length 50th (ft)		57	0	168	117						91	167
Queue Length 95th (ft)		90	74	218	196						149	259
Internal Link Dist (ft)		248			427			563			572	
Turn Bay Length (ft)			240	250								200
Base Capacity (vph)		1440	730	1020	2921						788	836
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		0.53	0.60	0.77	0.61						0.36	0.57

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 15.0 Intersection LOS: B
 Intersection Capacity Utilization 83.8% ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: 5th Street & SR-30 Southbound Ramps



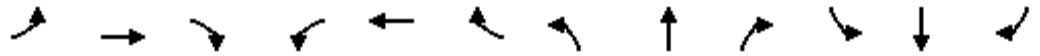
Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. B
A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1900	1900	1900	1900	1900	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	8	12	12	12	12	12	12
Storage Length (ft)	150		0	0		200	650		0	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost 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
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Flt Permitted												
Satd. Flow (perm)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						292			349			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		507			296			792			736	
Travel Time (s)		7.7			4.5			12.0			11.2	
Volume (vph)	121	460	0	0	1551	277	897	0	416	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	127	484	0	0	1633	292	944	0	438	0	0	0
Lane Group Flow (vph)	127	484	0	0	1633	292	472	472	438	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	10.0	25.0			25.0	25.0	10.0	10.0	10.0			
Total Split (s)	14.0	46.0	0.0	0.0	32.0	32.0	34.0	34.0	34.0	0.0	0.0	0.0
Total Split (%)	17.5%	57.5%	0.0%	0.0%	40.0%	40.0%	42.5%	42.5%	42.5%	0.0%	0.0%	0.0%
Maximum Green (s)	10.0	42.0			28.0	28.0	30.0	30.0	30.0			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5	3.5			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.5	0.5	0.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			
Walk Time (s)		5.0			5.0	5.0						
Flash Dont Walk (s)		16.0			16.0	16.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	11.1	44.0			33.0	33.0	32.0	32.0	32.0			
Actuated g/C Ratio	0.14	0.55			0.41	0.41	0.40	0.40	0.40			
v/c Ratio	0.51	0.15			0.69	0.34	0.66	0.66	0.45			
Control Delay	27.7	7.3			22.2	3.5	24.8	24.8	5.6			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	27.7	7.3			22.2	3.5	24.8	24.8	5.6			

Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. B
A.M. Peak Hour

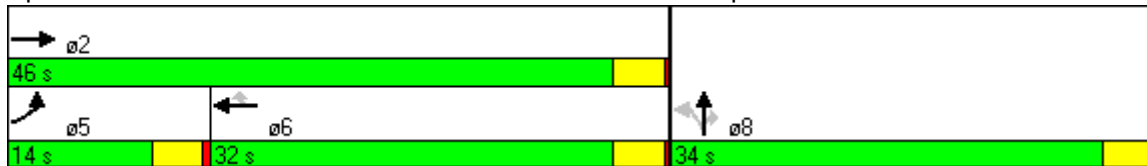


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	A			C	A	C	C	A			
Approach Delay		11.5			19.3			18.7				
Approach LOS		B			B			B				
90th %ile Green (s)	10.0	42.0			28.0	28.0	30.0	30.0	30.0			
90th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
70th %ile Green (s)	10.0	42.0			28.0	28.0	30.0	30.0	30.0			
70th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
50th %ile Green (s)	10.0	42.0			28.0	28.0	30.0	30.0	30.0			
50th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
30th %ile Green (s)	8.9	42.0			29.1	29.1	30.0	30.0	30.0			
30th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
10th %ile Green (s)	0.0	42.0			42.0	42.0	30.0	30.0	30.0			
10th %ile Term Code	Skip	Coord			Coord	Coord	MaxR	MaxR	MaxR			
Queue Length 50th (ft)	43	34			233	0	187	187	27			
Queue Length 95th (ft)	89	51			284	47	291	291	87			
Internal Link Dist (ft)		427			216			712			656	
Turn Bay Length (ft)	150					200	650					
Base Capacity (vph)	270	3135			2353	851	720	720	969			
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	0.15			0.69	0.34	0.66	0.66	0.45			

Intersection Summary

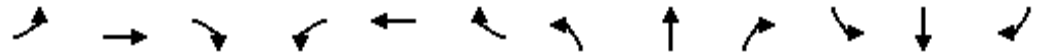
Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 55 (69%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.9
 Intersection LOS: B
 Intersection Capacity Utilization 83.8%
 ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 8: 5th Street & SR-30 Northbound Ramps



Queues
7: 5th Street & SR-30 Southbound Ramps

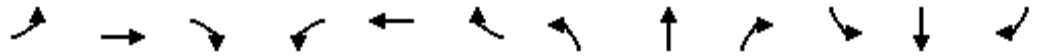
Year 2030 Land Use Alt. 1, Acc. Alt. B
P.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑						↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1700	1900	1900	1900	1900	1900	1900	1800	1900
Storage Length (ft)	0		240	250		0	0		0	0		200
Storage Lanes	0		1	1		0	0		0	0		1
Total Lost 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
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	*1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Flt Permitted												
Satd. Flow (perm)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39	583									142
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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		328			507			643			652	
Travel Time (s)		5.0			7.7			9.7			9.9	
Volume (vph)	0	1434	961	488	1003	0	0	0	0	248	0	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1509	1012	514	1056	0	0	0	0	261	0	142
Lane Group Flow (vph)	0	1716	805	514	1056	0	0	0	0	0	261	142
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6							4
Permitted Phases			2							4		4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Minimum Split (s)		17.0	17.0	10.0	17.0					10.0	10.0	10.0
Total Split (s)	0.0	40.0	40.0	25.0	65.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)	0.0%	44.4%	44.4%	27.8%	72.2%	0.0%	0.0%	0.0%	0.0%	27.8%	27.8%	27.8%
Maximum Green (s)		36.0	36.0	21.0	61.0					21.0	21.0	21.0
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		0.5	0.5	0.5	0.5					0.5	0.5	0.5
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		8.0	8.0		8.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		39.7	39.7	21.3	63.0					23.0	23.0	
Actuated g/C Ratio		0.44	0.44	0.24	0.70					0.26	0.26	
v/c Ratio		0.68	0.69	0.64	0.26					0.57	0.24	
Control Delay		21.5	8.9	35.4	0.6					34.8	6.0	
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	
Total Delay		21.5	8.9	35.4	0.6					34.8	6.0	
LOS		C	A	D	A					C	A	

Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. B
P.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		17.5			12.0						24.7	
Approach LOS		B			B						C	
90th %ile Green (s)		36.0	36.0	21.0	61.0					21.0	21.0	21.0
90th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
70th %ile Green (s)		36.0	36.0	21.0	61.0					21.0	21.0	21.0
70th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
50th %ile Green (s)		36.7	36.7	20.3	61.0					21.0	21.0	21.0
50th %ile Term Code		Coord	Coord	Gap	Coord					MaxR	MaxR	MaxR
30th %ile Green (s)		38.6	38.6	18.4	61.0					21.0	21.0	21.0
30th %ile Term Code		Coord	Coord	Gap	Coord					MaxR	MaxR	MaxR
10th %ile Green (s)		41.3	41.3	15.7	61.0					21.0	21.0	21.0
10th %ile Term Code		Coord	Coord	Gap	Coord					MaxR	MaxR	MaxR
Queue Length 50th (ft)		250	79	109	4						129	0
Queue Length 95th (ft)		304	222	157	4						208	43
Internal Link Dist (ft)		248			427			563			572	
Turn Bay Length (ft)			240	250								200
Base Capacity (vph)		2537	1164	869	3990						460	591
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		0.68	0.69	0.59	0.26						0.57	0.24

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle:	40
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	80.9%
ICU Level of Service:	D
Analysis Period (min):	15
* User Entered Value	

Splits and Phases: 7: 5th Street & SR-30 Southbound Ramps



Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. B
P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1900	1900	1900	1900	1900	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	8	12	12	12	12	12	12
Storage Length (ft)	150		0	0		200	650		0	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost 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
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Flt Permitted												
Satd. Flow (perm)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						201			23			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		507			296			792			736	
Travel Time (s)		7.7			4.5			12.0			11.2	
Volume (vph)	244	1439	0	0	865	191	626	0	750	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	257	1515	0	0	911	201	659	0	789	0	0	0
Lane Group Flow (vph)	257	1515	0	0	911	201	330	329	789	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	10.0	25.0			25.0	25.0	10.0	10.0	10.0			
Total Split (s)	25.0	50.0	0.0	0.0	25.0	25.0	40.0	40.0	40.0	0.0	0.0	0.0
Total Split (%)	27.8%	55.6%	0.0%	0.0%	27.8%	27.8%	44.4%	44.4%	44.4%	0.0%	0.0%	0.0%
Maximum Green (s)	21.0	46.0			21.0	21.0	36.0	36.0	36.0			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5	3.5			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.5	0.5	0.5			
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			
Walk Time (s)		5.0			5.0	5.0						
Flash Dont Walk (s)		16.0			16.0	16.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	23.0	48.0			23.0	23.0	38.0	38.0	38.0			
Actuated g/C Ratio	0.26	0.53			0.26	0.26	0.42	0.42	0.42			
v/c Ratio	0.56	0.50			0.63	0.35	0.43	0.43	0.97			
Control Delay	23.8	3.8			31.9	6.0	20.7	20.6	50.7			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	23.8	3.8			31.9	6.0	20.7	20.6	50.7			

Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. B
P.M. Peak Hour

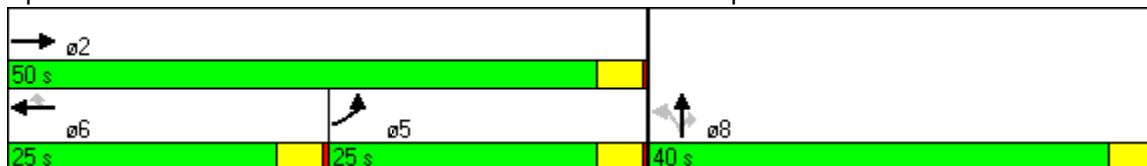


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	A			C	A	C	C	D			
Approach Delay		6.7			27.2			37.0				
Approach LOS		A			C			D				
90th %ile Green (s)	21.0	46.0			21.0	21.0	36.0	36.0	36.0			
90th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
70th %ile Green (s)	21.0	46.0			21.0	21.0	36.0	36.0	36.0			
70th %ile Term Code	Hold	Coord			Coord	Coord	MaxR	MaxR	MaxR			
50th %ile Green (s)	21.0	46.0			21.0	21.0	36.0	36.0	36.0			
50th %ile Term Code	Hold	Coord			Coord	Coord	MaxR	MaxR	MaxR			
30th %ile Green (s)	21.0	46.0			21.0	21.0	36.0	36.0	36.0			
30th %ile Term Code	Hold	Coord			Coord	Coord	MaxR	MaxR	MaxR			
10th %ile Green (s)	21.0	46.0			21.0	21.0	36.0	36.0	36.0			
10th %ile Term Code	Hold	Coord			Coord	Coord	MaxR	MaxR	MaxR			
Queue Length 50th (ft)	132	12			153	0	129	129	417			
Queue Length 95th (ft)	m218	27			193	51	202	201	#672			
Internal Link Dist (ft)		427			216			712			656	
Turn Bay Length (ft)	150					200	650					
Base Capacity (vph)	460	3040			1457	571	760	760	816			
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	0.56	0.50			0.63	0.35	0.43	0.43	0.97			

Intersection Summary

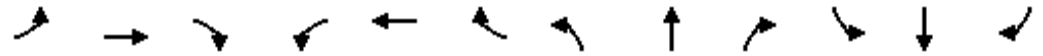
Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 85 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay: 22.1 Intersection LOS: C
 Intersection Capacity Utilization 80.9% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: 5th Street & SR-30 Northbound Ramps



Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. D
A.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑						↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1700	1900	1900	1900	1900	1900	1900	1800	1900
Storage Length (ft)	0		0	250		0	0		0	0		200
Storage Lanes	0		1	1		0	0		0	0		1
Total Lost 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
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	*1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Flt Permitted												
Satd. Flow (perm)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		372	437									10
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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		328			507			643			652	
Travel Time (s)		5.0			7.7			9.7			9.9	
Volume (vph)	0	312	829	747	1701	0	0	0	0	269	0	449
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	328	873	786	1791	0	0	0	0	283	0	473
Lane Group Flow (vph)	0	764	437	786	1791	0	0	0	0	0	283	473
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6							4
Permitted Phases			2							4		4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Minimum Split (s)		17.0	17.0	10.0	17.0					10.0	10.0	10.0
Total Split (s)	0.0	17.0	17.0	27.0	44.0	0.0	0.0	0.0	0.0	36.0	36.0	36.0
Total Split (%)	0.0%	21.3%	21.3%	33.8%	55.0%	0.0%	0.0%	0.0%	0.0%	45.0%	45.0%	45.0%
Maximum Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		0.5	0.5	0.5	0.5					0.5	0.5	0.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		8.0	8.0		8.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		15.0	15.0	25.0	42.0					34.0	34.0	
Actuated g/C Ratio		0.19	0.19	0.31	0.52					0.42	0.42	
v/c Ratio		0.56	0.61	0.74	0.60					0.37	0.58	
Control Delay		16.5	7.4	21.7	8.0					17.5	20.7	
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	
Total Delay		16.5	7.4	21.7	8.0					17.5	20.7	
LOS		B	A	C	A					B	C	

Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. D
A.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		13.2			12.2						19.5	
Approach LOS		B			B						B	
90th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
90th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
70th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
70th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
50th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
50th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
30th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
30th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
10th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
10th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
Queue Length 50th (ft)		57	0	156	92						93	171
Queue Length 95th (ft)		90	74	236	113						153	265
Internal Link Dist (ft)		248			427			563			572	
Turn Bay Length (ft)				250								200
Base Capacity (vph)		1371	711	1063	2993						765	813
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		0.56	0.61	0.74	0.60						0.37	0.58

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	13.7
Intersection LOS:	B
Intersection Capacity Utilization:	83.8%
ICU Level of Service:	E
Analysis Period (min):	15
* User Entered Value	

Splits and Phases: 7: 5th Street & SR-30 Southbound Ramps

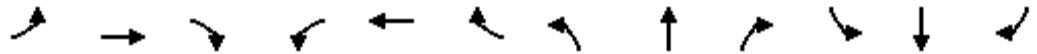
Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. D
A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1900	1900	1900	1900	1900	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	8	12	12	12	12	12	12
Storage Length (ft)	150		0	0		200	650		0	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost 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
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Flt Permitted												
Satd. Flow (perm)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						292			349			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		507			296			792			736	
Travel Time (s)		7.7			4.5			12.0			11.2	
Volume (vph)	121	460	0	0	1551	277	897	0	416	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	127	484	0	0	1633	292	944	0	438	0	0	0
Lane Group Flow (vph)	127	484	0	0	1633	292	472	472	438	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	10.0	25.0			25.0	25.0	10.0	10.0	10.0			
Total Split (s)	17.0	46.0	0.0	0.0	29.0	29.0	34.0	34.0	34.0	0.0	0.0	0.0
Total Split (%)	21.3%	57.5%	0.0%	0.0%	36.3%	36.3%	42.5%	42.5%	42.5%	0.0%	0.0%	0.0%
Maximum Green (s)	13.0	42.0			25.0	25.0	30.0	30.0	30.0			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5	3.5			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.5	0.5	0.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			
Walk Time (s)		5.0			5.0	5.0						
Flash Dont Walk (s)		16.0			16.0	16.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	12.0	44.0			32.1	32.1	32.0	32.0	32.0			
Actuated g/C Ratio	0.15	0.55			0.40	0.40	0.40	0.40	0.40			
v/c Ratio	0.47	0.15			0.71	0.35	0.66	0.66	0.45			
Control Delay	32.4	3.2			23.6	3.9	24.8	24.8	5.6			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	32.4	3.2			23.6	3.9	24.8	24.8	5.6			

Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. D
A.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	A			C	A	C	C	A			
Approach Delay		9.3			20.6			18.7				
Approach LOS		A			C			B				
90th %ile Green (s)	13.0	42.0			25.0	25.0	30.0	30.0	30.0			
90th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
70th %ile Green (s)	11.9	42.0			26.1	26.1	30.0	30.0	30.0			
70th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
50th %ile Green (s)	10.2	42.0			27.8	27.8	30.0	30.0	30.0			
50th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
30th %ile Green (s)	8.5	42.0			29.5	29.5	30.0	30.0	30.0			
30th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
10th %ile Green (s)	0.0	42.0			42.0	42.0	30.0	30.0	30.0			
10th %ile Term Code	Skip	Coord			Coord	Coord	MaxR	MaxR	MaxR			
Queue Length 50th (ft)	43	11			234	0	187	187	27			
Queue Length 95th (ft)	78	14			303	50	291	291	87			
Internal Link Dist (ft)		427			216			712			656	
Turn Bay Length (ft)	150					200	650					
Base Capacity (vph)	338	3135			2286	835	720	720	969			
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	0.38	0.15			0.71	0.35	0.66	0.66	0.45			

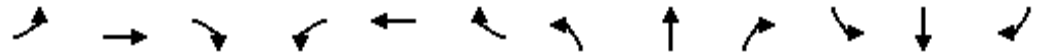
Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 1 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 18.2 Intersection LOS: B
 Intersection Capacity Utilization 83.8% ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 8: 5th Street & SR-30 Northbound Ramps

Queues
7: 5th Street & SR-30 Southbound Ramps

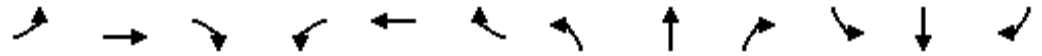
Year 2030 Land Use Alt. 1, Acc. Alt. D
P.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑						↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1700	1900	1900	1900	1900	1900	1900	1800	1900
Storage Length (ft)	0		0	250		0	0		0	0		200
Storage Lanes	0		1	1		0	0		0	0		1
Total Lost 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
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	*1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Flt Permitted												
Satd. Flow (perm)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37	576									142
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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		328			507			643			652	
Travel Time (s)		5.0			7.7			9.7			9.9	
Volume (vph)	0	1434	961	488	1003	0	0	0	0	248	0	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1509	1012	514	1056	0	0	0	0	261	0	142
Lane Group Flow (vph)	0	1711	810	514	1056	0	0	0	0	0	261	142
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6							4
Permitted Phases			2							4		4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Minimum Split (s)		17.0	17.0	10.0	17.0					10.0	10.0	10.0
Total Split (s)	0.0	39.0	39.0	26.0	65.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0
Total Split (%)	0.0%	43.3%	43.3%	28.9%	72.2%	0.0%	0.0%	0.0%	0.0%	27.8%	27.8%	27.8%
Maximum Green (s)		35.0	35.0	22.0	61.0					21.0	21.0	21.0
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		0.5	0.5	0.5	0.5					0.5	0.5	0.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		8.0	8.0		8.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		37.0	37.0	24.0	63.0					23.0	23.0	
Actuated g/C Ratio		0.41	0.41	0.27	0.70					0.26	0.26	
v/c Ratio		0.72	0.72	0.57	0.26					0.57	0.24	
Control Delay		23.9	10.2	19.1	2.4					34.8	6.0	
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	
Total Delay		23.9	10.2	19.1	2.4					34.8	6.0	
LOS		C	B	B	A					C	A	

Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. D
P.M. Peak Hour

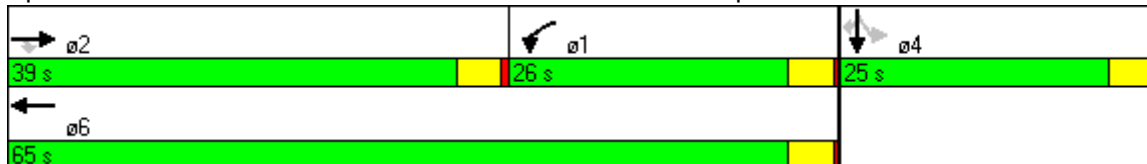


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		19.5			7.8							24.7
Approach LOS		B			A							C
90th %ile Green (s)		35.0	35.0	22.0	61.0					21.0	21.0	21.0
90th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
70th %ile Green (s)		35.0	35.0	22.0	61.0					21.0	21.0	21.0
70th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
50th %ile Green (s)		35.0	35.0	22.0	61.0					21.0	21.0	21.0
50th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
30th %ile Green (s)		35.0	35.0	22.0	61.0					21.0	21.0	21.0
30th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
10th %ile Green (s)		35.0	35.0	22.0	61.0					21.0	21.0	21.0
10th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
Queue Length 50th (ft)		259	91	105	23						129	0
Queue Length 95th (ft)		310	238	157	44						208	43
Internal Link Dist (ft)		248			427			563			572	
Turn Bay Length (ft)				250								200
Base Capacity (vph)		2365	1120	907	3990						460	591
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		0.72	0.72	0.57	0.26						0.57	0.24

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 15.9 Intersection LOS: B
 Intersection Capacity Utilization 80.9% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: 5th Street & SR-30 Southbound Ramps



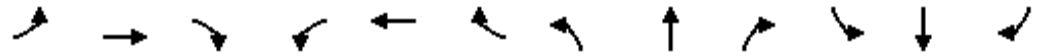
Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. D
P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1900	1900	1900	1900	1900	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	8	12	12	12	12	12	12
Storage Length (ft)	150		0	0		200	650		0	0		0
Storage Lanes	1		0	0		1	1		1	0		0
Total Lost 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
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Flt Permitted												
Satd. Flow (perm)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						201			25			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		507			296			792			736	
Travel Time (s)		7.7			4.5			12.0			11.2	
Volume (vph)	244	1438	0	0	861	191	626	0	750	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	257	1514	0	0	906	201	659	0	789	0	0	0
Lane Group Flow (vph)	257	1514	0	0	906	201	330	329	789	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	10.0	25.0			25.0	25.0	10.0	10.0	10.0			
Total Split (s)	26.0	51.0	0.0	0.0	25.0	25.0	39.0	39.0	39.0	0.0	0.0	0.0
Total Split (%)	28.9%	56.7%	0.0%	0.0%	27.8%	27.8%	43.3%	43.3%	43.3%	0.0%	0.0%	0.0%
Maximum Green (s)	22.0	47.0			21.0	21.0	35.0	35.0	35.0			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5	3.5			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.5	0.5	0.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			
Walk Time (s)		5.0			5.0	5.0						
Flash Dont Walk (s)		16.0			16.0	16.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	19.1	49.0			27.9	27.9	37.0	37.0	37.0			
Actuated g/C Ratio	0.21	0.54			0.31	0.31	0.41	0.41	0.41			
v/c Ratio	0.67	0.49			0.51	0.31	0.45	0.44	0.99			
Control Delay	54.2	3.2			27.5	5.5	21.5	21.5	57.1			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	54.2	3.2			27.5	5.5	21.5	21.5	57.1			

Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 1, Acc. Alt. D
P.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	A			C	A	C	C	E			
Approach Delay		10.6			23.5			40.9				
Approach LOS		B			C			D				
90th %ile Green (s)	22.0	47.0			21.0	21.0	35.0	35.0	35.0			
90th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
70th %ile Green (s)	20.1	47.0			22.9	22.9	35.0	35.0	35.0			
70th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
50th %ile Green (s)	17.5	47.0			25.5	25.5	35.0	35.0	35.0			
50th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
30th %ile Green (s)	14.9	47.0			28.1	28.1	35.0	35.0	35.0			
30th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
10th %ile Green (s)	11.2	47.0			31.8	31.8	35.0	35.0	35.0			
10th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
Queue Length 50th (ft)	148	32			141	0	132	132	425			
Queue Length 95th (ft)	m180	31			192	51	206	205	#683			
Internal Link Dist (ft)		427			216			712			656	
Turn Bay Length (ft)	150					200	650					
Base Capacity (vph)	480	3103			1765	649	740	740	796			
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	0.54	0.49			0.51	0.31	0.45	0.44	0.99			

Intersection Summary

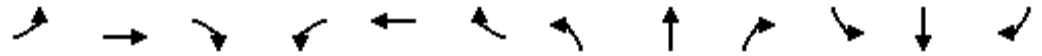
Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 2 (2%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 24.1 Intersection LOS: C
 Intersection Capacity Utilization 80.9% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: 5th Street & SR-30 Northbound Ramps



Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 2, Acc. Alt. C
A.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑						↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1700	1900	1900	1900	1900	1900	1900	1800	1900
Storage Length (ft)	0		240	250		0	0		0	0		200
Storage Lanes	0		1	1		0	0		0	0		1
Total Lost 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
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	*1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Flt Permitted												
Satd. Flow (perm)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		358	420									11
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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		328			507			643			652	
Travel Time (s)		5.0			7.7			9.7			9.9	
Volume (vph)	0	313	798	805	1661	0	0	0	0	288	0	439
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	329	840	847	1748	0	0	0	0	303	0	462
Lane Group Flow (vph)	0	749	420	847	1748	0	0	0	0	0	303	462
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6							4
Permitted Phases			2							4		4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Minimum Split (s)		17.0	17.0	10.0	17.0					10.0	10.0	10.0
Total Split (s)	0.0	17.0	17.0	27.0	44.0	0.0	0.0	0.0	0.0	36.0	36.0	36.0
Total Split (%)	0.0%	21.3%	21.3%	33.8%	55.0%	0.0%	0.0%	0.0%	0.0%	45.0%	45.0%	45.0%
Maximum Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		0.5	0.5	0.5	0.5					0.5	0.5	0.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		8.0	8.0		8.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		15.0	15.0	25.0	42.0					34.0	34.0	
Actuated g/C Ratio		0.19	0.19	0.31	0.52					0.42	0.42	
v/c Ratio		0.55	0.60	0.80	0.58					0.40	0.57	
Control Delay		16.7	7.3	24.9	8.8					17.9	20.4	
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	
Total Delay		16.7	7.3	24.9	8.8					17.9	20.4	
LOS		B	A	C	A					B	C	

Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 2, Acc. Alt. C
A.M. Peak Hour

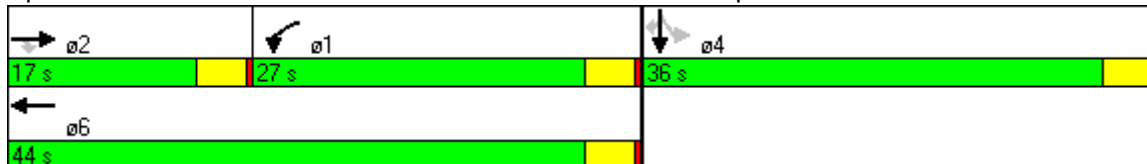


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		13.3			14.1						19.4	
Approach LOS		B			B						B	
90th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
90th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
70th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
70th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
50th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
50th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
30th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
30th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
10th %ile Green (s)		13.0	13.0	23.0	40.0					32.0	32.0	32.0
10th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
Queue Length 50th (ft)		57	0	169	126						101	165
Queue Length 95th (ft)		90	72	259	198						165	256
Internal Link Dist (ft)		248			427			563			572	
Turn Bay Length (ft)			240	250								200
Base Capacity (vph)		1360	698	1063	2993						765	814
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		0.55	0.60	0.80	0.58						0.40	0.57

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 14.8 Intersection LOS: B
 Intersection Capacity Utilization 85.5% ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: 5th Street & SR-30 Southbound Ramps



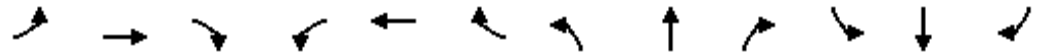
Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 2, Acc. Alt. C
A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1900	1900	1900	1900	1900	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	8	12	12	12	12	12	12
Storage Length (ft)	150		0	0		200	650		0	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost 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
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Flt Permitted												
Satd. Flow (perm)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						308			334			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		507			296			792			736	
Travel Time (s)		7.7			4.5			12.0			11.2	
Volume (vph)	113	488	0	0	1615	293	850	0	490	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	119	514	0	0	1700	308	895	0	516	0	0	0
Lane Group Flow (vph)	119	514	0	0	1700	308	448	447	516	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	10.0	25.0			25.0	25.0	10.0	10.0	10.0			
Total Split (s)	13.0	47.0	0.0	0.0	34.0	34.0	33.0	33.0	33.0	0.0	0.0	0.0
Total Split (%)	16.3%	58.8%	0.0%	0.0%	42.5%	42.5%	41.3%	41.3%	41.3%	0.0%	0.0%	0.0%
Maximum Green (s)	9.0	43.0			30.0	30.0	29.0	29.0	29.0			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5	3.5			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.5	0.5	0.5			
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			
Walk Time (s)		5.0			5.0	5.0						
Flash Dont Walk (s)		16.0			16.0	16.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	10.3	45.0			34.7	34.7	31.0	31.0	31.0			
Actuated g/C Ratio	0.13	0.56			0.43	0.43	0.39	0.39	0.39			
v/c Ratio	0.51	0.16			0.69	0.35	0.64	0.64	0.55			
Control Delay	38.2	2.9			20.9	3.3	25.1	25.1	8.8			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	38.2	2.9			20.9	3.3	25.1	25.1	8.8			

Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 2, Acc. Alt. C
A.M. Peak Hour

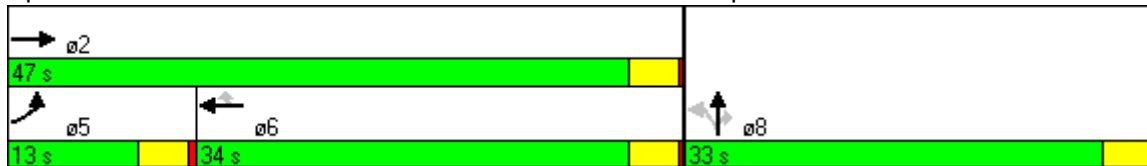


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	A			C	A	C	C	A			
Approach Delay		9.5			18.2			19.2				
Approach LOS		A			B			B				
90th %ile Green (s)	9.0	43.0			30.0	30.0	29.0	29.0	29.0			
90th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
70th %ile Green (s)	9.0	43.0			30.0	30.0	29.0	29.0	29.0			
70th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
50th %ile Green (s)	9.0	43.0			30.0	30.0	29.0	29.0	29.0			
50th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
30th %ile Green (s)	8.4	43.0			30.6	30.6	29.0	29.0	29.0			
30th %ile Term Code	Gap	Coord			Coord	Coord	MaxR	MaxR	MaxR			
10th %ile Green (s)	0.0	43.0			43.0	43.0	29.0	29.0	29.0			
10th %ile Term Code	Skip	Coord			Coord	Coord	MaxR	MaxR	MaxR			
Queue Length 50th (ft)	41	11			236	0	178	177	60			
Queue Length 95th (ft)	88	14			286	46	278	277	145			
Internal Link Dist (ft)		427			216			712			656	
Turn Bay Length (ft)	150					200	650					
Base Capacity (vph)	248	3206			2474	889	698	698	941			
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	0.48	0.16			0.69	0.35	0.64	0.64	0.55			

Intersection Summary

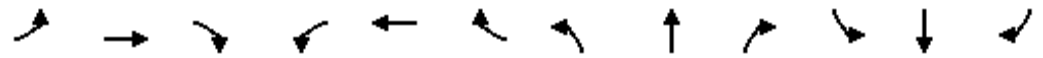
Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 1 (1%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.2 Intersection LOS: B
 Intersection Capacity Utilization 85.5% ICU Level of Service E
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 8: 5th Street & SR-30 Northbound Ramps



Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 2, Acc. Alt. C
P.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑						↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1700	1900	1900	1900	1900	1900	1900	1800	1900
Storage Length (ft)	0		240	250		0	0		0	0		200
Storage Lanes	0		1	1		0	0		0	0		1
Total Lost 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
Leading Detector (ft)		50	50	50	50					50	50	50
Trailing Detector (ft)		0	0	0	0					0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	*1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Flt Permitted												
Satd. Flow (perm)	0	5700	1900	3400	5700	0	0	0	0	0	1800	1900
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41	569									141
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
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		328			507			643			652	
Travel Time (s)		5.0			7.7			9.7			9.9	
Volume (vph)	0	1432	950	504	997	0	0	0	0	251	0	134
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1507	1000	531	1049	0	0	0	0	264	0	141
Lane Group Flow (vph)	0	1705	802	531	1049	0	0	0	0	0	264	141
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6							4
Permitted Phases			2							4		4
Detector Phases		2	2	1	6					4	4	4
Minimum Initial (s)		4.0	4.0	4.0	4.0					4.0	4.0	4.0
Minimum Split (s)		17.0	17.0	10.0	17.0					10.0	10.0	10.0
Total Split (s)	0.0	35.0	35.0	23.0	58.0	0.0	0.0	0.0	0.0	22.0	22.0	22.0
Total Split (%)	0.0%	43.8%	43.8%	28.8%	72.5%	0.0%	0.0%	0.0%	0.0%	27.5%	27.5%	27.5%
Maximum Green (s)		31.0	31.0	19.0	54.0					18.0	18.0	18.0
Yellow Time (s)		3.5	3.5	3.5	3.5					3.5	3.5	3.5
All-Red Time (s)		0.5	0.5	0.5	0.5					0.5	0.5	0.5
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					Max	Max	Max
Walk Time (s)		5.0	5.0		5.0							
Flash Dont Walk (s)		8.0	8.0		8.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		33.0	33.0	21.0	56.0					20.0	20.0	
Actuated g/C Ratio		0.41	0.41	0.26	0.70					0.25	0.25	
v/c Ratio		0.72	0.72	0.59	0.26					0.59	0.24	
Control Delay		21.2	9.5	28.9	2.5					32.6	5.8	
Queue Delay		0.0	0.0	0.0	0.0					0.0	0.0	
Total Delay		21.2	9.5	28.9	2.5					32.6	5.8	
LOS		C	A	C	A					C	A	

Queues
7: 5th Street & SR-30 Southbound Ramps

Year 2030 Land Use Alt. 2, Acc. Alt. C
P.M. Peak Hour

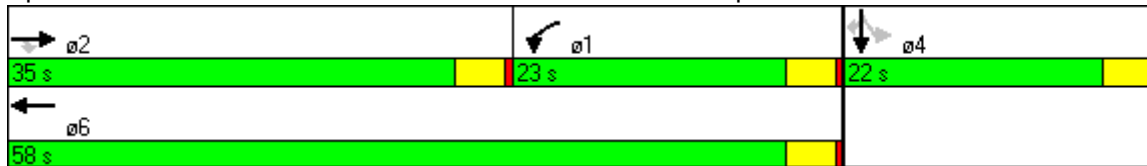


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		17.5			11.4							23.3
Approach LOS		B			B							C
90th %ile Green (s)		31.0	31.0	19.0	54.0					18.0	18.0	18.0
90th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
70th %ile Green (s)		31.0	31.0	19.0	54.0					18.0	18.0	18.0
70th %ile Term Code		Coord	Coord	Max	Coord					MaxR	MaxR	MaxR
50th %ile Green (s)		31.0	31.0	19.0	54.0					18.0	18.0	18.0
50th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
30th %ile Green (s)		31.0	31.0	19.0	54.0					18.0	18.0	18.0
30th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
10th %ile Green (s)		31.0	31.0	19.0	54.0					18.0	18.0	18.0
10th %ile Term Code		Coord	Coord	Hold	Coord					MaxR	MaxR	MaxR
Queue Length 50th (ft)		224	76	103	19						116	0
Queue Length 95th (ft)		273	213	149	40						192	41
Internal Link Dist (ft)		248			427			563			572	
Turn Bay Length (ft)			240	250								200
Base Capacity (vph)		2375	1118	893	3990						450	581
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		0.72	0.72	0.59	0.26						0.59	0.24

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 15.8 Intersection LOS: B
 Intersection Capacity Utilization 81.7% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value

Splits and Phases: 7: 5th Street & SR-30 Southbound Ramps



Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 2, Acc. Alt. C
P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1800	1900	1900	1900	1900	1900	1800	1800	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	8	12	12	12	12	12	12
Storage Length (ft)	150		0	0		200	650		0	0		0
Storage Lanes	1		0	0		1	2		1	0		0
Total Lost 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
Leading Detector (ft)	50	50			50	50	50	50	50			
Trailing Detector (ft)	0	0			0	0	0	0	0			
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Flt Permitted												
Satd. Flow (perm)	1800	5700	0	0	5700	1647	1800	1800	1900	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						206			21			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		507			296			792			736	
Travel Time (s)		7.7			4.5			12.0			11.2	
Volume (vph)	239	1444	0	0	882	196	619	0	762	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	252	1520	0	0	928	206	652	0	802	0	0	0
Lane Group Flow (vph)	252	1520	0	0	928	206	326	326	802	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Detector Phases	5	2			6	6	8	8	8			
Minimum Initial (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	10.0	25.0			25.0	25.0	10.0	10.0	10.0			
Total Split (s)	19.0	44.0	0.0	0.0	25.0	25.0	36.0	36.0	36.0	0.0	0.0	0.0
Total Split (%)	23.8%	55.0%	0.0%	0.0%	31.3%	31.3%	45.0%	45.0%	45.0%	0.0%	0.0%	0.0%
Maximum Green (s)	15.0	40.0			21.0	21.0	32.0	32.0	32.0			
Yellow Time (s)	3.5	3.5			3.5	3.5	3.5	3.5	3.5			
All-Red Time (s)	0.5	0.5			0.5	0.5	0.5	0.5	0.5			
Lead/Lag	Lag				Lead	Lead						
Lead-Lag Optimize?	Yes				Yes	Yes						
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Recall Mode	None	C-Max			C-Max	C-Max	Max	Max	Max			
Walk Time (s)		5.0			5.0	5.0						
Flash Dont Walk (s)		16.0			16.0	16.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	17.0	42.0			23.0	23.0	34.0	34.0	34.0			
Actuated g/C Ratio	0.21	0.52			0.29	0.29	0.42	0.42	0.42			
v/c Ratio	0.66	0.51			0.57	0.33	0.43	0.43	0.98			
Control Delay	19.4	3.7			25.9	5.1	18.3	18.3	50.7			
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0			
Total Delay	19.4	3.7			25.9	5.1	18.3	18.3	50.7			

Queues
8: 5th Street & SR-30 Northbound Ramps

Year 2030 Land Use Alt. 2, Acc. Alt. C
P.M. Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	A			C	A	B	B	D			
Approach Delay		5.9			22.1			36.2				
Approach LOS		A			C			D				
90th %ile Green (s)	15.0	40.0			21.0	21.0	32.0	32.0	32.0			
90th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
70th %ile Green (s)	15.0	40.0			21.0	21.0	32.0	32.0	32.0			
70th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
50th %ile Green (s)	15.0	40.0			21.0	21.0	32.0	32.0	32.0			
50th %ile Term Code	Max	Coord			Coord	Coord	MaxR	MaxR	MaxR			
30th %ile Green (s)	15.0	40.0			21.0	21.0	32.0	32.0	32.0			
30th %ile Term Code	Hold	Coord			Coord	Coord	MaxR	MaxR	MaxR			
10th %ile Green (s)	15.0	40.0			21.0	21.0	32.0	32.0	32.0			
10th %ile Term Code	Hold	Coord			Coord	Coord	MaxR	MaxR	MaxR			
Queue Length 50th (ft)	82	32			130	0	111	111	375			
Queue Length 95th (ft)	m122	32			168	47	178	178	#626			
Internal Link Dist (ft)		427			216			712			656	
Turn Bay Length (ft)	150					200	650					
Base Capacity (vph)	383	2993			1639	620	765	765	820			
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	0.66	0.51			0.57	0.33	0.43	0.43	0.98			

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 62 (78%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 20.2 Intersection LOS: C
 Intersection Capacity Utilization 81.7% ICU Level of Service D
 Analysis Period (min) 15
 * User Entered Value
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: 5th Street & SR-30 Northbound Ramps

