Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	183	276	65	1098	46	691	350	727	892	53
v/c Ratio	1.08	0.50	0.24	0.09	1.14	0.54	0.63	0.35	1.16	0.70	0.09
Control Delay	185.3	47.8	34.3	26.5	100.6	87.2	50.5	1.8	138.6	39.7	8.0
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	185.3	47.8	34.3	26.5	100.6	87.2	50.5	1.8	138.6	39.7	8.0
Queue Length 50th (ft)	~88	64	90	37	~1180	42	206	0	~412	360	1
Queue Length 95th (ft)	#204	94	147	70	#1447	85	252	23	#539	453	31
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	79	1015	1145	692	964	117	1177	1012	625	1270	623
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	1.08	0.18	0.24	0.09	1.14	0.39	0.59	0.35	1.16	0.70	0.09

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	120	49	254	60	1010	42	636	322	669	821	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3057		3255	1689	1501	1620	4655	1449	3143	3240	1512
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3057		3255	1689	1501	1620	4655	1449	3143	3240	1512
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	130	53	276	65	1098	46	691	350	727	892	53
RTOR Reduction (vph)	0	41	0	0	0	13	0	0	144	0	0	31
Lane Group Flow (vph)	85	142	0	276	65	1085	46	691	206	727	892	22
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	6.5	14.5		48.7	56.7	88.7	6.4	33.2	81.9	27.5	54.3	54.3
Effective Green, g (s)	6.5	14.5		48.7	56.7	88.7	6.4	33.2	81.9	27.5	54.3	54.3
Actuated g/C Ratio	0.05	0.10		0.35	0.41	0.64	0.05	0.24	0.59	0.20	0.39	0.39
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	4.5	4.5
Lane Grp Cap (vph)	78	318		1139	688	956	74	1110	853	621	1264	590
v/s Ratio Prot	c0.05	0.05		0.08	0.04	c0.72	0.03	0.15	0.14	c0.23	c0.28	
v/s Ratio Perm												0.01
v/c Ratio	1.09	0.45		0.24	0.09	1.14	0.62	0.62	0.24	1.17	0.71	0.04
Uniform Delay, d1	66.3	58.6		32.1	25.4	25.2	65.2	47.4	13.7	55.8	35.7	26.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	128.5	1.7		0.0	0.1	73.9	11.1	1.2	0.2	93.2	2.1	0.0
Delay (s)	194.8	60.3		32.2	25.5	99.1	76.3	48.6	13.9	149.0	37.8	26.3
Level of Service	F	E		C	C	F	E	D	B	F	D	C
Approach Delay (s)		103.0			83.0			38.6			85.8	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	74.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	139.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	988	157	1184	508	76	289	878	550
v/c Ratio	0.97	0.79	0.80	0.97	0.60	0.59	0.95	0.98	0.91
Control Delay	106.1	34.1	73.0	39.4	3.8	66.6	55.5	63.1	39.6
Queue Delay	0.0	7.4	0.0	34.1	1.0	0.0	29.8	23.4	0.0
Total Delay	106.1	41.5	73.0	73.5	4.8	66.6	85.3	86.4	39.6
Queue Length 50th (ft)	122	308	95	304	0	50	52	301	200
Queue Length 95th (ft)	#259	395	m126	m#557	m52	#112	#219	#432	#419
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	185	1247	216	1218	840	128	305	898	604
Starvation Cap Reductn	0	0	0	125	138	0	0	0	0
Spillback Cap Reductn	0	222	0	0	0	0	33	69	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.96	0.73	1.08	0.72	0.59	1.06	1.06	0.91

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	165	899	10	144	980	577	70	3	263	808	57	449
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98	0.85	1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3173		1620	3026	1319	1678	1431		3143	1445	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3173		1620	3026	1319	1678	1431		3143	1445	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	977	11	157	1065	627	76	3	286	878	62	488
RTOR Reduction (vph)	0	1	0	0	8	300	0	196	0	0	191	0
Lane Group Flow (vph)	179	987	0	157	1176	208	76	93	0	878	359	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	12.0	41.3		12.7	42.0	42.0	8.0	8.0		30.0	30.0	
Effective Green, g (s)	12.0	41.3		12.7	42.0	43.0	8.0	8.0		30.0	30.0	
Actuated g/C Ratio	0.11	0.39		0.12	0.40	0.41	0.08	0.08		0.29	0.29	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	185	1248		196	1210	540	128	109		898	413	
v/s Ratio Prot	c0.11	0.31		0.10	c0.39		0.05	c0.07		c0.28	0.25	
v/s Ratio Perm						0.16						
v/c Ratio	0.97	0.79		0.80	0.97	0.39	0.59	0.85		0.98	0.87	
Uniform Delay, d1	46.3	28.1		44.9	30.9	21.7	46.9	47.9		37.2	35.6	
Progression Factor	1.00	1.00		1.21	0.77	0.86	1.00	1.00		1.00	1.00	
Incremental Delay, d2	55.8	5.2		12.8	14.7	1.3	4.8	42.8		24.4	17.3	
Delay (s)	102.1	33.2		67.1	38.5	20.0	51.8	90.8		61.6	52.9	
Level of Service	F	C		E	D	C	D	F		E	D	
Approach Delay (s)		43.8			35.8			82.6			58.2	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM Average Control Delay	48.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	2162	322	1527	330	789	78	51
v/c Ratio	0.75	0.95	0.84	0.81	0.97	0.89	0.88	0.46
Control Delay	65.0	27.1	68.2	15.6	84.4	38.9	117.3	39.7
Queue Delay	0.0	34.3	0.0	1.4	0.0	0.0	0.0	0.1
Total Delay	65.0	61.4	68.2	17.0	84.4	38.9	117.3	39.8
Queue Length 50th (ft)	54	364	118	286	222	217	53	14
Queue Length 95th (ft)	m64	m#546	m#169	392	#397	#314	#144	53
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	123	2282	410	1894	345	909	89	110
Starvation Cap Reductn	0	274	0	111	0	0	0	0
Spillback Cap Reductn	0	0	0	189	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	1.08	0.79	0.90	0.96	0.87	0.88	0.47

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	1800	189	296	1289	116	266	38	726	72	19	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4503		3143	3277			1809	2802	1562	1430	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4503		3143	3277			1809	2802	1562	1430	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1957	205	322	1401	126	289	41	789	78	21	30
RTOR Reduction (vph)	0	12	0	0	6	0	0	0	28	0	28	0
Lane Group Flow (vph)	85	2150	0	322	1521	0	0	330	761	78	23	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	6.3	52.9		12.8	59.9			19.8	32.6	6.0	6.0	
Effective Green, g (s)	6.3	52.9		12.8	59.9			19.8	32.6	6.0	6.0	
Actuated g/C Ratio	0.06	0.50		0.12	0.57			0.19	0.31	0.06	0.06	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	97	2269		383	1869			341	870	89	82	
v/s Ratio Prot	0.05	c0.48		0.10	0.46			c0.18	c0.11	c0.05	0.02	
v/s Ratio Perm									0.17			
v/c Ratio	0.88	0.95		0.84	0.81			0.97	0.88	0.88	0.28	
Uniform Delay, d1	49.0	24.7		45.1	18.1			42.3	34.3	49.1	47.4	
Progression Factor	0.91	0.83		1.20	0.69			1.00	1.00	1.00	1.00	
Incremental Delay, d2	32.1	5.8		10.6	2.8			39.5	9.5	55.2	0.7	
Delay (s)	76.6	26.4		64.6	15.3			81.8	43.8	104.3	48.1	
Level of Service	E	C		E	B			F	D	F	D	
Approach Delay (s)		28.3			23.9			55.0			82.1	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM Average Control Delay	33.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1392	547	1666	442	268	257	243
v/c Ratio	0.61	0.38	0.75	0.30	0.66	0.58	0.58
Control Delay	5.5	0.3	13.6	0.5	43.3	34.8	34.0
Queue Delay	0.3	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	5.8	0.3	13.7	0.5	43.3	34.8	34.0
Queue Length 50th (ft)	129	0	355	0	166	138	123
Queue Length 95th (ft)	m118	m0	448	0	260	229	208
Internal Link Dist (ft)	509		867			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2275	1439	2218	1478	433	467	445
Starvation Cap Reductn	322	0	0	0	0	0	0
Spillback Cap Reductn	0	0	50	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.38	0.77	0.30	0.62	0.55	0.55

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1281	503	0	1533	407	0	0	0	358	0	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.92	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.98	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1701	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.98	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1701	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1392	547	0	1666	442	0	0	0	389	0	379
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	30	30
Lane Group Flow (vph)	0	1392	547	0	1666	442	0	0	0	268	227	213
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Prot
Protected Phases		2			6					4	4	4
Permitted Phases			2 4			Free				4		
Actuated Green, G (s)		71.6	105.0		71.6	105.0				25.4	25.4	25.4
Effective Green, g (s)		72.6	105.0		72.6	105.0				26.4	25.4	26.4
Actuated g/C Ratio		0.69	1.00		0.69	1.00				0.25	0.24	0.25
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2276	1439		2219	1478				409	411	392
v/s Ratio Prot		0.42			c0.52					c0.16	0.13	0.14
v/s Ratio Perm			0.38			0.30						
v/c Ratio		0.61	0.38		0.75	0.30				0.66	0.55	0.54
Uniform Delay, d1		8.7	0.0		10.4	0.0				35.2	34.8	34.1
Progression Factor		0.54	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.5	0.1		2.4	0.5				4.2	2.0	1.9
Delay (s)		5.1	0.1		12.8	0.5				39.4	36.8	36.0
Level of Service		A	A		B	A				D	D	D
Approach Delay (s)		3.7			10.2			0.0			37.4	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	50	42	211	191	428
v/c Ratio	0.85	0.08	0.42	0.25	0.30	0.50
Control Delay	29.2	3.5	42.9	13.3	18.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	3.5	42.9	13.3	18.7	4.7
Queue Length 50th (ft)	194	0	17	52	59	0
Queue Length 95th (ft)	#320	15	#50	99	114	60
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	800	742	100	828	647	857
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	0.76	0.07	0.42	0.25	0.30	0.50

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	556	46	39	194	176	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1560
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	50	42	211	191	428
RTOR Reduction (vph)	0	29	0	0	0	276
Lane Group Flow (vph)	604	21	42	211	191	152
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	27.5	27.5	2.4	29.5	23.1	23.1
Effective Green, g (s)	27.5	27.5	2.4	29.5	23.1	23.1
Actuated g/C Ratio	0.42	0.42	0.04	0.45	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	710	635	60	829	606	554
v/s Ratio Prot	c0.36		c0.03	0.12	c0.11	
v/s Ratio Perm		0.01				0.10
v/c Ratio	0.85	0.03	0.70	0.25	0.32	0.27
Uniform Delay, d1	16.9	11.0	30.9	11.0	15.2	15.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.0	30.0	0.7	1.4	1.2
Delay (s)	26.5	11.0	61.0	11.7	16.6	16.2
Level of Service	C	B	E	B	B	B
Approach Delay (s)	25.3			19.9	16.3	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	182	132	14	683	196	1085
v/c Ratio	0.39	0.50	0.30	0.07	0.40	0.57	0.64
Control Delay	17.0	21.3	5.3	8.7	8.2	19.0	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	21.3	5.3	8.7	8.2	19.0	11.2
Queue Length 50th (ft)	34	50	0	2	50	33	98
Queue Length 95th (ft)	73	96	30	12	124	#153	236
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	649	638	680	212	1822	369	1832
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	0.23	0.29	0.19	0.07	0.37	0.53	0.59

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	80	21	92	75	121	13	569	60	180	955	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1529			1684	1307	1618	3027		1560	3054	
Flt Permitted		0.89			0.79	1.00	0.21	1.00		0.38	1.00	
Satd. Flow (perm)		1373			1370	1307	354	3027		618	3054	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	87	23	100	82	132	14	618	65	196	1038	47
RTOR Reduction (vph)	0	12	0	0	0	97	0	11	0	0	4	0
Lane Group Flow (vph)	0	136	0	0	182	35	14	672	0	196	1081	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		13.9			13.9	13.9	29.1	29.1		29.1	29.1	
Effective Green, g (s)		13.9			13.9	13.9	29.1	29.1		29.1	29.1	
Actuated g/C Ratio		0.27			0.27	0.27	0.56	0.56		0.56	0.56	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		366			365	348	197	1687		345	1703	
v/s Ratio Prot								0.22			c0.35	
v/s Ratio Perm		0.10			c0.13	0.03	0.04			0.32		
v/c Ratio		0.37			0.50	0.10	0.07	0.40		0.57	0.63	
Uniform Delay, d1		15.6			16.2	14.4	5.3	6.6		7.5	7.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9			1.5	0.2	0.2	0.2		2.6	0.9	
Delay (s)		16.5			17.7	14.6	5.5	6.8		10.1	8.8	
Level of Service		B			B	B	A	A		B	A	
Approach Delay (s)		16.5			16.4			6.8			9.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	9.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	9.2
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	32	435	332	201	165	26
v/c Ratio	0.28	0.31	0.28	0.15	0.68	0.11
Control Delay	53.9	5.1	5.9	0.3	57.8	14.2
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	53.9	5.1	6.2	0.3	57.8	14.2
Queue Length 50th (ft)	22	78	35	0	111	0
Queue Length 95th (ft)	53	149	109	0	172	24
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	148	1402	1189	1496	454	411
Starvation Cap Reductn	0	0	336	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	0.22	0.31	0.39	0.13	0.36	0.06

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	29	400	305	185	152	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1570	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1570	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	435	332	201	165	26
RTOR Reduction (vph)	0	0	0	33	0	22
Lane Group Flow (vph)	32	435	332	168	165	4
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	5.3	84.4	75.1	92.1	17.0	17.0
Effective Green, g (s)	5.3	84.4	75.1	92.1	17.0	17.0
Actuated g/C Ratio	0.05	0.77	0.68	0.84	0.15	0.15
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	78	1402	1164	1315	241	208
v/s Ratio Prot	c0.02	c0.24	0.19	0.02	c0.11	
v/s Ratio Perm				0.09		0.00
v/c Ratio	0.41	0.31	0.29	0.13	0.68	0.02
Uniform Delay, d1	50.8	3.9	6.9	1.6	44.0	39.4
Progression Factor	1.00	1.00	0.65	0.19	1.00	1.00
Incremental Delay, d2	3.5	0.6	0.6	0.0	7.8	0.0
Delay (s)	54.3	4.5	5.0	0.4	51.8	39.5
Level of Service	D	A	A	A	D	D
Approach Delay (s)		7.9	3.3		50.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	318	273	175	190	329	327	3
v/c Ratio	0.41	0.34	0.75	0.18	0.71	0.57	0.04
Control Delay	18.5	1.5	64.4	10.7	44.2	13.7	45.3
Queue Delay	0.5	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	1.6	64.4	10.7	44.2	13.7	45.3
Queue Length 50th (ft)	100	0	118	50	208	53	1
Queue Length 95th (ft)	228	13	#208	117	286	124	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	782	803	263	1074	566	573	84
Starvation Cap Reductn	179	105	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	0.39	0.67	0.18	0.58	0.57	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	293	251	161	174	1	301	2	301	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		0.90	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1759	1466	1562	1703			1682	1729		1538	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)		1759	1466	1562	1703			1682	1729		1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	318	273	175	189	1	327	2	327	1	1	1
RTOR Reduction (vph)	0	0	159	0	0	0	0	0	175	0	1	0
Lane Group Flow (vph)	0	318	114	175	190	0	0	329	152	0	2	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		45.8	45.8	16.4	66.2			30.2	25.7		1.0	
Effective Green, g (s)		45.8	45.8	16.4	66.2			25.7	25.7		1.0	
Actuated g/C Ratio		0.42	0.42	0.15	0.60			0.23	0.23		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		732	610	233	1025			393	475		14	
v/s Ratio Prot		c0.18		c0.11	0.11			c0.20	0.03		c0.00	
v/s Ratio Perm			0.08						0.05			
v/c Ratio		0.43	0.19	0.75	0.19			0.84	0.32		0.14	
Uniform Delay, d1		22.9	20.3	44.8	9.8			40.2	34.9		54.1	
Progression Factor		0.70	0.10	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		1.8	0.6	12.8	0.4			14.3	0.4		4.7	
Delay (s)		17.9	2.7	57.6	10.2			54.5	35.3		58.8	
Level of Service		B	A	E	B			D	D		E	
Approach Delay (s)		10.9			32.9			44.9			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	61	140	25	170	249	211	26	373	116	308	779
v/c Ratio	0.34	0.49	0.10	0.57	0.51	0.39	0.21	0.58	0.36	0.72	0.54
Control Delay	50.0	44.9	16.3	45.2	34.9	6.9	52.9	39.0	18.1	42.4	20.0
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	50.0	44.9	16.3	45.2	34.9	6.9	52.9	39.0	18.1	42.4	20.0
Queue Length 50th (ft)	31	69	0	84	118	0	13	96	16	150	136
Queue Length 95th (ft)	95	170	26	202	253	58	52	196	79	318	299
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	217	587	506	469	881	807	132	1172	533	762	2243
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	0.24	0.05	0.36	0.28	0.26	0.20	0.32	0.22	0.40	0.35

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	129	23	156	229	194	24	343	107	283	649	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	3.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1446	1620	1739	1400	1652	3240	1332	1620	3032	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1446	1620	1739	1400	1652	3240	1332	1620	3032	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	140	25	170	249	211	26	373	116	308	705	74
RTOR Reduction (vph)	0	0	21	0	0	153	0	0	63	0	6	0
Lane Group Flow (vph)	61	140	4	170	249	58	26	373	53	308	773	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	7.6	15.5	15.5	16.5	25.3	25.3	2.4	20.3	20.3	24.5	42.4	
Effective Green, g (s)	7.5	15.4	15.4	16.4	25.2	25.2	1.4	19.8	19.8	23.5	41.9	
Actuated g/C Ratio	0.08	0.17	0.17	0.18	0.28	0.28	0.02	0.22	0.22	0.26	0.46	
Clearance Time (s)	3.0	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	136	294	244	292	481	387	25	704	290	418	1395	
v/s Ratio Prot	0.04	0.08		c0.10	c0.14		0.02	0.12		c0.19	c0.26	
v/s Ratio Perm			0.00			0.04			0.04			
v/c Ratio	0.45	0.48	0.02	0.58	0.52	0.15	1.04	0.53	0.18	0.74	0.55	
Uniform Delay, d1	39.8	34.2	31.5	34.2	27.8	24.9	44.8	31.5	29.1	31.0	17.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.2	1.7	0.0	3.5	1.3	0.2	192.8	0.9	0.4	7.1	0.6	
Delay (s)	43.0	35.9	31.6	37.7	29.1	25.1	237.6	32.5	29.5	38.0	18.4	
Level of Service	D	D	C	D	C	C	F	C	C	D	B	
Approach Delay (s)		37.3			30.1			42.2			24.0	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	91.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	690	53	960	826	164	499	1130	414	242	20
v/c Ratio	0.36	0.80	0.17	0.93	0.67	0.78	0.65	0.72	0.94	0.31	0.05
Control Delay	52.7	54.5	12.2	45.5	24.1	69.7	40.6	12.7	82.5	39.0	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	52.7	54.5	12.2	45.5	24.1	69.7	40.6	12.8	82.5	39.0	14.3
Queue Length 50th (ft)	51	188	0	297	201	114	163	282	166	81	0
Queue Length 95th (ft)	106	236	36	#491	242	#232	206	180	#265	120	21
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	217	873	320	1031	1379	210	769	1567	439	775	367
Starvation Cap Reductn	0	0	0	0	0	0	0	25	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	0.34	0.79	0.17	0.93	0.60	0.78	0.65	0.73	0.94	0.31	0.05

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	635	49	883	575	185	151	459	1040	381	223	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1473
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1473
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	690	53	960	625	201	164	499	1130	414	242	20
RTOR Reduction (vph)	0	0	43	0	27	0	0	0	0	0	0	15
Lane Group Flow (vph)	74	690	10	960	799	0	164	499	1130	414	242	5
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	14.5	21.6	21.6	38.0	45.1		15.0	25.2	68.7	16.2	26.4	26.4
Effective Green, g (s)	14.5	23.1	23.1	38.0	46.6		15.0	26.7	63.2	16.2	27.9	27.9
Actuated g/C Ratio	0.12	0.19	0.19	0.32	0.39		0.12	0.22	0.53	0.13	0.23	0.23
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	189	896	284	1031	1207		210	746	1425	439	753	342
v/s Ratio Prot	0.05	c0.15		c0.29	c0.26		0.10	0.15	c0.42	c0.13	0.07	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.39	0.77	0.04	0.93	0.66		0.78	0.67	0.79	0.94	0.32	0.01
Uniform Delay, d1	48.7	45.9	39.4	39.7	30.2		50.9	42.6	23.1	51.4	38.2	35.5
Progression Factor	1.00	1.00	1.00	0.78	0.73		0.89	0.87	0.54	1.00	1.00	1.00
Incremental Delay, d2	1.8	4.4	0.1	12.4	1.2		17.0	4.5	3.1	29.1	1.1	0.1
Delay (s)	50.5	50.3	39.5	43.6	23.2		62.4	41.4	15.5	80.6	39.3	35.5
Level of Service	D	D	D	D	C		E	D	B	F	D	D
Approach Delay (s)		49.6			34.2			27.0			64.5	
Approach LOS		D			C			C			E	

Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	235	1560	225	293	939	207	208	123	175
v/c Ratio	0.74	0.75	0.28	1.00	0.48	0.66	0.65	0.30	0.82
Control Delay	56.9	20.5	1.0	86.8	14.1	52.9	52.4	7.7	57.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	20.5	1.0	86.8	14.1	52.9	52.4	7.7	57.5
Queue Length 50th (ft)	144	239	0	234	124	157	157	0	36
Queue Length 95th (ft)	229	#543	10	#417	285	213	213	44	#98
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	378	2068	805	294	1958	469	476	548	214
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.75	0.28	1.00	0.48	0.44	0.44	0.22	0.82

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	216	1435	207	270	829	35	334	48	113	29	52	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1620	4655	1530	1678	4622		1539	1561	1514		3031	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1620	4655	1530	1678	4622		1539	1561	1514		3031	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	235	1560	225	293	901	38	363	52	123	32	57	86
RTOR Reduction (vph)	0	0	125	0	3	0	0	0	98	0	82	0
Lane Group Flow (vph)	235	1560	100	293	936	0	207	208	25	0	93	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	22.6	52.2	52.2	20.1	49.7		23.9	23.9	23.9		4.6	
Effective Green, g (s)	23.6	53.2	53.2	21.1	50.7		24.5	24.5	24.5		5.2	
Actuated g/C Ratio	0.20	0.44	0.44	0.18	0.42		0.20	0.20	0.20		0.04	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	319	2064	678	295	1953		314	319	309		131	
v/s Ratio Prot	0.15	c0.34		c0.17	0.20		c0.13	0.13			c0.03	
v/s Ratio Perm			0.07						0.02			
v/c Ratio	0.74	0.76	0.15	0.99	0.48		0.66	0.65	0.08		0.71	
Uniform Delay, d1	45.3	28.0	19.9	49.4	25.1		43.9	43.8	38.6		56.7	
Progression Factor	0.97	0.59	0.05	0.71	0.49		1.00	1.00	1.00		1.00	
Incremental Delay, d2	8.7	2.5	0.4	48.3	0.8		5.5	5.2	0.2		17.1	
Delay (s)	52.4	18.9	1.5	83.1	13.0		49.4	49.1	38.8		73.7	
Level of Service	D	B	A	F	B		D	D	D		E	
Approach Delay (s)		20.9			29.7			46.8			73.7	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	170	1695	116	610	230	155	304	85	534
v/c Ratio	0.56	0.80	0.68	0.50	0.71	0.17	0.48	0.46	0.78
Control Delay	27.5	9.3	72.0	31.4	64.8	33.4	10.5	63.3	50.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	9.3	72.0	31.4	64.8	33.4	10.5	63.3	50.6
Queue Length 50th (ft)	118	397	87	195	88	47	34	33	196
Queue Length 95th (ft)	m137	51	#166	258	#154	75	111	60	247
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	301	2124	181	1221	327	937	654	187	820
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.80	0.64	0.50	0.70	0.17	0.46	0.45	0.65

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	1264	295	107	539	22	212	143	280	78	390	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4594		1652	3268		3143	3240	1659	3204	3128	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4594		1652	3268		3143	3240	1659	3204	3128	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	1374	321	116	586	24	230	155	304	85	424	110
RTOR Reduction (vph)	0	30	0	0	3	0	0	0	178	0	20	0
Lane Group Flow (vph)	170	1665	0	116	607	0	230	155	126	85	514	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	22.4	53.1		12.5	43.2		13.9	33.4	33.4	6.4	25.9	
Effective Green, g (s)	22.3	54.1		12.4	44.2		12.9	33.0	33.0	5.4	25.5	
Actuated g/C Ratio	0.19	0.45		0.10	0.37		0.11	0.28	0.28	0.05	0.21	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	301	2071		171	1204		338	891	456	144	665	
v/s Ratio Prot	0.10	c0.36		c0.07	0.19		c0.07	0.05		0.03	c0.16	
v/s Ratio Perm									0.08			
v/c Ratio	0.56	0.80		0.68	0.50		0.68	0.17	0.28	0.59	0.77	
Uniform Delay, d1	44.4	28.4		51.9	29.4		51.6	33.1	34.1	56.2	44.5	
Progression Factor	0.48	0.24		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	2.6		11.1	1.5		6.0	0.1	0.5	7.4	5.9	
Delay (s)	23.3	9.3		63.0	30.9		57.6	33.2	34.6	63.6	50.4	
Level of Service	C	A		E	C		E	C	C	E	D	
Approach Delay (s)		10.6			36.0			42.0			52.2	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	82	111	578	2	1001	55	337	818
v/c Ratio	0.53	0.62	0.66	0.02	0.57	0.06	0.82	0.31
Control Delay	52.8	63.0	7.6	62.0	5.7	0.9	44.9	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	63.0	7.6	62.0	5.7	0.9	44.9	2.4
Queue Length 50th (ft)	51	82	0	1	93	1	164	8
Queue Length 95th (ft)	102	139	53	m3	158	m4	228	206
Internal Link Dist (ft)	387	336			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	193	230	955	84	1750	852	524	2662
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	0.42	0.48	0.61	0.02	0.57	0.06	0.64	0.31

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	1	19	102	0	532	2	921	51	310	711	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1694			1770	2787	1678	3355	1583	1770	3437	
Flt Permitted		0.61			0.72	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1071			1346	2787	1678	3355	1583	1770	3437	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	1	21	111	0	578	2	1001	55	337	773	45
RTOR Reduction (vph)	0	10	0	0	0	501	0	0	26	0	3	0
Lane Group Flow (vph)	0	72	0	0	111	77	2	1001	29	337	815	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		16.0			16.0	16.0	1.2	62.6	62.6	27.9	89.3	
Effective Green, g (s)		16.0			16.0	16.0	1.2	62.6	62.6	27.9	89.3	
Actuated g/C Ratio		0.13			0.13	0.13	0.01	0.52	0.52	0.23	0.74	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		143			179	372	17	1750	826	412	2558	
v/s Ratio Prot							0.00	c0.30		c0.19	0.24	
v/s Ratio Perm		0.07			c0.08	0.03			0.02			
v/c Ratio		0.50			0.62	0.21	0.12	0.57	0.03	0.82	0.32	
Uniform Delay, d1		48.3			49.1	46.3	58.9	19.6	14.0	43.6	5.1	
Progression Factor		1.00			1.00	1.00	1.13	0.21	0.15	0.69	0.45	
Incremental Delay, d2		2.7			6.5	0.3	2.3	1.0	0.1	11.1	0.3	
Delay (s)		51.0			55.6	46.6	68.9	5.2	2.2	41.1	2.6	
Level of Service		D			E	D	E	A	A	D	A	
Approach Delay (s)		51.0			48.1			5.1			13.8	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	110	38	110	112	202	50	360	234	623
v/c Ratio	0.29	0.11	0.39	0.27	0.43	0.20	0.46	0.55	0.40
Control Delay	19.3	7.6	22.2	18.8	6.5	26.9	18.7	23.7	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	7.6	22.2	18.8	6.5	26.9	18.7	23.7	11.0
Queue Length 50th (ft)	25	0	25	25	0	12	37	53	35
Queue Length 95th (ft)	76	20	80	76	44	55	112	165	158
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	1018	819	747	1110	909	327	1811	896	2645
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.05	0.15	0.10	0.22	0.15	0.20	0.26	0.24

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	77	35	101	103	186	46	261	70	215	498	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715	1259	1620	1739	1317	1711	2966		1620	3014	
Flt Permitted		0.92	1.00	0.69	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1596	1259	1170	1739	1317	1711	2966		1620	3014	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	84	38	110	112	202	50	284	76	234	541	82
RTOR Reduction (vph)	0	0	29	0	0	155	0	26	0	0	12	0
Lane Group Flow (vph)	0	110	9	110	112	47	50	334	0	234	611	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		12.2	12.2	12.2	12.2	12.2	2.7	15.2		13.4	25.9	
Effective Green, g (s)		12.2	12.2	12.2	12.2	12.2	2.7	15.2		13.4	25.9	
Actuated g/C Ratio		0.23	0.23	0.23	0.23	0.23	0.05	0.29		0.26	0.50	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		372	294	273	406	307	88	862		415	1493	
v/s Ratio Prot					0.06		0.03	0.11		c0.14	c0.20	
v/s Ratio Perm		0.07	0.01	c0.09		0.04						
v/c Ratio		0.30	0.03	0.40	0.28	0.15	0.57	0.39		0.56	0.41	
Uniform Delay, d1		16.5	15.5	17.0	16.4	15.9	24.2	14.8		16.9	8.4	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.0	1.0	0.4	0.2	8.2	0.4		1.8	0.3	
Delay (s)		17.0	15.5	17.9	16.8	16.2	32.4	15.2		18.7	8.6	
Level of Service		B	B	B	B	B	C	B		B	A	
Approach Delay (s)		16.6			16.8			17.3			11.4	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	52.3	Sum of lost time (s)	7.0
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	247	308	97	85	304	103	127	870	86	719
v/c Ratio	0.82	0.53	0.20	0.56	0.82	0.26	0.73	0.70	0.72	0.62
Control Delay	68.5	37.9	6.8	65.8	64.2	9.0	75.6	34.5	81.5	31.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.5	37.9	6.8	65.8	64.2	9.0	75.6	34.5	81.5	31.6
Queue Length 50th (ft)	181	194	0	63	223	0	96	304	62	265
Queue Length 95th (ft)	#299	285	39	117	#330	46	#188	387	#150	330
Internal Link Dist (ft)		2946			524			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	329	593	486	173	410	423	182	1247	119	1156
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.52	0.20	0.49	0.74	0.24	0.70	0.70	0.72	0.62

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	227	283	89	78	280	95	117	669	132	79	604	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1845	1306	1593	1863	1559	1652	3145		1593	3178	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3145		1593	3178	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	247	308	97	85	304	103	127	727	143	86	657	62
RTOR Reduction (vph)	0	0	67	0	0	83	0	13	0	0	6	0
Lane Group Flow (vph)	247	308	30	85	304	20	127	857	0	86	713	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	23.7	37.6	37.6	9.9	23.8	23.8	12.7	46.3		9.0	42.6	
Effective Green, g (s)	23.7	37.6	37.6	9.9	23.8	23.8	12.7	46.3		9.0	42.6	
Actuated g/C Ratio	0.20	0.31	0.31	0.08	0.20	0.20	0.11	0.39		0.08	0.36	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	311	578	409	131	369	309	175	1213		119	1128	
v/s Ratio Prot	c0.16	0.17		0.05	c0.16		0.08	c0.27		0.05	c0.22	
v/s Ratio Perm			0.02			0.01						
v/c Ratio	0.79	0.53	0.07	0.65	0.82	0.07	0.73	0.71		0.72	0.63	
Uniform Delay, d1	45.8	34.0	29.0	53.4	46.1	39.1	52.0	31.1		54.3	32.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.92	0.89	
Incremental Delay, d2	13.7	1.2	0.1	11.7	14.4	0.1	14.8	3.5		19.8	2.6	
Delay (s)	59.6	35.2	29.1	65.1	60.5	39.2	66.7	34.6		69.9	31.2	
Level of Service	E	D	C	E	E	D	E	C		E	C	
Approach Delay (s)		43.5			56.8			38.7			35.3	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	41.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	11	534	21	367	74	69	149	48	48
v/c Ratio	0.12	0.46	0.23	0.28	0.39	0.24	0.77	0.18	0.41
Control Delay	55.4	14.9	61.7	11.3	53.5	12.5	76.4	14.0	61.2
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	15.1	61.7	11.3	53.5	12.5	76.4	14.0	61.2
Queue Length 50th (ft)	8	242	17	112	55	1	117	1	35
Queue Length 95th (ft)	26	365	44	243	102	42	189	36	75
Internal Link Dist (ft)		522		1458		986		464	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	92	1172	95	1328	233	339	237	322	240
Starvation Cap Reductn	0	187	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.54	0.22	0.28	0.32	0.20	0.63	0.15	0.20

Intersection Summary

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	478	13	19	323	15	68	1	63	137	1	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	8	9	14	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1854		1593	1974		1711	1587		1770	1589	
Flt Permitted	0.95	1.00		0.95	1.00		0.73	1.00		0.71	1.00	
Satd. Flow (perm)	1770	1854		1593	1974		1307	1587		1326	1589	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	520	14	21	351	16	74	1	68	149	1	47
RTOR Reduction (vph)	0	0	0	0	0	0	0	58	0	0	40	0
Lane Group Flow (vph)	11	534	0	21	367	0	74	11	0	149	8	0
Confl. Peds. (#/hr)			2									
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.6	76.9		4.9	80.2		18.4	18.4		18.4	18.4	
Effective Green, g (s)	1.6	76.9		4.9	80.2		18.4	18.4		18.4	18.4	
Actuated g/C Ratio	0.01	0.61		0.04	0.64		0.15	0.15		0.15	0.15	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	22	1132		62	1256		191	232		194	232	
v/s Ratio Prot	0.01	c0.29		c0.01	c0.19			0.01			0.00	
v/s Ratio Perm							0.06			c0.11		
v/c Ratio	0.50	0.47		0.34	0.29		0.39	0.05		0.77	0.03	
Uniform Delay, d1	61.8	13.4		59.0	10.2		48.7	46.3		51.7	46.2	
Progression Factor	0.93	0.87		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.4	1.4		3.2	0.6		1.3	0.1		16.5	0.1	
Delay (s)	73.9	13.1		62.2	10.8		50.0	46.3		68.3	46.2	
Level of Service	E	B		E	B		D	D		E	D	
Approach Delay (s)		14.3			13.6			48.2			62.9	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	126.0	Sum of lost time (s)	22.5
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SWR	SWR2
Lane Configurations		
Volume (vph)	40	5
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.5	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1611	
Flt Permitted	1.00	
Satd. Flow (perm)	1611	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	43	5
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	44	0
Confl. Peds. (#/hr)		
Parking (#/hr)		
Turn Type	custom	
Protected Phases	9	
Permitted Phases	9	
Actuated Green, G (s)	7.8	
Effective Green, g (s)	7.8	
Actuated g/C Ratio	0.06	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	100	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.44	
Uniform Delay, d1	57.0	
Progression Factor	1.00	
Incremental Delay, d2	3.1	
Delay (s)	60.1	
Level of Service	E	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	104	702	7	258	59	110	13	43	367
v/c Ratio	0.35	0.74	0.05	0.48	0.30	0.19	0.03	0.12	0.62
Control Delay	27.5	18.6	30.5	19.6	20.4	15.7	8.2	15.6	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	18.6	30.5	19.6	20.4	15.7	8.2	15.6	19.5
Queue Length 50th (ft)	28	135	2	62	14	25	0	9	82
Queue Length 95th (ft)	91	#483	15	150	48	67	11	34	192
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	345	1198	138	823	347	1033	741	658	1013
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.59	0.05	0.31	0.17	0.11	0.02	0.07	0.36

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	96	449	197	6	180	57	54	101	12	40	203	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	0.96		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1925		1711	1645		1652	1863	1327	1644	1787	
Flt Permitted	0.95	1.00		0.95	1.00		0.36	1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1711	1925		1711	1645		625	1863	1327	1188	1787	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	488	214	7	196	62	59	110	13	43	221	146
RTOR Reduction (vph)	0	19	0	0	15	0	0	0	9	0	35	0
Lane Group Flow (vph)	104	683	0	7	243	0	59	110	4	43	332	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	7.1	25.7		0.6	19.2		16.5	16.5	16.5	16.5	16.5	
Effective Green, g (s)	7.1	25.7		0.6	19.2		16.5	16.5	16.5	16.5	16.5	
Actuated g/C Ratio	0.13	0.46		0.01	0.34		0.30	0.30	0.30	0.30	0.30	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	218	887		18	566		185	551	392	351	528	
v/s Ratio Prot	c0.06	c0.35		0.00	0.15			0.06			c0.19	
v/s Ratio Perm							0.09		0.00	0.04		
v/c Ratio	0.48	0.77		0.39	0.43		0.32	0.20	0.01	0.12	0.63	
Uniform Delay, d1	22.6	12.6		27.4	14.1		15.3	14.7	13.9	14.4	17.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.2	4.4		17.9	0.7		1.4	0.2	0.0	0.2	2.7	
Delay (s)	24.9	17.0		45.3	14.8		16.6	15.0	13.9	14.6	19.7	
Level of Service	C	B		D	B		B	B	B	B	B	
Approach Delay (s)		18.0			15.6			15.4			19.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	55.8	Sum of lost time (s)	13.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	163	328	10	48	102	283	64	20	536
v/c Ratio	0.47	0.40	0.08	0.16	0.36	0.20	0.10	0.13	0.58
Control Delay	32.5	4.1	38.2	16.4	32.7	13.2	5.3	37.2	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	4.1	38.2	16.4	32.7	13.2	5.3	37.2	22.8
Queue Length 50th (ft)	49	3	3	8	32	26	0	7	80
Queue Length 95th (ft)	#177	55	23	36	112	96	28	36	193
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	438	1202	121	1000	362	2071	945	156	1717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.27	0.08	0.05	0.28	0.14	0.07	0.13	0.31

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	13	289	9	23	21	95	260	59	18	390	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.93		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1510		1652	1598		1652	3240	1453	1711	3263	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1510		1652	1598		1652	3240	1453	1711	3263	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	14	314	10	25	23	102	283	64	20	424	112
RTOR Reduction (vph)	0	190	0	0	18	0	0	0	39	0	24	0
Lane Group Flow (vph)	163	138	0	10	30	0	102	283	25	20	512	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	12.5	25.9		0.5	13.9		7.9	26.1	26.1	0.6	18.8	
Effective Green, g (s)	12.5	25.9		0.5	13.9		7.9	26.1	26.1	0.6	18.8	
Actuated g/C Ratio	0.19	0.39		0.01	0.21		0.12	0.40	0.40	0.01	0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	326	596		13	339		199	1289	578	16	935	
v/s Ratio Prot	c0.10	c0.09		0.01	0.02		c0.06	0.09		c0.01	c0.16	
v/s Ratio Perm									0.02			
v/c Ratio	0.50	0.23		0.77	0.09		0.51	0.22	0.04	1.25	0.55	
Uniform Delay, d1	23.8	13.2		32.5	20.8		27.0	13.0	12.1	32.5	19.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.3		133.9	0.2		2.9	0.1	0.0	314.0	0.8	
Delay (s)	25.4	13.5		166.4	20.9		30.0	13.1	12.1	346.5	20.6	
Level of Service	C	B		F	C		C	B	B	F	C	
Approach Delay (s)		17.4			46.0			16.8			32.4	
Approach LOS		B			D			B			C	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	65.6	Sum of lost time (s)	9.5
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	59	23	5	811	1033
v/c Ratio	0.42	0.17	0.01	0.29	0.37
Control Delay	56.1	19.9	2.2	2.3	2.6
Queue Delay	0.0	0.0	0.0	0.8	0.0
Total Delay	56.1	19.9	2.2	3.1	2.6
Queue Length 50th (ft)	40	0	0	48	67
Queue Length 95th (ft)	80	25	3	81	111
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	375	320	403	2787	2776
Starvation Cap Reductn	0	0	0	1560	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.07	0.01	0.66	0.37

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	54	21	5	746	925	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3226	
Flt Permitted	0.95	1.00	0.27	1.00	1.00	
Satd. Flow (perm)	1652	1330	469	3240	3226	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	23	5	811	1005	28
RTOR Reduction (vph)	0	21	0	0	1	0
Lane Group Flow (vph)	59	2	5	811	1032	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	8.2	8.2	92.8	92.8	92.8	
Effective Green, g (s)	8.2	8.2	92.8	92.8	92.8	
Actuated g/C Ratio	0.07	0.07	0.84	0.84	0.84	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	123	99	396	2733	2722	
v/s Ratio Prot	c0.04			0.25	c0.32	
v/s Ratio Perm		0.00	0.01			
v/c Ratio	0.48	0.02	0.01	0.30	0.38	
Uniform Delay, d1	48.9	47.2	1.4	1.8	2.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.9	0.1	0.1	0.3	0.4	
Delay (s)	51.8	47.2	1.4	2.1	2.4	
Level of Service	D	D	A	A	A	
Approach Delay (s)	50.5			2.1	2.4	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1163	1126	311	1265	680	610
v/c Ratio	0.77	0.63	0.56	0.57	0.40	0.72
Control Delay	30.2	4.6	41.3	9.7	0.7	35.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	4.6	41.3	9.7	0.7	35.5
Queue Length 50th (ft)	347	48	92	274	0	186
Queue Length 95th (ft)	m410	m48	121	186	0	261
Internal Link Dist (ft)	363			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1507	1794	553	2223	1686	844
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	0.77	0.63	0.56	0.57	0.40	0.72

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1070	1036	286	1164	0	0	0	626	0	0	561
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1163	1126	311	1265	0	0	0	680	0	0	610
RTOR Reduction (vph)	0	0	607	0	0	0	0	0	0	0	0	112
Lane Group Flow (vph)	0	1163	519	311	1265	0	0	0	680	0	0	498
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		53.9	53.9	21.1	79.5				120.0			31.5
Effective Green, g (s)		53.9	53.9	21.1	79.5				120.0			31.5
Actuated g/C Ratio		0.45	0.45	0.18	0.66				1.00			0.26
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1507	1187	553	2223				1686			732
v/s Ratio Prot		c0.35		0.10	c0.38							c0.18
v/s Ratio Perm			0.20						0.40			
v/c Ratio		0.77	0.44	0.56	0.57				0.40			0.68
Uniform Delay, d1		27.9	22.7	45.2	11.0				0.0			39.7
Progression Factor		0.98	2.31	0.82	0.78				1.00			1.00
Incremental Delay, d2		1.7	0.2	4.0	1.0				0.7			5.1
Delay (s)		28.9	52.5	41.0	9.6				0.7			44.8
Level of Service		C	D	D	A				A			D
Approach Delay (s)		40.5			15.8			0.7			44.8	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	478	1374	760	497	549	810
v/c Ratio	0.77	0.41	0.31	0.43	0.34	0.53
Control Delay	33.1	0.3	1.8	2.8	0.6	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	0.3	1.8	2.8	0.6	1.3
Queue Length 50th (ft)	161	0	2	0	0	0
Queue Length 95th (ft)	209	0	11	m29	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	982	3355	2442	1154	1611	1528
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	0.49	0.41	0.31	0.43	0.34	0.53

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1264	0	0	699	457	0	0	505	0	0	745
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	1374	0	0	760	497	0	0	549	0	0	810
RTOR Reduction (vph)	0	0	0	0	0	40	0	0	0	0	0	0
Lane Group Flow (vph)	478	1374	0	0	760	457	0	0	549	0	0	810
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	23.7	120.0			87.3	87.3			120.0			120.0
Effective Green, g (s)	23.7	120.0			87.3	87.3			120.0			120.0
Actuated g/C Ratio	0.20	1.00			0.73	0.73			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	621	3355			2441	1114			1611			1528
v/s Ratio Prot	c0.15	0.41			0.23							
v/s Ratio Perm						0.30			0.34			c0.53
v/c Ratio	0.77	0.41			0.31	0.41			0.34			0.53
Uniform Delay, d1	45.6	0.0			5.8	6.4			0.0			0.0
Progression Factor	0.58	1.00			0.25	0.37			1.00			1.00
Incremental Delay, d2	4.5	0.1			0.3	1.0			0.6			1.3
Delay (s)	30.7	0.1			1.7	3.3			0.6			1.3
Level of Service	C	A			A	A			A			A
Approach Delay (s)		8.0			2.4			0.6			1.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	4.5
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	447	663	975	231	17	272	558	25	75	798	172
v/c Ratio	1.16	0.95	0.55	0.68	0.05	0.92	0.38	0.05	0.47	0.81	0.33
Control Delay	122.7	54.8	1.2	47.1	14.0	76.1	22.8	10.5	52.6	40.0	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.7	54.8	1.2	47.1	14.0	76.1	22.8	10.5	52.6	40.0	15.6
Queue Length 50th (ft)	~276	398	0	135	0	172	137	2	46	248	40
Queue Length 95th (ft)	#527	#630	0	219	18	#325	184	20	92	323	95
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	386	706	1770	348	347	297	1450	546	172	991	527
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	1.16	0.94	0.55	0.66	0.05	0.92	0.38	0.05	0.44	0.81	0.33

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	411	610	897	8	204	16	250	513	23	69	734	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	3.6	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1735	1475	1652	3539	1337	1652	3303	1551
Flt Permitted	0.34	1.00	1.00		0.88	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	597	1739	1770		1538	1475	1652	3539	1337	1652	3303	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	447	663	975	9	222	17	272	558	25	75	798	172
RTOR Reduction (vph)	0	0	0	0	0	13	0	0	12	0	0	62
Lane Group Flow (vph)	447	663	975	0	231	4	272	558	13	75	798	110
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	39.5	39.5	100.0		21.5	21.5	17.0	39.0	39.0	7.5	29.0	29.0
Effective Green, g (s)	40.0	40.0	100.0		22.0	22.0	18.0	40.0	39.0	8.4	30.0	30.0
Actuated g/C Ratio	0.40	0.40	1.00		0.22	0.22	0.18	0.40	0.39	0.08	0.30	0.30
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	387	696	1770		338	325	297	1416	521	139	991	465
v/s Ratio Prot	c0.16	0.38					c0.16	0.16		0.05	c0.24	
v/s Ratio Perm	c0.30		0.55		0.15	0.00			0.01			0.07
v/c Ratio	1.16	0.95	0.55		0.68	0.01	0.92	0.39	0.02	0.54	0.81	0.24
Uniform Delay, d1	27.4	29.1	0.0		35.8	30.5	40.3	21.4	18.8	43.9	32.3	26.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	95.2	23.2	1.2		6.1	0.0	31.0	0.8	0.1	4.5	7.0	1.2
Delay (s)	122.5	52.2	1.2		41.9	30.5	71.3	22.2	18.9	48.4	39.3	27.6
Level of Service	F	D	A		D	C	E	C	B	D	D	C
Approach Delay (s)		43.5			41.1			37.7			38.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	40.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	91	1674	141	1243
v/c Ratio	0.44	0.52	0.40	0.77	0.43
Control Delay	62.6	33.3	1.4	40.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.3
Total Delay	62.6	33.3	1.4	40.3	0.9
Queue Length 50th (ft)	36	26	22	47	7
Queue Length 95th (ft)	72	76	29	m#82	m22
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)					
Base Capacity (vph)	233	307	4147	183	2916
Starvation Cap Reductn	0	0	0	0	842
Spillback Cap Reductn	0	0	26	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.30	0.41	0.77	0.60

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	44	0	84	0	1506	34	130	1143	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		1.00		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1562	1394		4935		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.13	1.00	
Satd. Flow (perm)					1245	1394		4935		217	3471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	48	0	91	0	1637	37	141	1242	1
RTOR Reduction (vph)	0	0	0	0	0	51	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	40	0	1673	0	141	1243	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					10.6	10.6		100.8		100.8	100.8	
Effective Green, g (s)					10.6	10.6		100.8		100.8	100.8	
Actuated g/C Ratio					0.09	0.09		0.84		0.84	0.84	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					110	123		4145		182	2916	
v/s Ratio Prot								0.34			0.36	
v/s Ratio Perm					c0.04	0.03				c0.65		
v/c Ratio					0.44	0.32		0.40		0.77	0.43	
Uniform Delay, d1					51.9	51.3		2.3		4.4	2.4	
Progression Factor					1.00	1.00		0.46		2.53	0.14	
Incremental Delay, d2					2.8	1.5		0.2		19.7	0.3	
Delay (s)					54.6	52.9		1.3		30.9	0.7	
Level of Service					D	D		A		C	A	
Approach Delay (s)		0.0			53.5			1.3			3.7	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	11	410	471	134	54
v/c Ratio	0.06	0.30	0.19	0.47	0.18
Control Delay	26.4	4.7	7.3	28.8	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	4.7	7.3	28.8	8.4
Queue Length 50th (ft)	4	48	32	47	0
Queue Length 95th (ft)	17	104	122	87	24
Internal Link Dist (ft)		524	522	183	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	211	1388	2489	576	552
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.05	0.30	0.19	0.23	0.10

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	10	377	408	26	123	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3508		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3508		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	410	443	28	134	54
RTOR Reduction (vph)	0	0	4	0	0	46
Lane Group Flow (vph)	11	410	467	0	134	8
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	1.4	45.1	39.2		8.9	8.9
Effective Green, g (s)	1.4	45.1	39.2		8.9	8.9
Actuated g/C Ratio	0.02	0.72	0.62		0.14	0.14
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	39	1334	2183		250	224
v/s Ratio Prot	0.01	c0.22	0.13		c0.08	
v/s Ratio Perm						0.00
v/c Ratio	0.28	0.31	0.21		0.54	0.03
Uniform Delay, d1	30.3	3.3	5.2		25.1	23.3
Progression Factor	1.00	1.00	1.44		1.00	1.00
Incremental Delay, d2	3.9	0.6	0.2		2.2	0.1
Delay (s)	34.2	3.9	7.7		27.3	23.4
Level of Service	C	A	A		C	C
Approach Delay (s)		4.7	7.7		26.2	
Approach LOS		A	A		C	

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	42	178	293	166	863	27	914	245	674	689	68
v/c Ratio	0.56	0.44	0.29	0.24	0.87	0.36	0.74	0.26	0.94	0.45	0.09
Control Delay	93.2	53.2	37.3	28.4	29.6	78.9	50.5	1.6	74.3	26.9	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.2	53.2	37.3	28.4	29.6	78.9	50.5	1.6	74.3	26.9	5.5
Queue Length 50th (ft)	39	74	99	99	582	24	283	0	319	236	0
Queue Length 95th (ft)	#91	103	158	155	#889	58	337	20	#447	295	29
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	79	1031	1017	715	996	82	1271	956	717	1530	750
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	0.53	0.17	0.29	0.23	0.87	0.33	0.72	0.26	0.94	0.45	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	137	27	270	153	794	25	841	225	620	634	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	2.5	2.5		2.5	2.5	2.5	2.5	1.8	1.8	2.5	1.8	1.8
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3110		3255	1689	1501	1620	4655	1449	3143	3240	1514
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3110		3255	1689	1501	1620	4655	1449	3143	3240	1514
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	149	29	293	166	863	27	914	245	674	689	68
RTOR Reduction (vph)	0	15	0	0	0	18	0	0	100	0	0	36
Lane Group Flow (vph)	42	163	0	293	166	845	27	914	145	674	689	32
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	4.2	15.1		42.4	53.3	87.9	3.4	35.7	78.1	30.1	62.4	62.4
Effective Green, g (s)	5.2	17.1		43.4	55.3	89.9	4.4	37.7	82.1	31.1	64.4	64.4
Actuated g/C Ratio	0.04	0.12		0.31	0.40	0.65	0.03	0.27	0.59	0.22	0.46	0.46
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	3.0	3.0
Lane Grp Cap (vph)	63	384		1019	674	974	51	1266	858	705	1505	703
v/s Ratio Prot	c0.03	0.05		0.09	0.10	c0.56	0.02	c0.20	0.10	c0.21	0.21	
v/s Ratio Perm												0.02
v/c Ratio	0.67	0.42		0.29	0.25	0.87	0.53	0.72	0.17	0.96	0.46	0.04
Uniform Delay, d1	65.8	56.2		35.9	27.8	19.6	66.1	45.7	12.8	53.1	25.2	20.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.7	1.3		0.1	0.3	8.5	4.5	2.2	0.1	23.2	0.2	0.0
Delay (s)	84.5	57.5		36.0	28.0	28.1	70.6	47.9	12.9	76.3	25.5	20.3
Level of Service	F	E		D	C	C	E	D	B	E	C	C
Approach Delay (s)		62.7			29.8			41.2			49.2	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM Average Control Delay	41.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	138.6	Sum of lost time (s)	6.8
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	135	946	25	1217	153	28	149	182	124
v/c Ratio	0.71	0.43	0.15	0.65	0.18	0.25	0.64	0.48	0.51
Control Delay	63.9	9.9	59.8	8.0	0.5	50.7	21.2	46.6	28.4
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	9.9	59.8	8.1	0.5	50.7	21.2	46.6	28.4
Queue Length 50th (ft)	88	87	17	60	1	18	1	60	36
Queue Length 95th (ft)	150	258	m29	202	2	45	60	92	92
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	222	2208	170	1869	864	224	318	461	278
Starvation Cap Reductn	0	0	0	114	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.43	0.15	0.69	0.18	0.13	0.47	0.39	0.45

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	124	852	18	23	1104	156	26	2	135	167	42	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	2.0	3.0		2.0	3.0	3.0	2.0	2.0		2.0	2.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3168		1620	3067	1319	1678	1431		3143	1502	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3168		1620	3067	1319	1678	1431		3143	1502	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	926	20	25	1200	170	28	2	147	182	46	78
RTOR Reduction (vph)	0	1	0	0	1	60	0	137	0	0	59	0
Lane Group Flow (vph)	135	945	0	25	1216	93	28	12	0	182	65	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	11.4	70.3		4.0	62.9	62.9	6.0	6.0		11.7	11.7	
Effective Green, g (s)	12.4	71.3		5.0	63.9	63.9	7.0	7.0		12.7	12.7	
Actuated g/C Ratio	0.12	0.68		0.05	0.61	0.61	0.07	0.07		0.12	0.12	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	191	2151		77	1866	803	112	95		380	182	
v/s Ratio Prot	c0.08	0.30		0.02	c0.40		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.07						
v/c Ratio	0.71	0.44		0.32	0.65	0.12	0.25	0.12		0.48	0.36	
Uniform Delay, d1	44.6	7.7		48.4	13.3	8.7	46.5	46.1		43.1	42.4	
Progression Factor	1.00	1.00		1.35	0.42	0.07	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.3	0.7		0.7	1.4	0.2	0.4	0.2		1.0	1.2	
Delay (s)	53.9	8.4		65.9	7.0	0.9	46.9	46.3		44.0	43.6	
Level of Service	D	A		E	A	A	D	D		D	D	
Approach Delay (s)		14.0			7.4			46.4			43.9	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	28	1183	325	1294	171	229	121	101
v/c Ratio	0.30	0.50	0.75	0.61	0.71	0.25	0.69	0.54
Control Delay	60.4	13.9	53.9	11.5	59.6	4.0	64.0	47.4
Queue Delay	0.0	0.2	0.0	0.1	0.0	0.0	1.4	0.0
Total Delay	60.4	14.1	53.9	11.6	59.6	4.0	65.4	47.4
Queue Length 50th (ft)	18	205	108	239	111	0	79	56
Queue Length 95th (ft)	m47	159	153	300	176	28	135	106
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	98	2375	474	2110	310	947	238	250
Starvation Cap Reductn	0	411	0	114	0	0	0	0
Spillback Cap Reductn	0	132	0	39	0	17	33	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.60	0.69	0.65	0.55	0.25	0.59	0.40

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	954	134	299	1136	54	139	18	211	111	69	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	2.0	3.0		2.5	3.0			2.0	2.5	2.0	2.0	
Lane Util. Factor	1.00	0.91		0.97	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99			1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4484		3143	3298			1808	2806	1562	1562	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4484		3143	3298			1808	2806	1562	1562	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	1037	146	325	1235	59	151	20	229	121	75	26
RTOR Reduction (vph)	0	15	0	0	3	0	0	0	167	0	12	0
Lane Group Flow (vph)	28	1168	0	325	1291	0	0	171	62	121	89	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	3.3	54.3		13.5	65.0			12.9	26.4	10.8	10.8	
Effective Green, g (s)	4.3	55.3		14.5	66.0			13.9	28.4	11.8	11.8	
Actuated g/C Ratio	0.04	0.53		0.14	0.63			0.13	0.27	0.11	0.11	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	66	2362		434	2073			239	759	176	176	
v/s Ratio Prot	0.02	0.26		c0.10	c0.39			c0.09	0.01	c0.08	0.06	
v/s Ratio Perm									0.01			
v/c Ratio	0.42	0.49		0.75	0.62			0.72	0.08	0.69	0.50	
Uniform Delay, d1	49.1	15.9		43.5	11.9			43.7	28.6	44.8	43.8	
Progression Factor	1.11	0.77		1.01	0.76			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.7		5.2	1.2			8.2	0.0	8.6	0.8	
Delay (s)	55.8	13.0		49.3	10.3			51.8	28.6	53.4	44.7	
Level of Service	E	B		D	B			D	C	D	D	
Approach Delay (s)		14.0			18.1			38.5			49.4	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	582	1486	1225	446	191	250	249
v/c Ratio	0.25	1.03	0.53	0.30	0.51	0.57	0.56
Control Delay	3.3	49.1	8.0	0.5	41.1	25.3	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.3	49.1	8.0	0.5	41.1	25.3	24.6
Queue Length 50th (ft)	25	~903	173	0	118	87	83
Queue Length 95th (ft)	40	#1335	219	0	194	180	170
Internal Link Dist (ft)	509		867			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2351	1439	2292	1478	371	440	444
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	0.25	1.03	0.53	0.30	0.51	0.57	0.56

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	535	1367	0	1127	410	0	0	0	195	0	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.86	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	1.00	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1607	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	1.00	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1607	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	582	1486	0	1225	446	0	0	0	212	0	478
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	88	87
Lane Group Flow (vph)	0	582	1486	0	1225	446	0	0	0	191	162	162
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Prot
Protected Phases		2			6					4	4	4
Permitted Phases			2 4			Free				4		
Actuated Green, G (s)		74.0	105.0		74.0	105.0				23.0	23.0	23.0
Effective Green, g (s)		75.0	105.0		75.0	105.0				24.0	23.0	24.0
Actuated g/C Ratio		0.71	1.00		0.71	1.00				0.23	0.22	0.23
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2351	1439		2292	1478				371	352	356
v/s Ratio Prot		0.18			0.38					0.12	0.10	0.10
v/s Ratio Perm			c1.03			0.30						
v/c Ratio		0.25	1.03		0.53	0.30				0.51	0.46	0.45
Uniform Delay, d1		5.2	52.5		6.9	0.0				35.4	35.6	34.9
Progression Factor		0.57	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.2	32.2		0.9	0.5				1.6	1.3	1.3
Delay (s)		3.2	84.7		7.8	0.5				37.0	36.9	36.1
Level of Service		A	F		A	A				D	D	D
Approach Delay (s)		61.8			5.9			0.0			36.7	
Approach LOS		E			A			A			D	

Intersection Summary			
HCM Average Control Delay	36.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	196	27	42	116	287	122
v/c Ratio	0.53	0.08	0.21	0.09	0.28	0.12
Control Delay	25.2	7.6	26.1	4.4	9.1	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	7.6	26.1	4.4	9.1	2.9
Queue Length 50th (ft)	63	0	14	11	32	0
Queue Length 95th (ft)	105	15	39	33	124	25
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	587	543	216	1242	1034	994
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	0.33	0.05	0.19	0.09	0.28	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	180	25	39	107	264	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1562
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	27	42	116	287	122
RTOR Reduction (vph)	0	21	0	0	0	53
Lane Group Flow (vph)	196	6	42	116	287	69
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	12.2	12.2	2.8	39.8	33.0	33.0
Effective Green, g (s)	13.2	13.2	3.8	40.8	34.0	34.0
Actuated g/C Ratio	0.22	0.22	0.06	0.68	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	369	330	103	1242	966	885
v/s Ratio Prot	c0.12		c0.03	0.06	c0.17	
v/s Ratio Perm		0.00				0.04
v/c Ratio	0.53	0.02	0.41	0.09	0.30	0.08
Uniform Delay, d1	20.7	18.3	27.0	3.3	6.8	5.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0	2.6	0.1	0.8	0.2
Delay (s)	22.1	18.3	29.6	3.4	7.6	6.1
Level of Service	C	B	C	A	A	A
Approach Delay (s)	21.7			10.4	7.1	
Approach LOS	C			B	A	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	213	250	249	30	989	49	757
v/c Ratio	0.48	0.61	0.51	0.11	0.68	0.28	0.52
Control Delay	18.0	22.4	13.6	10.0	13.4	14.8	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	22.4	13.6	10.0	13.4	14.8	11.1
Queue Length 50th (ft)	49	65	38	5	110	8	75
Queue Length 95th (ft)	110	139	100	20	203	35	142
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	661	625	697	352	1949	231	1953
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	0.32	0.40	0.36	0.09	0.51	0.21	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	116	21	137	93	229	28	827	83	45	647	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.99			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1537			1681	1308	1616	3029		1561	3039	
Flt Permitted		0.84			0.72	1.00	0.32	1.00		0.22	1.00	
Satd. Flow (perm)		1314			1252	1308	549	3029		359	3039	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	126	23	149	101	249	30	899	90	49	703	54
RTOR Reduction (vph)	0	7	0	0	0	60	0	12	0	0	9	0
Lane Group Flow (vph)	0	206	0	0	250	189	30	977	0	49	748	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		16.9			16.9	16.9	24.5	24.5		24.5	24.5	
Effective Green, g (s)		16.9			16.9	16.9	24.5	24.5		24.5	24.5	
Actuated g/C Ratio		0.33			0.33	0.33	0.48	0.48		0.48	0.48	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		439			418	437	266	1467		174	1471	
v/s Ratio Prot								c0.32			0.25	
v/s Ratio Perm		0.16			c0.20	0.14	0.05			0.14		
v/c Ratio		0.47			0.60	0.43	0.11	0.67		0.28	0.51	
Uniform Delay, d1		13.3			14.0	13.1	7.1	9.9		7.8	8.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1			2.7	0.9	0.3	1.3		1.2	0.4	
Delay (s)		14.4			16.7	14.1	7.4	11.2		9.0	9.3	
Level of Service		B			B	B	A	B		A	A	
Approach Delay (s)		14.4			15.4			11.1			9.3	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	50.6	Sum of lost time (s)	9.2
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	28	289	598	182	278	28
v/c Ratio	0.27	0.22	0.54	0.13	0.88	0.10
Control Delay	55.2	5.9	12.3	0.3	70.1	18.0
Queue Delay	0.0	0.0	0.8	0.0	0.0	0.0
Total Delay	55.2	5.9	13.0	0.3	70.1	18.0
Queue Length 50th (ft)	19	64	143	0	188	4
Queue Length 95th (ft)	49	96	303	m0	#326	28
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	118	1314	1117	1400	341	311
Starvation Cap Reductn	0	0	240	0	0	0
Spillback Cap Reductn	0	5	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.22	0.68	0.13	0.82	0.09

Intersection Summary

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.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	26	266	550	167	256	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1576	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1576	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	289	598	182	278	28
RTOR Reduction (vph)	0	0	0	29	0	17
Lane Group Flow (vph)	28	289	598	153	278	11
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	4.7	79.1	70.4	92.7	22.3	22.3
Effective Green, g (s)	4.7	79.1	70.4	92.7	22.3	22.3
Actuated g/C Ratio	0.04	0.72	0.64	0.84	0.20	0.20
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	69	1314	1091	1328	317	273
v/s Ratio Prot	c0.02	0.16	c0.35	0.02	c0.18	
v/s Ratio Perm				0.07		0.01
v/c Ratio	0.41	0.22	0.55	0.12	0.88	0.04
Uniform Delay, d1	51.3	5.2	11.0	1.5	42.5	35.3
Progression Factor	1.00	1.00	0.89	0.53	1.00	1.00
Incremental Delay, d2	3.9	0.4	1.7	0.0	22.7	0.1
Delay (s)	55.2	5.5	11.5	0.8	65.2	35.3
Level of Service	E	A	B	A	E	D
Approach Delay (s)		9.9	9.0		62.5	
Approach LOS		A	A		E	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	354	295	260	415	383	262	3
v/c Ratio	0.57	0.42	0.77	0.40	0.76	0.47	0.04
Control Delay	22.0	1.8	57.3	14.3	44.9	14.2	51.0
Queue Delay	1.1	0.1	0.0	0.0	0.5	0.0	0.0
Total Delay	23.1	1.9	57.3	14.3	45.5	14.2	51.0
Queue Length 50th (ft)	111	0	168	140	241	53	2
Queue Length 95th (ft)	m272	m0	#348	274	338	118	12
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	622	709	337	1033	574	557	85
Starvation Cap Reductn	107	39	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	34	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.44	0.77	0.40	0.71	0.47	0.04

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	325	271	239	381	1	350	3	241	2	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (prot)		1759	1464	1562	1704			1683	1727		1754	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (perm)		1758	1464	1562	1704			1683	1727		1754	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	353	295	260	414	1	380	3	262	2	1	0
RTOR Reduction (vph)	0	0	199	0	0	0	0	0	118	0	0	0
Lane Group Flow (vph)	0	354	96	260	415	0	0	383	144	0	3	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		35.8	35.8	23.7	63.5			32.9	28.4		1.0	
Effective Green, g (s)		35.8	35.8	23.7	63.5			28.4	28.4		1.0	
Actuated g/C Ratio		0.33	0.33	0.22	0.58			0.26	0.26		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		572	476	337	984			435	517		16	
v/s Ratio Prot				c0.17	0.24			c0.23	0.03		c0.00	
v/s Ratio Perm		c0.20	0.07						0.05			
v/c Ratio		0.62	0.20	0.77	0.42			0.88	0.28		0.19	
Uniform Delay, d1		31.3	26.8	40.6	13.0			39.2	32.6		54.1	
Progression Factor		0.59	0.04	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		4.5	0.9	10.4	1.3			18.4	0.3		5.6	
Delay (s)		23.0	2.0	51.0	14.3			57.5	32.9		59.7	
Level of Service		C	A	D	B			E	C		E	
Approach Delay (s)		13.4			28.5			47.5			59.7	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	160	27	142	121	257	15	641	139	236	413
v/c Ratio	0.47	0.56	0.10	0.57	0.29	0.48	0.12	0.68	0.32	0.70	0.27
Control Delay	55.2	48.4	19.0	51.4	37.1	8.1	54.1	35.4	19.7	49.5	15.3
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	55.2	48.4	19.0	51.4	37.1	8.1	54.1	35.4	19.7	49.5	15.3
Queue Length 50th (ft)	47	86	2	77	61	0	8	172	34	127	58
Queue Length 95th (ft)	127	199	30	184	141	72	36	314	105	279	145
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	245	577	497	407	756	749	208	1519	657	537	2043
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	0.35	0.28	0.05	0.35	0.16	0.34	0.07	0.42	0.21	0.44	0.20

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	147	25	131	111	236	14	590	128	217	325	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1447	1620	1739	1398	1652	3240	1332	1620	3007	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1447	1620	1739	1398	1652	3240	1332	1620	3007	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	160	27	142	121	257	15	641	139	236	353	60
RTOR Reduction (vph)	0	0	20	0	0	196	0	0	43	0	9	0
Lane Group Flow (vph)	85	160	7	142	121	61	15	641	96	236	404	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	9.1	17.0	17.0	15.5	23.4	23.4	2.8	30.0	30.0	20.8	48.0	
Effective Green, g (s)	8.1	16.5	16.5	14.5	22.9	22.9	1.8	29.5	29.5	19.8	47.5	
Actuated g/C Ratio	0.08	0.17	0.17	0.15	0.24	0.24	0.02	0.31	0.31	0.21	0.49	
Clearance Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	139	298	248	244	414	332	31	993	408	333	1483	
v/s Ratio Prot	0.05	c0.09		c0.09	0.07		0.01	c0.20		c0.15	0.13	
v/s Ratio Perm			0.00			0.04			0.07			
v/c Ratio	0.61	0.54	0.03	0.58	0.29	0.18	0.48	0.65	0.24	0.71	0.27	
Uniform Delay, d1	42.6	36.4	33.2	38.1	30.1	29.3	46.8	28.9	25.0	35.6	14.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.8	2.4	0.1	4.1	0.5	0.4	15.3	1.6	0.4	7.2	0.1	
Delay (s)	51.4	38.8	33.3	42.2	30.6	29.6	62.1	30.5	25.4	42.8	14.4	
Level of Service	D	D	C	D	C	C	E	C	C	D	B	
Approach Delay (s)		42.2			33.3			30.2			24.7	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	96.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	579	98	799	1031	72	388	760	220	428	27
v/c Ratio	0.35	0.61	0.26	0.93	0.73	0.47	0.44	0.49	0.61	0.43	0.06
Control Delay	55.8	39.1	8.5	48.7	19.4	53.1	32.4	14.8	50.5	30.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	39.1	8.5	48.7	19.6	53.1	32.4	14.8	50.5	30.6	10.4
Queue Length 50th (ft)	21	123	0	240	235	44	108	157	70	120	0
Queue Length 95th (ft)	52	158	41	#396	322	89	153	220	108	167	20
Internal Link Dist (ft)		238			388		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	94	1047	408	855	1412	168	889	1536	358	988	468
Starvation Cap Reductn	0	0	0	0	58	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	0.35	0.55	0.24	0.93	0.76	0.43	0.44	0.49	0.61	0.43	0.06

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	533	90	735	718	231	66	357	699	202	394	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	579	98	799	780	251	72	388	760	220	428	27
RTOR Reduction (vph)	0	0	78	0	29	0	0	0	0	0	0	19
Lane Group Flow (vph)	33	579	20	799	1002	0	72	388	760	220	428	8
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	3.6	18.7	18.7	27.9	43.0		7.8	22.6	54.5	11.8	26.6	26.6
Effective Green, g (s)	3.6	20.2	20.2	27.9	44.5		7.8	24.1	54.5	11.8	28.1	28.1
Actuated g/C Ratio	0.04	0.20	0.20	0.28	0.44		0.08	0.24	0.54	0.12	0.28	0.28
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	56	940	298	908	1384		131	809	1475	384	910	414
v/s Ratio Prot	0.02	c0.12		c0.25	c0.32		0.04	c0.12	c0.28	c0.07	0.13	
v/s Ratio Perm			0.01									0.01
v/c Ratio	0.59	0.62	0.07	0.88	0.72		0.55	0.48	0.52	0.57	0.47	0.02
Uniform Delay, d1	47.5	36.4	32.3	34.4	22.7		44.4	32.6	14.4	41.7	29.8	26.0
Progression Factor	1.00	1.00	1.00	0.79	0.71		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.4	1.4	0.1	9.6	1.9		5.8	2.0	0.4	2.5	1.7	0.1
Delay (s)	64.8	37.7	32.4	36.9	18.0		50.2	34.6	14.8	44.2	31.5	26.1
Level of Service	E	D	C	D	B		D	C	B	D	C	C
Approach Delay (s)		38.3			26.2			23.2			35.4	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	201	870	388	214	876	149	153	85	300
v/c Ratio	0.89	0.49	0.47	0.64	0.43	0.50	0.50	0.23	0.90
Control Delay	67.0	14.4	2.2	48.1	21.7	39.6	39.6	7.3	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	14.4	2.2	48.1	21.7	39.6	39.6	7.3	54.3
Queue Length 50th (ft)	124	74	0	122	128	93	95	0	51
Queue Length 95th (ft)	#254	178	25	#284	230	121	123	31	#131
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	227	1783	826	334	2044	563	576	609	333
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.49	0.47	0.64	0.43	0.26	0.27	0.14	0.90

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	800	357	197	770	36	221	57	78	25	116	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (prot)	1620	4655	1531	1678	4619		1539	1573	1514		3056	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (perm)	1620	4655	1531	1678	4619		1539	1573	1514		3056	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	870	388	214	837	39	240	62	85	27	126	147
RTOR Reduction (vph)	0	0	239	0	4	0	0	0	69	0	138	0
Lane Group Flow (vph)	201	870	149	214	872	0	149	153	16	0	162	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	13.0	37.3	37.3	18.9	43.2		18.8	18.8	18.8		5.8	
Effective Green, g (s)	14.0	38.3	38.3	19.9	44.2		19.4	19.4	19.4		6.4	
Actuated g/C Ratio	0.14	0.38	0.38	0.20	0.44		0.19	0.19	0.19		0.06	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	227	1783	586	334	2042		299	305	294		196	
v/s Ratio Prot	c0.12	c0.19		c0.13	0.19		0.10	c0.10			c0.05	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	0.89	0.49	0.25	0.64	0.43		0.50	0.50	0.06		0.83	
Uniform Delay, d1	42.2	23.4	21.1	36.8	19.2		36.0	36.0	32.8		46.3	
Progression Factor	0.68	0.54	0.10	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	30.9	0.9	1.0	4.6	0.7		1.8	1.8	0.1		25.1	
Delay (s)	59.6	13.5	3.2	41.4	19.8		37.7	37.8	32.9		71.3	
Level of Service	E	B	A	D	B		D	D	C		E	
Approach Delay (s)		17.1			24.1			36.7			71.3	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	122	952	289	767	148	162	178	49	348
v/c Ratio	0.51	0.58	0.62	0.49	1.12	0.26	0.38	0.36	0.57
Control Delay	45.7	23.3	34.4	8.3	158.2	32.5	6.8	52.0	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	23.3	34.4	8.3	158.2	32.5	6.8	52.0	24.3
Queue Length 50th (ft)	69	146	116	36	~53	47	0	14	62
Queue Length 95th (ft)	126	190	m#236	m146	#115	61	45	34	84
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	239	1648	463	1576	132	1044	656	135	1069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.58	0.62	0.49	1.12	0.16	0.27	0.36	0.33

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	112	608	268	266	690	16	136	149	164	45	193	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4502		1652	3278		3143	3240	1659	3204	3024	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4502		1652	3278		3143	3240	1659	3204	3024	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	661	291	289	750	17	148	162	178	49	210	138
RTOR Reduction (vph)	0	85	0	0	1	0	0	0	143	0	114	0
Lane Group Flow (vph)	122	867	0	289	766	0	148	162	35	49	234	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.1	30.8		26.7	43.4		5.0	19.0	19.0	3.0	17.0	
Effective Green, g (s)	14.0	31.8		26.6	44.4		4.0	18.6	18.6	2.0	16.6	
Actuated g/C Ratio	0.15	0.33		0.28	0.47		0.04	0.20	0.20	0.02	0.17	
Clearance Time (s)	3.9	5.0		3.9	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	239	1507		463	1532		132	634	325	67	528	
v/s Ratio Prot	0.08	c0.19		c0.17	0.23		c0.05	0.05		0.02	c0.08	
v/s Ratio Perm									0.02			
v/c Ratio	0.51	0.58		0.62	0.50		1.12	0.26	0.11	0.73	0.44	
Uniform Delay, d1	37.3	26.0		29.8	17.6		45.5	32.3	31.4	46.2	35.1	
Progression Factor	1.00	1.00		0.98	0.44		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	1.6		0.3	0.1		114.6	0.3	0.2	35.2	0.8	
Delay (s)	39.2	27.6		29.7	7.8		160.1	32.6	31.6	81.5	35.9	
Level of Service	D	C		C	A		F	C	C	F	D	
Approach Delay (s)		29.0			13.8			70.9			41.5	
Approach LOS		C			B			E			D	

Intersection Summary			
HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	45	49	196	27	893	123	448	858
v/c Ratio	0.37	0.40	0.47	0.06	0.43	0.12	0.73	0.32
Control Delay	46.7	55.8	10.3	1.6	4.9	0.3	52.0	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	55.8	10.3	1.6	4.9	0.3	52.0	3.0
Queue Length 50th (ft)	24	33	0	1	42	1	132	16
Queue Length 95th (ft)	59	71	36	m3	101	m0	200	40
Internal Link Dist (ft)	387	350			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	228	244	632	456	2054	1017	1046	2647
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	0.20	0.20	0.31	0.06	0.43	0.12	0.43	0.32

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	0	9	42	3	180	25	822	113	412	712	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697			1779	2787	1677	3355	1583	3433	3411	
Flt Permitted		0.74			0.78	1.00	0.33	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1307			1452	2787	582	3355	1583	3433	3411	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	0	10	46	3	196	27	893	123	448	774	84
RTOR Reduction (vph)	0	9	0	0	0	179	0	0	48	0	5	0
Lane Group Flow (vph)	0	36	0	0	49	17	27	893	75	448	853	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	pm+pt		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2			
Actuated Green, G (s)		9.4			9.4	9.4	71.1	67.4	67.4	19.7	83.4	
Effective Green, g (s)		9.4			9.4	9.4	71.1	67.4	67.4	19.7	83.4	
Actuated g/C Ratio		0.09			0.09	0.09	0.65	0.61	0.61	0.18	0.76	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		112			124	238	413	2056	970	615	2586	
v/s Ratio Prot							0.00	c0.27		c0.13	0.25	
v/s Ratio Perm		0.03			c0.03	0.01	0.04		0.05			
v/c Ratio		0.32			0.40	0.07	0.07	0.43	0.08	0.73	0.33	
Uniform Delay, d1		47.3			47.6	46.3	7.2	11.2	8.7	42.6	4.3	
Progression Factor		1.00			1.00	1.00	0.33	0.35	0.03	1.07	0.61	
Incremental Delay, d2		1.7			2.1	0.1	0.1	0.5	0.1	4.0	0.3	
Delay (s)		49.0			49.7	46.4	2.4	4.5	0.4	49.6	2.9	
Level of Service		D			D	D	A	A	A	D	A	
Approach Delay (s)		49.0			47.1			4.0			19.0	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	220	26	68	92	314	32	495	209	333
v/c Ratio	0.58	0.07	0.26	0.19	0.53	0.16	0.58	0.56	0.22
Control Delay	26.5	8.4	21.5	18.9	6.4	32.4	22.1	29.5	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	8.4	21.5	18.9	6.4	32.4	22.1	29.5	10.5
Queue Length 50th (ft)	63	0	18	23	0	10	70	62	23
Queue Length 95th (ft)	162	17	59	69	55	44	163	169	83
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	794	747	538	1016	896	250	1728	621	2367
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.03	0.13	0.09	0.35	0.13	0.29	0.34	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	109	94	24	63	85	289	29	377	78	192	277	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected		0.97	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1685	1260	1620	1739	1316	1711	2987		1620	3031	
Flt Permitted		0.79	1.00	0.54	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1364	1260	923	1739	1316	1711	2987		1620	3031	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	102	26	68	92	314	32	410	85	209	301	32
RTOR Reduction (vph)	0	0	19	0	0	228	0	19	0	0	8	0
Lane Group Flow (vph)	0	220	7	68	92	86	32	476	0	209	325	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		16.6	16.6	16.6	16.6	16.6	2.4	18.9		13.6	30.1	
Effective Green, g (s)		16.6	16.6	16.6	16.6	16.6	2.4	18.9		13.6	30.1	
Actuated g/C Ratio		0.27	0.27	0.27	0.27	0.27	0.04	0.31		0.22	0.50	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		374	345	253	476	360	68	932		364	1505	
v/s Ratio Prot					0.05		0.02	c0.16		c0.13	0.11	
v/s Ratio Perm		c0.16	0.01	0.07		0.07						
v/c Ratio		0.59	0.02	0.27	0.19	0.24	0.47	0.51		0.57	0.22	
Uniform Delay, d1		19.0	16.1	17.2	16.9	17.1	28.5	17.1		20.9	8.6	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4	0.0	0.6	0.2	0.3	5.1	0.6		2.2	0.1	
Delay (s)		21.4	16.1	17.8	17.1	17.4	33.5	17.7		23.1	8.7	
Level of Service		C	B	B	B	B	C	B		C	A	
Approach Delay (s)		20.8			17.4			18.7			14.3	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	60.6	Sum of lost time (s)	11.5
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	211	145	114	380	177	118	911	43	760
v/c Ratio	0.68	0.46	0.33	0.63	0.89	0.36	0.62	0.63	0.42	0.65
Control Delay	61.5	38.3	7.5	76.3	59.8	8.1	63.1	23.7	64.1	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	38.3	7.5	76.3	59.8	8.1	63.1	23.7	64.1	29.0
Queue Length 50th (ft)	98	125	0	78	216	7	84	214	31	247
Queue Length 95th (ft)	166	198	49	147	#420	56	148	254	69	231
Internal Link Dist (ft)		2946			561			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	244	480	447	203	439	503	210	1444	104	1164
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.44	0.32	0.56	0.87	0.35	0.56	0.63	0.41	0.65

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	194	133	105	350	163	109	681	157	40	615	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1845	1306	1593	1863	1559	1652	3133		1593	3163	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3133		1593	3163	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	211	145	114	380	177	118	740	171	43	668	92
RTOR Reduction (vph)	0	0	109	0	0	136	0	17	0	0	10	0
Lane Group Flow (vph)	146	211	36	114	380	41	118	894	0	43	750	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	14.9	27.5	27.5	12.6	25.2	25.2	12.6	48.5		4.2	40.1	
Effective Green, g (s)	14.9	27.5	27.5	12.6	25.2	25.2	12.6	48.5		4.2	40.1	
Actuated g/C Ratio	0.14	0.25	0.25	0.11	0.23	0.23	0.11	0.44		0.04	0.36	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	214	461	327	182	427	357	189	1381		61	1153	
v/s Ratio Prot	c0.09	0.11		0.07	c0.20		c0.07	c0.29		0.03	0.24	
v/s Ratio Perm			0.03			0.03						
v/c Ratio	0.68	0.46	0.11	0.63	0.89	0.11	0.62	0.65		0.70	0.65	
Uniform Delay, d1	45.3	34.9	31.8	46.5	41.1	33.6	46.4	24.1		52.3	29.1	
Progression Factor	1.00	1.00	1.00	1.32	0.88	1.15	1.06	0.90		1.04	0.88	
Incremental Delay, d2	9.4	1.0	0.2	7.2	19.6	0.2	6.8	2.3		31.8	2.8	
Delay (s)	54.7	35.9	32.0	68.7	55.7	38.8	55.8	23.9		86.4	28.3	
Level of Service	D	D	C	E	E	D	E	C		F	C	
Approach Delay (s)		40.2			53.5			27.5			31.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	48	348	86	983	13	14	30	26	48
v/c Ratio	0.35	0.31	0.44	0.75	0.13	0.12	0.29	0.19	0.37
Control Delay	49.3	11.7	52.0	22.0	49.6	48.8	55.0	22.0	51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	11.7	52.0	22.0	49.6	48.8	55.0	22.0	51.5
Queue Length 50th (ft)	33	130	57	505	9	9	20	1	29
Queue Length 95th (ft)	59	197	106	#938	28	29	51	29	66
Internal Link Dist (ft)		485		1458		986		702	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	137	1105	194	1310	218	262	228	283	268
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.31	0.44	0.75	0.06	0.05	0.13	0.09	0.18

Intersection Summary

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

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	44	289	31	79	771	133	12	1	12	28	2	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	8	9	14	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1831		1593	1943		1711	1603		1770	1605	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1831		1593	1943		1333	1603		1394	1605	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	314	34	86	838	145	13	1	13	30	2	24
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	23	0
Lane Group Flow (vph)	48	346	0	86	983	0	13	14	0	30	3	0
Confl. Peds. (#/hr)			2									
Parking (#/hr)												
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.3	64.5		13.4	70.6		6.8	6.8		6.8	6.8	
Effective Green, g (s)	7.3	64.5		13.4	70.6		6.8	6.8		6.8	6.8	
Actuated g/C Ratio	0.07	0.59		0.12	0.64		0.06	0.06		0.06	0.06	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	117	1074		194	1247		82	99		86	99	
v/s Ratio Prot	0.03	0.19		c0.05	c0.51			0.01			0.00	
v/s Ratio Perm							0.01			c0.02		
v/c Ratio	0.41	0.32		0.44	0.79		0.16	0.14		0.35	0.04	
Uniform Delay, d1	49.3	11.6		44.8	14.3		48.9	48.8		49.5	48.5	
Progression Factor	0.89	0.83		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	0.8		1.6	5.1		0.9	0.7		2.4	0.1	
Delay (s)	46.3	10.4		46.5	19.4		49.8	49.5		51.9	48.7	
Level of Service	D	B		D	B		D	D		D	D	
Approach Delay (s)		14.7			21.6			49.6			50.4	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	22.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SWR	SWR2
Lane Configurations		
Volume (vph)	40	5
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.5	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1611	
Flt Permitted	1.00	
Satd. Flow (perm)	1611	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	43	5
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	43	0
Confl. Peds. (#/hr)		
Parking (#/hr)		
Turn Type	custom	
Protected Phases	9	
Permitted Phases		
Actuated Green, G (s)	7.3	
Effective Green, g (s)	7.3	
Actuated g/C Ratio	0.07	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	107	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.40	
Uniform Delay, d1	49.3	
Progression Factor	1.00	
Incremental Delay, d2	2.5	
Delay (s)	51.8	
Level of Service	D	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	86	274	12	849	66	126	14	78	424
v/c Ratio	0.54	0.26	0.11	1.11	0.56	0.23	0.03	0.23	0.75
Control Delay	46.4	9.2	35.5	89.3	39.3	18.7	8.5	19.3	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	9.2	35.5	89.3	39.3	18.7	8.5	19.3	26.4
Queue Length 50th (ft)	35	41	5	~432	23	39	0	24	133
Queue Length 95th (ft)	#103	123	21	#733	65	76	11	54	226
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	160	1070	106	768	169	786	567	493	783
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.26	0.11	1.11	0.39	0.16	0.02	0.16	0.54

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	160	92	11	726	55	61	116	13	72	206	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1904		1711	1701		1652	1863	1326	1643	1766	
Flt Permitted	0.95	1.00		0.95	1.00		0.23	1.00	1.00	0.68	1.00	
Satd. Flow (perm)	1711	1904		1711	1701		401	1863	1326	1169	1766	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	174	100	12	789	60	66	126	14	78	224	200
RTOR Reduction (vph)	0	23	0	0	3	0	0	0	10	0	48	0
Lane Group Flow (vph)	86	251	0	12	846	0	66	126	4	78	376	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	4.5	35.7		0.7	31.9		19.4	19.4	19.4	19.4	19.4	
Effective Green, g (s)	4.5	35.7		0.7	31.9		19.4	19.4	19.4	19.4	19.4	
Actuated g/C Ratio	0.07	0.52		0.01	0.46		0.28	0.28	0.28	0.28	0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	112	988		17	789		113	525	374	330	498	
v/s Ratio Prot	c0.05	c0.13		0.01	c0.50			0.07			c0.21	
v/s Ratio Perm							0.16		0.00	0.07		
v/c Ratio	0.77	0.25		0.71	1.07		0.58	0.24	0.01	0.24	0.75	
Uniform Delay, d1	31.6	9.2		33.9	18.4		21.2	19.0	17.8	19.0	22.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	27.9	0.2		88.4	53.1		8.8	0.3	0.0	0.5	6.8	
Delay (s)	59.5	9.4		122.3	71.6		30.0	19.3	17.8	19.5	29.3	
Level of Service	E	A		F	E		C	B	B	B	C	
Approach Delay (s)		21.3			72.3			22.7			27.8	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM Average Control Delay	45.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	17.5
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	174	56	4	28	586	460	13	27	603
v/c Ratio	0.91	0.12	0.04	0.12	1.01	0.25	0.02	0.19	0.69
Control Delay	81.8	9.3	40.5	17.8	67.7	10.8	8.4	39.8	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.8	9.3	40.5	17.8	67.7	10.8	8.4	39.8	19.8
Queue Length 50th (ft)	72	3	2	5	230	36	1	11	65
Queue Length 95th (ft)	#276	31	14	26	#720	139	12	45	163
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	192	797	93	705	581	1959	876	144	1225
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.07	0.04	0.04	1.01	0.23	0.01	0.19	0.49

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	10	41	4	11	15	545	423	12	25	265	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.91		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1554		1652	1572		1652	3240	1450	1711	3124	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1554		1652	1572		1652	3240	1450	1711	3124	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	11	45	4	12	16	586	460	13	27	288	315
RTOR Reduction (vph)	0	33	0	0	13	0	0	0	5	0	199	0
Lane Group Flow (vph)	174	23	0	4	15	0	586	460	8	27	404	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	8.2	20.9		0.6	13.3		25.7	41.4	41.4	2.1	17.8	
Effective Green, g (s)	8.2	20.9		0.6	13.3		25.7	41.4	41.4	2.1	17.8	
Actuated g/C Ratio	0.11	0.27		0.01	0.17		0.33	0.53	0.53	0.03	0.23	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	181	419		13	270		548	1731	775	46	718	
v/s Ratio Prot	c0.10	c0.01		0.00	0.01		c0.35	0.14		0.02	c0.13	
v/s Ratio Perm									0.01			
v/c Ratio	0.96	0.06		0.31	0.05		1.07	0.27	0.01	0.59	0.56	
Uniform Delay, d1	34.5	21.0		38.2	26.8		25.9	9.8	8.5	37.3	26.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	55.6	0.1		17.5	0.1		58.3	0.1	0.0	20.6	1.2	
Delay (s)	90.1	21.1		55.7	27.0		84.2	9.9	8.5	57.9	27.6	
Level of Service	F	C		E	C		F	A	A	E	C	
Approach Delay (s)		73.3			30.6			51.0			28.9	
Approach LOS		E			C			D			C	

Intersection Summary			
HCM Average Control Delay	46.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	77.5	Sum of lost time (s)	9.5
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	38	7	17	1032	861
v/c Ratio	0.27	0.06	0.03	0.36	0.30
Control Delay	49.5	24.2	2.6	2.6	0.7
Queue Delay	0.0	0.0	0.0	0.7	0.0
Total Delay	49.5	24.2	2.6	3.3	0.7
Queue Length 50th (ft)	26	0	1	60	5
Queue Length 95th (ft)	54	13	8	146	25
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	345	284	506	2874	2837
Starvation Cap Reductn	0	0	0	1397	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.02	0.03	0.70	0.30

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	6	16	949	724	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3196	
Flt Permitted	0.95	1.00	0.33	1.00	1.00	
Satd. Flow (perm)	1652	1330	570	3240	3196	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	7	17	1032	787	74
RTOR Reduction (vph)	0	7	0	0	3	0
Lane Group Flow (vph)	38	0	17	1032	858	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	7.0	7.0	94.0	94.0	94.0	
Effective Green, g (s)	7.0	7.0	94.0	94.0	94.0	
Actuated g/C Ratio	0.06	0.06	0.85	0.85	0.85	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	105	85	487	2769	2731	
v/s Ratio Prot	c0.02			c0.32	0.27	
v/s Ratio Perm		0.00	0.03			
v/c Ratio	0.36	0.01	0.03	0.37	0.31	
Uniform Delay, d1	49.4	48.2	1.2	1.7	1.6	
Progression Factor	1.00	1.00	1.00	1.00	0.22	
Incremental Delay, d2	2.1	0.0	0.1	0.4	0.2	
Delay (s)	51.5	48.3	1.3	2.1	0.6	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.1	0.6	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	2.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1155	662	362	1236	643	766
v/c Ratio	0.91	0.47	0.60	0.60	0.38	0.93
Control Delay	29.2	3.0	32.9	12.3	0.7	53.8
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	29.2	3.2	32.9	12.3	0.7	53.8
Queue Length 50th (ft)	187	1	60	188	0	269
Queue Length 95th (ft)	#484	22	119	303	0	#397
Internal Link Dist (ft)	252			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1292	1424	599	2063	1686	822
Starvation Cap Reductn	0	172	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	0.89	0.53	0.60	0.60	0.38	0.93

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1063	609	333	1137	0	0	0	592	0	0	705
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1155	662	362	1236	0	0	0	643	0	0	766
RTOR Reduction (vph)	0	0	411	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1155	251	362	1236	0	0	0	643	0	0	766
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		37.9	37.9	19.1	61.5				100.0			29.5
Effective Green, g (s)		37.9	37.9	19.1	61.5				100.0			29.5
Actuated g/C Ratio		0.38	0.38	0.19	0.62				1.00			0.29
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1272	1001	600	2063				1686			822
v/s Ratio Prot		c0.34		0.12	c0.37							
v/s Ratio Perm			0.09						0.38			c0.27
v/c Ratio		0.91	0.25	0.60	0.60				0.38			0.93
Uniform Delay, d1		29.4	21.3	37.0	11.7				0.0			34.3
Progression Factor		0.61	1.13	0.76	0.93				1.00			1.00
Incremental Delay, d2		9.1	0.1	4.2	1.1				0.7			18.6
Delay (s)		26.9	24.3	32.4	12.0				0.7			52.9
Level of Service		C	C	C	B				A			D
Approach Delay (s)		26.0			16.7			0.7			52.9	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	645	1087	728	520	423	915
v/c Ratio	0.75	0.32	0.40	0.60	0.26	0.60
Control Delay	24.4	0.2	7.6	12.1	0.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	0.2	7.6	12.1	0.4	1.7
Queue Length 50th (ft)	132	0	142	204	0	0
Queue Length 95th (ft)	m163	m0	m16	m57	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	911	3355	1837	863	1611	1528
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	0.71	0.32	0.40	0.60	0.26	0.60

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	593	1000	0	0	670	478	0	0	389	0	0	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	645	1087	0	0	728	520	0	0	423	0	0	915
RTOR Reduction (vph)	0	0	0	0	0	25	0	0	0	0	0	0
Lane Group Flow (vph)	645	1087	0	0	728	495	0	0	423	0	0	915
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	13.6	50.0			27.4	27.4			50.0			50.0
Effective Green, g (s)	13.6	50.0			27.4	27.4			50.0			50.0
Actuated g/C Ratio	0.27	1.00			0.55	0.55			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	855	3355			1839	839			1611			1528
v/s Ratio Prot	0.21	0.32			0.22							
v/s Ratio Perm						0.32			0.26			c0.60
v/c Ratio	0.75	0.32			0.40	0.59			0.26			0.60
Uniform Delay, d1	16.7	0.0			6.5	7.5			0.0			0.0
Progression Factor	1.21	1.00			1.03	1.28			1.00			1.00
Incremental Delay, d2	2.7	0.0			0.6	2.8			0.4			1.7
Delay (s)	22.8	0.0			7.3	12.4			0.4			1.7
Level of Service	C	A			A	B			A			A
Approach Delay (s)		8.5			9.4			0.4			1.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	6.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	315	323	440	462	20	478	892	9	41	614	210
v/c Ratio	1.09	0.46	0.25	1.14	0.06	1.10	0.57	0.02	0.35	0.91	0.50
Control Delay	98.7	12.5	0.3	123.2	19.2	108.6	17.2	9.8	51.3	52.1	17.2
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	98.7	12.5	0.3	123.2	19.2	108.6	17.2	9.8	51.3	52.1	17.2
Queue Length 50th (ft)	~149	53	0	~328	4	~333	178	1	19	199	70
Queue Length 95th (ft)	#318	115	0	#517	23	#514	261	m3	m47	#301	m97
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	289	707	1770	406	354	435	1562	579	118	675	420
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	1.09	0.46	0.25	1.14	0.06	1.10	0.57	0.02	0.35	0.91	0.50

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	297	405	2	423	18	440	821	8	38	565	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1477	1652	3539	1338	1652	3303	1552
Flt Permitted	0.15	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	265	1739	1770		1736	1477	1652	3539	1338	1652	3303	1552
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	323	440	2	460	20	478	892	9	41	614	210
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	3	0	0	103
Lane Group Flow (vph)	315	323	440	0	462	12	478	892	6	41	614	107
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	38.1	38.1	95.0		21.7	21.7	24.0	39.1	39.1	3.8	18.4	18.4
Effective Green, g (s)	38.6	38.6	95.0		22.2	22.2	25.0	40.1	39.1	4.3	19.4	19.4
Actuated g/C Ratio	0.41	0.41	1.00		0.23	0.23	0.26	0.42	0.41	0.05	0.20	0.20
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	289	707	1770		406	345	435	1494	551	75	675	317
v/s Ratio Prot	c0.14	0.19					c0.29	0.25		0.02	c0.19	
v/s Ratio Perm	c0.30		0.25		0.27	0.01			0.00			0.07
v/c Ratio	1.09	0.46	0.25		1.14	0.03	1.10	0.60	0.01	0.55	0.91	0.34
Uniform Delay, d1	24.9	20.6	0.0		36.4	28.1	35.0	21.2	16.5	44.4	36.9	32.3
Progression Factor	0.74	0.50	1.00		1.00	1.00	1.07	0.75	0.71	1.02	0.89	0.95
Incremental Delay, d2	77.2	0.6	0.3		87.9	0.1	71.9	1.7	0.0	8.5	18.0	2.8
Delay (s)	95.7	10.9	0.3		124.3	28.2	109.3	17.5	11.8	53.7	50.9	33.4
Level of Service	F	B	A		F	C	F	B	B	D	D	C
Approach Delay (s)		31.3			120.3			49.3			46.8	
Approach LOS		C			F			D			D	

Intersection Summary			
HCM Average Control Delay	52.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	14	1	1152	82	1282
v/c Ratio	0.17	0.10	0.00	0.26	0.23	0.42
Control Delay	46.4	19.5	2.0	1.6	4.7	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	46.4	19.5	2.0	1.6	4.7	3.4
Queue Length 50th (ft)	12	0	0	37	7	70
Queue Length 95th (ft)	31	18	m0	84	41	225
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		150	
Base Capacity (vph)	278	328	316	4372	352	3077
Starvation Cap Reductn	0	0	0	0	0	1044
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.04	0.00	0.26	0.23	0.63

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	16	1	13	1	1029	31	75	1176	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00	1.00	0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00	1.00	1.00		1.00	1.00	
Frt					1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1572	1397	1650	4928		1618	3469	
Flt Permitted					0.74	1.00	0.20	1.00		0.23	1.00	
Satd. Flow (perm)					1222	1397	356	4928		398	3469	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	17	1	14	1	1118	34	82	1278	4
RTOR Reduction (vph)	0	0	0	0	0	13	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	18	1	1	1151	0	82	1282	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					7.3	7.3	94.1	94.1		94.1	94.1	
Effective Green, g (s)					7.3	7.3	94.1	94.1		94.1	94.1	
Actuated g/C Ratio					0.07	0.07	0.86	0.86		0.86	0.86	
Clearance Time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)					81	93	305	4216		340	2968	
v/s Ratio Prot								0.23			c0.37	
v/s Ratio Perm					c0.01	0.00	0.00			0.21		
v/c Ratio					0.22	0.01	0.00	0.27		0.24	0.43	
Uniform Delay, d1					48.7	48.0	1.2	1.5		1.4	1.8	
Progression Factor					1.00	1.00	0.76	0.72		1.00	1.00	
Incremental Delay, d2					1.4	0.0	0.0	0.1		1.7	0.5	
Delay (s)					50.1	48.0	0.9	1.2		3.1	2.3	
Level of Service					D	D	A	A		A	A	
Approach Delay (s)		0.0			49.2			1.2			2.3	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	48	410	875	28	29
v/c Ratio	0.35	0.25	0.32	0.24	0.22
Control Delay	49.0	1.8	1.1	52.8	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.0	1.8	1.1	52.8	20.5
Queue Length 50th (ft)	31	17	18	19	0
Queue Length 95th (ft)	m62	62	28	48	29
Internal Link Dist (ft)		561	485	363	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	201	1636	2697	394	375
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.25	0.32	0.07	0.08

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	44	377	672	133	26	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3451		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3451		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	410	730	145	28	29
RTOR Reduction (vph)	0	0	8	0	0	27
Lane Group Flow (vph)	48	410	867	0	28	2
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	7.3	94.8	83.0		6.2	6.2
Effective Green, g (s)	7.3	94.8	83.0		6.2	6.2
Actuated g/C Ratio	0.07	0.86	0.75		0.06	0.06
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	117	1606	2604		100	89
v/s Ratio Prot	c0.03	0.22	c0.25		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.41	0.26	0.33		0.28	0.02
Uniform Delay, d1	49.3	1.3	4.4		49.8	49.0
Progression Factor	0.90	0.96	0.19		1.00	1.00
Incremental Delay, d2	2.1	0.3	0.2		1.5	0.1
Delay (s)	46.4	1.6	1.1		51.3	49.1
Level of Service	D	A	A		D	D
Approach Delay (s)		6.3	1.1		50.2	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	4.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1570	217	1830	164
v/c Ratio	0.41	0.54	0.36	0.44
Control Delay	6.8	22.1	0.1	18.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	6.8	22.1	0.1	18.0
Queue Length 50th (ft)	113	63	0	38
Queue Length 95th (ft)	142	m88	m0	72
Internal Link Dist (ft)	388		252	
Turn Bay Length (ft)				
Base Capacity (vph)	3806	584	5085	541
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	85	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.37	0.36	0.30

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1434	10	200	1684	0	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6401		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6401		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1559	11	217	1830	0	164
RTOR Reduction (vph)	1	0	0	0	0	11
Lane Group Flow (vph)	1569	0	217	1830	0	153
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	29.7		11.3	50.0		11.3
Effective Green, g (s)	29.7		11.3	50.0		11.3
Actuated g/C Ratio	0.59		0.23	1.00		0.23
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3802		400	5085		364
v/s Ratio Prot	0.25		c0.12	c0.36		0.10
v/s Ratio Perm						
v/c Ratio	0.41		0.54	0.36		0.42
Uniform Delay, d1	5.5		17.1	0.0		16.6
Progression Factor	1.12		1.12	1.00		1.00
Incremental Delay, d2	0.3		1.0	0.1		0.8
Delay (s)	6.4		20.2	0.1		17.3
Level of Service	A		C	A		B
Approach Delay (s)	6.4			2.3	17.3	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	4.5
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	183	278	65	1101	46	748	353	727	892	53
v/c Ratio	1.09	0.51	0.25	0.09	1.15	0.54	0.67	0.35	1.17	0.70	0.08
Control Delay	188.1	48.1	34.7	26.7	106.8	87.5	51.3	1.8	142.4	39.3	8.0
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	188.1	48.1	34.7	26.7	106.8	87.5	51.3	1.8	142.4	39.3	8.0
Queue Length 50th (ft)	~88	64	91	37	~1190	42	226	0	~412	360	1
Queue Length 95th (ft)	#204	94	148	70	#1457	85	275	23	#539	453	31
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	78	1007	1134	686	955	116	1168	1008	620	1283	630
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	1.09	0.18	0.25	0.09	1.15	0.40	0.64	0.35	1.17	0.70	0.08

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	120	49	256	60	1013	42	688	325	669	821	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3057		3255	1689	1501	1620	4655	1449	3143	3240	1512
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3057		3255	1689	1501	1620	4655	1449	3143	3240	1512
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	130	53	278	65	1101	46	748	353	727	892	53
RTOR Reduction (vph)	0	41	0	0	0	11	0	0	144	0	0	31
Lane Group Flow (vph)	85	142	0	278	65	1090	46	748	209	727	892	22
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	6.5	14.6		48.6	56.7	88.7	6.5	34.3	82.9	27.5	55.3	55.3
Effective Green, g (s)	6.5	14.6		48.6	56.7	88.7	6.5	34.3	82.9	27.5	55.3	55.3
Actuated g/C Ratio	0.05	0.10		0.35	0.40	0.63	0.05	0.24	0.59	0.20	0.39	0.39
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	4.5	4.5
Lane Grp Cap (vph)	78	318		1128	683	949	75	1138	856	616	1277	596
v/s Ratio Prot	c0.05	0.05		0.09	0.04	c0.73	0.03	0.16	0.14	c0.23	c0.28	
v/s Ratio Perm												0.01
v/c Ratio	1.09	0.45		0.25	0.10	1.15	0.61	0.66	0.24	1.18	0.70	0.04
Uniform Delay, d1	66.9	59.0		32.8	25.9	25.8	65.7	47.7	13.7	56.4	35.5	26.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	128.5	1.7		0.0	0.1	79.4	10.0	1.5	0.2	97.1	2.0	0.0
Delay (s)	195.4	60.8		32.8	26.0	105.2	75.7	49.2	13.9	153.5	37.5	26.2
Level of Service	F	E		C	C	F	E	D	B	F	D	C
Approach Delay (s)		103.5			87.7			39.4			87.6	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	76.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	140.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	988	157	1183	514	76	289	878	553
v/c Ratio	0.97	0.79	0.80	0.97	0.61	0.59	0.95	0.98	0.92
Control Delay	106.1	34.1	72.3	39.0	3.8	66.6	55.5	63.1	40.5
Queue Delay	0.0	7.4	0.0	35.5	1.0	0.0	29.8	23.4	0.0
Total Delay	106.1	41.5	72.3	74.5	4.8	66.6	85.3	86.4	40.5
Queue Length 50th (ft)	122	308	95	308	0	50	52	301	204
Queue Length 95th (ft)	#259	395	m123	m#548	m50	#112	#219	#432	#425
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	185	1247	216	1219	844	128	305	898	604
Starvation Cap Reductn	0	0	0	130	139	0	0	0	0
Spillback Cap Reductn	0	222	0	0	0	0	33	69	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.96	0.73	1.09	0.73	0.59	1.06	1.06	0.92

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	165	899	10	144	984	577	70	3	263	808	57	452
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99	0.85	1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3173		1620	3028	1319	1678	1431		3143	1445	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3173		1620	3028	1319	1678	1431		3143	1445	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	977	11	157	1070	627	76	3	286	878	62	491
RTOR Reduction (vph)	0	1	0	0	7	304	0	196	0	0	191	0
Lane Group Flow (vph)	179	987	0	157	1176	210	76	93	0	878	362	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	12.0	41.3		12.7	42.0	42.0	8.0	8.0		30.0	30.0	
Effective Green, g (s)	12.0	41.3		12.7	42.0	43.0	8.0	8.0		30.0	30.0	
Actuated g/C Ratio	0.11	0.39		0.12	0.40	0.41	0.08	0.08		0.29	0.29	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	185	1248		196	1211	540	128	109		898	413	
v/s Ratio Prot	c0.11	0.31		0.10	c0.39		0.05	c0.07		c0.28	0.25	
v/s Ratio Perm						0.16						
v/c Ratio	0.97	0.79		0.80	0.97	0.39	0.59	0.85		0.98	0.88	
Uniform Delay, d1	46.3	28.1		44.9	30.9	21.8	46.9	47.9		37.2	35.7	
Progression Factor	1.00	1.00		1.21	0.77	0.88	1.00	1.00		1.00	1.00	
Incremental Delay, d2	55.8	5.2		12.4	14.2	1.3	4.8	42.8		24.4	18.5	
Delay (s)	102.1	33.2		66.6	38.1	20.5	51.8	90.8		61.6	54.2	
Level of Service	F	C		E	D	C	D	F		E	D	
Approach Delay (s)		43.8			35.6			82.6			58.7	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM Average Control Delay	48.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	2162	322	1536	343	789	79	51
v/c Ratio	0.75	0.95	0.84	0.81	0.99	0.89	0.89	0.46
Control Delay	64.9	27.6	68.2	15.9	90.8	38.4	119.2	39.6
Queue Delay	0.0	36.1	0.0	1.6	0.0	0.0	0.0	0.1
Total Delay	64.9	63.7	68.2	17.6	90.8	38.4	119.2	39.7
Queue Length 50th (ft)	54	364	119	291	232	218	54	14
Queue Length 95th (ft)	m64	m#546	m#169	403	#416	#315	#147	53
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	123	2273	410	1886	345	913	89	110
Starvation Cap Reductn	0	274	0	109	0	0	0	0
Spillback Cap Reductn	0	0	0	191	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	1.08	0.79	0.91	0.99	0.86	0.89	0.47

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	1800	189	296	1289	124	278	38	726	73	19	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4503		3143	3274			1808	2802	1562	1430	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4503		3143	3274			1808	2802	1562	1430	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1957	205	322	1401	135	302	41	789	79	21	30
RTOR Reduction (vph)	0	12	0	0	6	0	0	0	27	0	28	0
Lane Group Flow (vph)	85	2150	0	322	1530	0	0	343	762	79	23	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	6.3	52.7		12.8	59.7			20.0	32.8	6.0	6.0	
Effective Green, g (s)	6.3	52.7		12.8	59.7			20.0	32.8	6.0	6.0	
Actuated g/C Ratio	0.06	0.50		0.12	0.57			0.19	0.31	0.06	0.06	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	97	2260		383	1862			344	875	89	82	
v/s Ratio Prot	0.05	c0.48		0.10	0.47			c0.19	c0.11	c0.05	0.02	
v/s Ratio Perm									0.17			
v/c Ratio	0.88	0.95		0.84	0.82			1.00	0.87	0.89	0.28	
Uniform Delay, d1	49.0	24.9		45.1	18.3			42.5	34.1	49.2	47.4	
Progression Factor	0.91	0.83		1.20	0.69			1.00	1.00	1.00	1.00	
Incremental Delay, d2	32.1	6.1		10.5	2.9			47.4	9.2	58.2	0.7	
Delay (s)	76.6	26.9		64.6	15.6			89.8	43.3	107.4	48.1	
Level of Service	E	C		E	B			F	D	F	D	
Approach Delay (s)		28.8			24.1			57.4			84.1	
Approach LOS		C			C			E			F	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1392	557	1674	453	270	257	243
v/c Ratio	0.61	0.39	0.76	0.31	0.66	0.58	0.58
Control Delay	5.5	0.3	13.7	0.5	43.4	34.9	34.2
Queue Delay	0.3	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	5.8	0.3	13.8	0.5	43.4	34.9	34.2
Queue Length 50th (ft)	129	0	358	0	168	138	123
Queue Length 95th (ft)	m118	m0	454	0	262	230	209
Internal Link Dist (ft)	509		867			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2274	1439	2217	1478	433	467	444
Starvation Cap Reductn	323	0	0	0	0	0	0
Spillback Cap Reductn	0	0	54	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.39	0.77	0.31	0.62	0.55	0.55

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1281	512	0	1540	417	0	0	0	360	0	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.92	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.98	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1701	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.98	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1701	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1392	557	0	1674	453	0	0	0	391	0	379
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	30	29
Lane Group Flow (vph)	0	1392	557	0	1674	453	0	0	0	270	227	214
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Prot
Protected Phases		2			6					4	4	4
Permitted Phases			2 4			Free				4		
Actuated Green, G (s)		71.5	105.0		71.5	105.0				25.5	25.5	25.5
Effective Green, g (s)		72.5	105.0		72.5	105.0				26.5	25.5	26.5
Actuated g/C Ratio		0.69	1.00		0.69	1.00				0.25	0.24	0.25
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2273	1439		2216	1478				410	413	393
v/s Ratio Prot		0.42			c0.52					c0.17	0.13	0.14
v/s Ratio Perm			0.39			0.31						
v/c Ratio		0.61	0.39		0.76	0.31				0.66	0.55	0.54
Uniform Delay, d1		8.7	0.0		10.5	0.0				35.2	34.7	34.0
Progression Factor		0.54	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.5	0.1		2.5	0.5				4.2	2.0	1.9
Delay (s)		5.2	0.1		13.0	0.5				39.4	36.7	35.9
Level of Service		A	A		B	A				D	D	D
Approach Delay (s)		3.7			10.3			0.0			37.4	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	50	42	217	192	428
v/c Ratio	0.85	0.08	0.42	0.26	0.30	0.50
Control Delay	29.2	3.5	42.9	13.4	18.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	3.5	42.9	13.4	18.7	4.7
Queue Length 50th (ft)	194	0	17	54	59	0
Queue Length 95th (ft)	#320	15	#50	102	115	60
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	800	742	100	828	647	857
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	0.76	0.07	0.42	0.26	0.30	0.50

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	556	46	39	200	177	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1560
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	50	42	217	192	428
RTOR Reduction (vph)	0	29	0	0	0	276
Lane Group Flow (vph)	604	21	42	217	192	152
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	27.5	27.5	2.4	29.5	23.1	23.1
Effective Green, g (s)	27.5	27.5	2.4	29.5	23.1	23.1
Actuated g/C Ratio	0.42	0.42	0.04	0.45	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	710	635	60	829	606	554
v/s Ratio Prot	c0.36		c0.03	0.12	c0.11	
v/s Ratio Perm		0.01				0.10
v/c Ratio	0.85	0.03	0.70	0.26	0.32	0.27
Uniform Delay, d1	16.9	11.0	30.9	11.0	15.2	15.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.0	30.0	0.8	1.4	1.2
Delay (s)	26.5	11.0	61.0	11.8	16.6	16.2
Level of Service	C	B	E	B	B	B
Approach Delay (s)	25.3			19.7	16.3	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	185	133	14	741	196	1086
v/c Ratio	0.39	0.51	0.30	0.07	0.43	0.61	0.63
Control Delay	17.2	21.8	5.3	8.7	8.5	22.1	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	21.8	5.3	8.7	8.5	22.1	11.1
Queue Length 50th (ft)	34	51	0	2	56	34	100
Queue Length 95th (ft)	73	98	30	12	137	#163	236
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	638	623	671	208	1791	335	1801
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	0.23	0.30	0.20	0.07	0.41	0.59	0.60

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	80	21	95	75	122	13	619	63	180	956	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1529			1684	1306	1618	3029		1560	3054	
Flt Permitted		0.89			0.79	1.00	0.21	1.00		0.35	1.00	
Satd. Flow (perm)		1372			1359	1306	354	3029		570	3054	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	87	23	103	82	133	14	673	68	196	1039	47
RTOR Reduction (vph)	0	12	0	0	0	98	0	10	0	0	4	0
Lane Group Flow (vph)	0	136	0	0	185	35	14	731	0	196	1082	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		14.1			14.1	14.1	29.7	29.7		29.7	29.7	
Effective Green, g (s)		14.1			14.1	14.1	29.7	29.7		29.7	29.7	
Actuated g/C Ratio		0.27			0.27	0.27	0.56	0.56		0.56	0.56	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		365			362	347	198	1697		319	1711	
v/s Ratio Prot								0.24			c0.35	
v/s Ratio Perm		0.10			c0.14	0.03	0.04			0.34		
v/c Ratio		0.37			0.51	0.10	0.07	0.43		0.61	0.63	
Uniform Delay, d1		15.8			16.5	14.7	5.3	6.8		7.8	7.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9			1.6	0.2	0.2	0.2		4.0	0.9	
Delay (s)		16.7			18.1	14.9	5.5	7.0		11.8	8.8	
Level of Service		B			B	B	A	A		B	A	
Approach Delay (s)		16.7			16.8			7.0			9.3	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	32	438	334	205	167	26
v/c Ratio	0.28	0.31	0.28	0.15	0.69	0.11
Control Delay	53.9	5.2	6.1	0.3	57.8	14.1
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	53.9	5.2	6.3	0.3	57.8	14.1
Queue Length 50th (ft)	22	79	37	0	113	0
Queue Length 95th (ft)	53	152	109	0	174	24
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	148	1400	1187	1495	454	411
Starvation Cap Reductn	0	0	334	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	0.22	0.31	0.39	0.14	0.37	0.06

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	29	403	307	189	154	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1570	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1570	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	438	334	205	167	26
RTOR Reduction (vph)	0	0	0	33	0	22
Lane Group Flow (vph)	32	438	334	172	167	4
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	5.3	84.3	75.0	92.1	17.1	17.1
Effective Green, g (s)	5.3	84.3	75.0	92.1	17.1	17.1
Actuated g/C Ratio	0.05	0.77	0.68	0.84	0.16	0.16
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	78	1400	1163	1315	243	210
v/s Ratio Prot	c0.02	c0.24	0.20	0.02	c0.11	
v/s Ratio Perm				0.09		0.00
v/c Ratio	0.41	0.31	0.29	0.13	0.69	0.02
Uniform Delay, d1	50.8	3.9	6.9	1.6	43.9	39.3
Progression Factor	1.00	1.00	0.66	0.20	1.00	1.00
Incremental Delay, d2	3.5	0.6	0.6	0.0	7.8	0.0
Delay (s)	54.3	4.5	5.1	0.4	51.8	39.4
Level of Service	D	A	A	A	D	D
Approach Delay (s)		7.9	3.3		50.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	327	273	175	190	336	334	3
v/c Ratio	0.42	0.34	0.75	0.18	0.72	0.58	0.04
Control Delay	18.8	1.5	64.4	10.8	44.4	14.2	45.3
Queue Delay	0.5	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	1.6	64.4	10.8	44.4	14.2	45.3
Queue Length 50th (ft)	103	0	118	50	212	57	1
Queue Length 95th (ft)	234	13	#208	117	293	130	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	777	799	263	1069	566	577	84
Starvation Cap Reductn	173	102	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	0.39	0.67	0.18	0.59	0.58	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	301	251	161	174	1	307	2	307	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		0.90	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1759	1466	1562	1703			1682	1728		1538	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)		1759	1466	1562	1703			1682	1728		1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	327	273	175	189	1	334	2	334	1	1	1
RTOR Reduction (vph)	0	0	160	0	0	0	0	0	175	0	1	0
Lane Group Flow (vph)	0	327	113	175	190	0	0	336	159	0	2	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		45.4	45.4	16.4	65.8			30.6	26.1		1.0	
Effective Green, g (s)		45.4	45.4	16.4	65.8			26.1	26.1		1.0	
Actuated g/C Ratio		0.41	0.41	0.15	0.60			0.24	0.24		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		726	605	233	1019			399	481		14	
v/s Ratio Prot		c0.19		c0.11	0.11			c0.20	0.03		c0.00	
v/s Ratio Perm			0.08						0.06			
v/c Ratio		0.45	0.19	0.75	0.19			0.84	0.33		0.14	
Uniform Delay, d1		23.3	20.5	44.8	10.0			40.0	34.7		54.1	
Progression Factor		0.70	0.10	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		1.9	0.7	12.8	0.4			14.8	0.4		4.7	
Delay (s)		18.3	2.7	57.6	10.4			54.8	35.1		58.8	
Level of Service		B	A	E	B			D	D		E	
Approach Delay (s)		11.2			33.0			45.0			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	61	140	25	170	249	246	26	387	116	321	808
v/c Ratio	0.35	0.50	0.10	0.58	0.51	0.43	0.22	0.60	0.35	0.74	0.58
Control Delay	51.7	46.3	16.7	46.7	36.0	7.0	54.5	39.8	18.8	43.6	21.9
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	51.7	46.3	16.7	46.7	36.0	7.0	54.5	39.8	18.8	43.6	21.9
Queue Length 50th (ft)	31	71	0	86	121	0	14	103	18	160	186
Queue Length 95th (ft)	97	175	27	207	260	66	53	206	83	339	313
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	212	574	495	459	862	812	129	1147	521	745	2203
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	0.29	0.24	0.05	0.37	0.29	0.30	0.20	0.34	0.22	0.43	0.37

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	129	23	156	229	226	24	356	107	295	675	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	3.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1446	1620	1739	1400	1652	3240	1332	1620	3033	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1446	1620	1739	1400	1652	3240	1332	1620	3033	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	140	25	170	249	246	26	387	116	321	734	74
RTOR Reduction (vph)	0	0	21	0	0	178	0	0	60	0	6	0
Lane Group Flow (vph)	61	140	4	170	249	68	26	387	56	321	802	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	7.6	15.6	15.6	16.7	25.6	25.6	4.0	20.5	20.5	25.5	42.0	
Effective Green, g (s)	7.5	15.5	15.5	16.6	25.5	25.5	3.0	20.0	20.0	24.5	41.5	
Actuated g/C Ratio	0.08	0.17	0.17	0.18	0.28	0.28	0.03	0.22	0.22	0.26	0.45	
Clearance Time (s)	3.0	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	134	291	242	290	479	386	54	700	288	429	1359	
v/s Ratio Prot	0.04	0.08		c0.10	c0.14		0.02	0.12		c0.20	c0.26	
v/s Ratio Perm			0.00			0.05			0.04			
v/c Ratio	0.46	0.48	0.02	0.59	0.52	0.18	0.48	0.55	0.19	0.75	0.59	
Uniform Delay, d1	40.6	34.9	32.2	34.9	28.4	25.5	44.0	32.3	29.7	31.2	19.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.3	1.7	0.0	3.6	1.3	0.3	8.9	1.2	0.4	7.4	0.8	
Delay (s)	43.9	36.6	32.2	38.4	29.6	25.8	53.0	33.5	30.1	38.7	20.0	
Level of Service	D	D	C	D	C	C	D	C	C	D	B	
Approach Delay (s)		38.1			30.5			33.7			25.3	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	92.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	723	43	1134	826	237	543	921	414	248	20
v/c Ratio	0.56	0.83	0.14	1.04	0.57	1.00	0.73	0.61	1.02	0.37	0.06
Control Delay	69.2	56.2	13.1	80.4	26.8	109.2	50.2	11.3	101.0	43.1	15.7
Queue Delay	0.0	0.0	0.0	21.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.2	56.2	13.1	101.5	27.2	109.2	50.2	11.3	101.0	43.1	15.7
Queue Length 50th (ft)	56	199	0	~500	277	186	207	135	~171	87	0
Queue Length 95th (ft)	107	248	32	#633	342	#353	271	172	#277	128	22
Internal Link Dist (ft)		238			390		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	143	873	312	1086	1440	238	741	1500	407	662	316
Starvation Cap Reductn	0	0	0	53	196	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	0.52	0.83	0.14	1.10	0.66	1.00	0.73	0.61	1.02	0.37	0.06

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	665	40	1043	575	185	218	500	847	381	228	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1472
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1472
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	723	43	1134	625	201	237	543	921	414	248	20
RTOR Reduction (vph)	0	0	35	0	24	0	0	0	0	0	0	16
Lane Group Flow (vph)	74	723	8	1134	802	0	237	543	921	414	248	4
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	8.6	21.0	21.0	40.8	53.2		17.0	24.2	65.0	15.0	22.2	22.2
Effective Green, g (s)	8.6	22.5	22.5	40.8	54.7		17.0	25.7	65.0	15.0	23.7	23.7
Actuated g/C Ratio	0.07	0.19	0.19	0.34	0.46		0.14	0.21	0.54	0.12	0.20	0.20
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	112	873	277	1107	1417		238	719	1466	407	640	291
v/s Ratio Prot	0.05	c0.16		c0.35	0.26		c0.14	c0.16	0.34	c0.13	0.08	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.66	0.83	0.03	1.02	0.57		1.00	0.76	0.63	1.02	0.39	0.01
Uniform Delay, d1	54.3	46.9	39.8	39.6	23.9		51.5	44.2	19.1	52.5	41.8	38.7
Progression Factor	1.00	1.00	1.00	1.07	1.06		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.9	6.8	0.1	32.6	0.6		56.9	7.2	1.0	49.0	1.8	0.1
Delay (s)	69.2	53.7	39.9	74.8	26.1		108.3	51.4	20.1	101.5	43.6	38.8
Level of Service	E	D	D	E	C		F	D	C	F	D	D
Approach Delay (s)		54.4			54.3			42.4			78.6	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	53.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	237	1730	237	293	981	207	208	128	194
v/c Ratio	0.76	0.80	0.28	1.10	0.49	0.66	0.65	0.31	0.90
Control Delay	52.4	27.1	3.1	118.5	13.0	52.9	52.4	7.7	68.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.4	27.1	3.1	118.5	13.0	52.9	52.4	7.7	68.0
Queue Length 50th (ft)	168	441	17	~261	131	157	157	0	38
Queue Length 95th (ft)	#291	#630	63	m#439	234	213	213	45	#111
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	330	2161	837	266	1993	469	476	551	216
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.80	0.28	1.10	0.49	0.44	0.44	0.23	0.90

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	218	1592	218	270	868	35	334	48	118	35	52	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1620	4655	1530	1678	4623		1539	1561	1514		3015	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1620	4655	1530	1678	4623		1539	1561	1514		3015	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	237	1730	237	293	943	38	363	52	128	38	57	99
RTOR Reduction (vph)	0	0	127	0	3	0	0	0	102	0	95	0
Lane Group Flow (vph)	237	1730	110	293	978	0	207	208	26	0	99	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	22.1	54.6	54.6	18.1	50.6		23.9	23.9	23.9		4.2	
Effective Green, g (s)	23.1	55.6	55.6	19.1	51.6		24.5	24.5	24.5		4.8	
Actuated g/C Ratio	0.19	0.46	0.46	0.16	0.43		0.20	0.20	0.20		0.04	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	312	2157	709	267	1988		314	319	309		121	
v/s Ratio Prot	0.15	c0.37		c0.17	0.21		c0.13	0.13			c0.03	
v/s Ratio Perm			0.07						0.02			
v/c Ratio	0.76	0.80	0.15	1.10	0.49		0.66	0.65	0.08		0.82	
Uniform Delay, d1	45.8	27.5	18.6	50.5	24.7		43.9	43.8	38.7		57.2	
Progression Factor	0.81	0.82	0.74	0.71	0.46		1.00	1.00	1.00		1.00	
Incremental Delay, d2	10.2	3.1	0.4	81.2	0.8		5.5	5.2	0.2		34.5	
Delay (s)	47.1	25.6	14.2	116.8	12.2		49.4	49.1	38.8		91.7	
Level of Service	D	C	B	F	B		D	D	D		F	
Approach Delay (s)		26.7			36.3			46.8			91.7	
Approach LOS		C			D			D			F	

Intersection Summary			
HCM Average Control Delay	35.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	170	1803	130	634	238	158	353	90	549
v/c Ratio	0.57	0.85	0.77	0.52	0.74	0.19	0.59	0.49	0.79
Control Delay	26.3	11.1	82.2	31.8	66.8	34.3	17.7	64.3	50.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	11.1	82.2	31.8	66.8	34.3	17.7	64.3	50.9
Queue Length 50th (ft)	131	501	100	205	92	48	81	35	202
Queue Length 95th (ft)	m121	70	#206	266	#172	77	180	63	255
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	300	2117	170	1214	323	910	626	187	820
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.85	0.76	0.52	0.74	0.17	0.56	0.48	0.67

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	1363	295	120	560	23	219	145	325	83	404	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4603		1652	3268		3143	3240	1659	3204	3131	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4603		1652	3268		3143	3240	1659	3204	3131	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	1482	321	130	609	25	238	158	353	90	439	110
RTOR Reduction (vph)	0	27	0	0	3	0	0	0	164	0	20	0
Lane Group Flow (vph)	170	1776	0	130	631	0	238	158	189	90	529	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	22.3	53.4		12.3	43.4		13.4	31.8	31.8	7.9	26.3	
Effective Green, g (s)	22.2	54.4		12.2	44.4		12.4	31.4	31.4	6.9	25.9	
Actuated g/C Ratio	0.18	0.45		0.10	0.37		0.10	0.26	0.26	0.06	0.22	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	300	2087		168	1209		325	848	434	184	676	
v/s Ratio Prot	0.10	c0.39		c0.08	0.19		c0.08	0.05		0.03	c0.17	
v/s Ratio Perm									0.11			
v/c Ratio	0.57	0.85		0.77	0.52		0.73	0.19	0.44	0.49	0.78	
Uniform Delay, d1	44.5	29.2		52.6	29.5		52.2	34.4	36.9	54.8	44.4	
Progression Factor	0.47	0.26		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	3.1		20.7	1.6		8.8	0.1	1.0	2.8	6.3	
Delay (s)	22.5	10.7		73.2	31.1		61.0	34.5	37.9	57.6	50.7	
Level of Service	C	B		E	C		E	C	D	E	D	
Approach Delay (s)		11.8			38.3			44.5			51.6	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	89	199	508	2	1004	176	553	818
v/c Ratio	0.45	0.76	0.53	0.02	0.62	0.21	0.81	0.34
Control Delay	37.6	59.3	5.2	60.0	7.5	1.1	57.6	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.6	59.3	5.2	60.0	7.5	1.1	57.6	6.5
Queue Length 50th (ft)	44	131	0	1	116	6	185	86
Queue Length 95th (ft)	93	208	44	m3	154	m9	253	115
Internal Link Dist (ft)	387	336			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	239	320	1057	92	1610	852	765	2414
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	0.37	0.62	0.48	0.02	0.62	0.21	0.72	0.34

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	58	2	22	183	0	467	2	924	162	509	711	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.96			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1693			1770	2787	1678	3355	1583	3433	3438	
Flt Permitted		0.54			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		939			1329	2787	1678	3355	1583	3433	3438	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	2	24	199	0	508	2	1004	176	553	773	45
RTOR Reduction (vph)	0	13	0	0	0	408	0	0	92	0	3	0
Lane Group Flow (vph)	0	76	0	0	199	100	2	1004	84	553	815	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		21.7			21.7	21.7	1.2	52.8	52.8	22.0	73.6	
Effective Green, g (s)		21.7			21.7	21.7	1.2	52.8	52.8	22.0	73.6	
Actuated g/C Ratio		0.20			0.20	0.20	0.01	0.48	0.48	0.20	0.67	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		185			262	550	18	1610	760	687	2300	
v/s Ratio Prot							0.00	c0.30		c0.16	0.24	
v/s Ratio Perm		0.08			c0.15	0.04			0.05			
v/c Ratio		0.41			0.76	0.18	0.11	0.62	0.11	0.80	0.35	
Uniform Delay, d1		38.6			41.7	36.8	53.9	21.2	15.7	42.0	7.9	
Progression Factor		1.00			1.00	1.00	1.21	0.27	0.22	1.16	0.82	
Incremental Delay, d2		1.5			11.9	0.2	1.8	1.2	0.2	6.2	0.4	
Delay (s)		40.1			53.6	36.9	67.2	7.0	3.7	55.0	6.8	
Level of Service		D			D	D	E	A	A	D	A	
Approach Delay (s)		40.1			41.6			6.6			26.2	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	110	38	123	112	215	50	401	288	625
v/c Ratio	0.29	0.11	0.44	0.27	0.45	0.22	0.52	0.62	0.42
Control Delay	21.1	8.3	25.2	20.7	6.8	29.8	19.9	25.8	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	8.3	25.2	20.7	6.8	29.8	19.9	25.8	12.1
Queue Length 50th (ft)	28	0	32	28	0	14	46	76	68
Queue Length 95th (ft)	83	21	97	83	48	58	126	207	157
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	939	758	689	1024	859	302	1663	826	2506
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05	0.18	0.11	0.25	0.17	0.24	0.35	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	77	35	113	103	198	46	267	102	265	500	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715	1259	1620	1739	1317	1711	2931		1620	3014	
Flt Permitted		0.92	1.00	0.69	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1598	1259	1170	1739	1317	1711	2931		1620	3014	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	84	38	123	112	215	50	290	111	288	543	82
RTOR Reduction (vph)	0	0	29	0	0	164	0	43	0	0	12	0
Lane Group Flow (vph)	0	110	9	123	112	51	50	358	0	288	613	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		13.3	13.3	13.3	13.3	13.3	4.2	15.5		15.8	27.1	
Effective Green, g (s)		13.3	13.3	13.3	13.3	13.3	4.2	15.5		15.8	27.1	
Actuated g/C Ratio		0.24	0.24	0.24	0.24	0.24	0.07	0.28		0.28	0.48	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		379	298	277	412	312	128	810		456	1456	
v/s Ratio Prot					0.06		0.03	0.12		c0.18	c0.20	
v/s Ratio Perm		0.07	0.01	c0.11		0.04						
v/c Ratio		0.29	0.03	0.44	0.27	0.16	0.39	0.44		0.63	0.42	
Uniform Delay, d1		17.5	16.4	18.2	17.5	17.0	24.7	16.7		17.6	9.4	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.0	1.1	0.4	0.2	2.0	0.5		2.8	0.3	
Delay (s)		18.0	16.5	19.4	17.8	17.2	26.7	17.3		20.5	9.7	
Level of Service		B	B	B	B	B	C	B		C	A	
Approach Delay (s)		17.6			18.0			18.3			13.1	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	56.1	Sum of lost time (s)	7.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	262	347	124	93	388	108	127	962	86	757
v/c Ratio	0.85	0.60	0.25	0.62	1.09	0.28	0.66	0.79	0.58	0.70
Control Delay	67.1	37.6	6.5	60.8	111.0	5.6	67.2	34.0	59.0	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.1	37.6	6.5	60.8	111.0	5.6	67.2	34.0	59.0	33.3
Queue Length 50th (ft)	177	210	0	64	~316	10	89	280	60	219
Queue Length 95th (ft)	#307	311	43	#96	#468	3	156	#362	m111	321
Internal Link Dist (ft)		2946			524			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	330	585	499	159	357	386	210	1218	159	1088
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.59	0.25	0.58	1.09	0.28	0.60	0.79	0.54	0.70

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	241	319	114	86	357	99	117	734	151	79	639	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1845	1306	1593	1863	1559	1652	3143		1593	3179	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3143		1593	3179	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	347	124	93	388	108	127	798	164	86	695	62
RTOR Reduction (vph)	0	0	85	0	0	87	0	15	0	0	6	0
Lane Group Flow (vph)	262	347	39	93	388	21	127	947	0	86	751	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	22.4	34.7	34.7	8.8	21.1	21.1	12.7	40.5		8.8	36.6	
Effective Green, g (s)	22.4	34.7	34.7	8.8	21.1	21.1	12.7	40.5		8.8	36.6	
Actuated g/C Ratio	0.20	0.32	0.32	0.08	0.19	0.19	0.12	0.37		0.08	0.33	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	321	582	412	127	357	299	191	1157		127	1058	
v/s Ratio Prot	c0.17	0.19		0.06	c0.21		0.08	c0.30		0.05	c0.24	
v/s Ratio Perm			0.03			0.01						
v/c Ratio	0.82	0.60	0.09	0.73	1.09	0.07	0.66	0.82		0.68	0.71	
Uniform Delay, d1	41.8	31.7	26.6	49.4	44.4	36.4	46.6	31.4		49.2	32.1	
Progression Factor	1.00	1.00	1.00	0.89	0.88	0.52	1.09	0.92		0.93	0.93	
Incremental Delay, d2	15.4	1.9	0.1	20.2	72.4	0.1	9.0	6.3		13.7	3.8	
Delay (s)	57.2	33.7	26.7	64.4	111.7	19.0	59.7	35.3		59.5	33.6	
Level of Service	E	C	C	E	F	B	E	D		E	C	
Approach Delay (s)		40.9			87.2			38.1			36.2	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	36	560	21	454	74	73	268	86	48
v/c Ratio	0.29	0.54	0.20	0.44	0.28	0.22	0.96	0.21	0.37
Control Delay	57.2	17.3	52.7	20.0	39.5	37.7	87.5	9.3	51.5
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	17.8	52.7	20.0	39.5	37.7	87.5	9.3	51.5
Queue Length 50th (ft)	27	153	14	211	44	43	188	1	29
Queue Length 95th (ft)	m60	429	40	337	88	84	#352	42	66
Internal Link Dist (ft)		522		1458		986		464	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	126	1038	104	1042	270	340	282	406	268
Starvation Cap Reductn	0	167	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.64	0.20	0.44	0.27	0.21	0.95	0.21	0.18

Intersection Summary

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.

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	502	13	19	371	47	68	2	65	247	1	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	8	9	14	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1855		1593	1953		1711	1591		1770	1587	
Flt Permitted	0.95	1.00		0.95	1.00		0.70	1.00		0.71	1.00	
Satd. Flow (perm)	1770	1855		1593	1953		1263	1591		1322	1587	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	546	14	21	403	51	74	2	71	268	1	85
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	67	0
Lane Group Flow (vph)	36	560	0	21	454	0	74	73	0	268	19	0
Confl. Peds. (#/hr)			2									
Parking (#/hr)												
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.3	57.9		3.4	56.0		23.4	23.4		23.4	23.4	
Effective Green, g (s)	5.3	57.9		3.4	56.0		23.4	23.4		23.4	23.4	
Actuated g/C Ratio	0.05	0.53		0.03	0.51		0.21	0.21		0.21	0.21	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	85	976		49	994		269	338		281	338	
v/s Ratio Prot	c0.02	c0.30		0.01	0.23			0.05			0.01	
v/s Ratio Perm							0.06			c0.20		
v/c Ratio	0.42	0.57		0.43	0.46		0.28	0.22		0.95	0.06	
Uniform Delay, d1	50.9	17.7		52.3	17.3		36.2	35.7		42.8	34.5	
Progression Factor	1.09	0.83		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	2.2		5.9	1.5		0.6	0.3		40.9	0.1	
Delay (s)	58.4	16.9		58.3	18.8		36.8	36.1		83.7	34.6	
Level of Service	E	B		E	B		D	D		F	C	
Approach Delay (s)		19.4			20.5			36.4			71.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	SWR	SWR2
Lane Configurations		
Volume (vph)	40	5
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.5	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1611	
Flt Permitted	1.00	
Satd. Flow (perm)	1611	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	43	5
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	43	0
Confl. Peds. (#/hr)		
Parking (#/hr)		
Turn Type	custom	
Protected Phases	9	
Permitted Phases	9	
Actuated Green, G (s)	7.3	
Effective Green, g (s)	7.3	
Actuated g/C Ratio	0.07	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	107	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.40	
Uniform Delay, d1	49.3	
Progression Factor	1.00	
Incremental Delay, d2	2.5	
Delay (s)	51.8	
Level of Service	D	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	107	939	7	340	59	110	13	46	382
v/c Ratio	0.41	0.89	0.06	0.53	0.39	0.20	0.03	0.13	0.69
Control Delay	31.0	28.2	32.3	20.7	25.8	16.9	8.4	16.6	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	28.2	32.3	20.7	25.8	16.9	8.4	16.6	22.9
Queue Length 50th (ft)	33	243	2	95	16	28	0	11	96
Queue Length 95th (ft)	94	#747	15	210	51	67	11	35	200
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	291	1051	116	741	241	871	626	554	861
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.89	0.06	0.46	0.24	0.13	0.02	0.08	0.44

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	98	638	226	6	256	57	54	101	12	42	203	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1940		1711	1664		1652	1863	1326	1643	1780	
Flt Permitted	0.95	1.00		0.95	1.00		0.30	1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1711	1940		1711	1664		515	1863	1326	1187	1780	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	107	693	246	7	278	62	59	110	13	46	221	161
RTOR Reduction (vph)	0	14	0	0	10	0	0	0	9	0	40	0
Lane Group Flow (vph)	107	925	0	7	330	0	59	110	4	46	342	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	7.5	32.1		0.6	25.2		17.5	17.5	17.5	17.5	17.5	
Effective Green, g (s)	7.5	32.1		0.6	25.2		17.5	17.5	17.5	17.5	17.5	
Actuated g/C Ratio	0.12	0.51		0.01	0.40		0.28	0.28	0.28	0.28	0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	203	985		16	663		143	516	367	329	493	
v/s Ratio Prot	c0.06	c0.48		0.00	0.20			0.06			c0.19	
v/s Ratio Perm							0.11		0.00	0.04		
v/c Ratio	0.53	0.94		0.44	0.50		0.41	0.21	0.01	0.14	0.69	
Uniform Delay, d1	26.2	14.6		31.1	14.3		18.7	17.6	16.6	17.2	20.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.2	16.0		24.0	0.8		2.6	0.3	0.0	0.3	4.5	
Delay (s)	29.4	30.6		55.1	15.1		21.3	17.8	16.6	17.5	25.0	
Level of Service	C	C		E	B		C	B	B	B	C	
Approach Delay (s)		30.5			15.9			18.9			24.2	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	13.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	218	484	10	48	161	284	64	20	560
v/c Ratio	0.60	0.57	0.10	0.17	0.55	0.19	0.09	0.15	0.65
Control Delay	36.6	6.2	39.4	16.9	37.9	13.2	5.2	38.6	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.6	6.2	39.4	16.9	37.9	13.2	5.2	38.6	25.3
Queue Length 50th (ft)	73	16	4	9	54	28	0	7	91
Queue Length 95th (ft)	#266	104	24	36	#203	96	27	37	200
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	370	1155	102	849	306	1776	819	132	1453
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.42	0.10	0.06	0.53	0.16	0.08	0.15	0.39

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	201	13	432	9	23	21	150	261	59	18	396	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85		1.00	0.93		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1506		1652	1598		1652	3240	1452	1711	3253	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1506		1652	1598		1652	3240	1452	1711	3253	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	218	14	470	10	25	23	161	284	64	20	430	130
RTOR Reduction (vph)	0	257	0	0	19	0	0	0	36	0	28	0
Lane Group Flow (vph)	218	227	0	10	29	0	161	284	28	20	532	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.3	27.3		0.6	13.6		12.0	31.4	31.4	0.7	20.1	
Effective Green, g (s)	14.3	27.3		0.6	13.6		12.0	31.4	31.4	0.7	20.1	
Actuated g/C Ratio	0.20	0.38		0.01	0.19		0.17	0.43	0.43	0.01	0.28	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	337	567		14	300		273	1403	629	17	902	
v/s Ratio Prot	c0.13	c0.15		0.01	0.02		c0.10	0.09		c0.01	c0.16	
v/s Ratio Perm									0.02			
v/c Ratio	0.65	0.40		0.71	0.10		0.59	0.20	0.04	1.18	0.59	
Uniform Delay, d1	26.8	16.6		35.9	24.4		28.0	12.8	11.9	35.9	22.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.7	0.6		105.1	0.2		3.8	0.1	0.0	279.8	1.2	
Delay (s)	31.5	17.2		140.9	24.6		31.8	12.9	11.9	315.7	23.8	
Level of Service	C	B		F	C		C	B	B	F	C	
Approach Delay (s)		21.6			44.6			18.7			33.9	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	72.5	Sum of lost time (s)	9.5
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	59	24	5	900	1103
v/c Ratio	0.42	0.18	0.01	0.32	0.40
Control Delay	56.1	20.0	2.2	2.4	1.0
Queue Delay	0.0	0.0	0.0	0.9	0.0
Total Delay	56.1	20.0	2.2	3.3	1.0
Queue Length 50th (ft)	40	0	0	56	15
Queue Length 95th (ft)	80	25	3	92	31
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	375	321	374	2787	2776
Starvation Cap Reductn	0	0	0	1499	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.07	0.01	0.70	0.40

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	54	22	5	828	989	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3227	
Flt Permitted	0.95	1.00	0.25	1.00	1.00	
Satd. Flow (perm)	1652	1330	434	3240	3227	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	24	5	900	1075	28
RTOR Reduction (vph)	0	22	0	0	1	0
Lane Group Flow (vph)	59	2	5	900	1102	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	8.2	8.2	92.8	92.8	92.8	
Effective Green, g (s)	8.2	8.2	92.8	92.8	92.8	
Actuated g/C Ratio	0.07	0.07	0.84	0.84	0.84	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	123	99	366	2733	2722	
v/s Ratio Prot	c0.04			0.28	c0.34	
v/s Ratio Perm		0.00	0.01			
v/c Ratio	0.48	0.02	0.01	0.33	0.40	
Uniform Delay, d1	48.9	47.2	1.4	1.9	2.0	
Progression Factor	1.00	1.00	1.00	1.00	0.26	
Incremental Delay, d2	2.9	0.1	0.1	0.3	0.4	
Delay (s)	51.8	47.2	1.4	2.2	0.9	
Level of Service	D	D	A	A	A	
Approach Delay (s)	50.5			2.2	0.9	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	3.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1428	1170	328	1626	708	795
v/c Ratio	0.88	0.65	0.62	0.70	0.42	1.20
Control Delay	30.6	6.5	46.8	11.7	0.8	144.6
Queue Delay	100.5	1.4	0.0	0.0	0.0	0.0
Total Delay	131.1	7.9	46.8	11.7	0.8	144.6
Queue Length 50th (ft)	421	136	137	405	0	~425
Queue Length 95th (ft)	505	175	184	482	0	#561
Internal Link Dist (ft)	254			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1636	1802	527	2307	1686	662
Starvation Cap Reductn	468	406	0	0	0	0
Spillback Cap Reductn	0	0	0	15	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.22	0.84	0.62	0.71	0.42	1.20

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1314	1076	302	1496	0	0	0	651	0	0	731
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1428	1170	328	1626	0	0	0	708	0	0	795
RTOR Reduction (vph)	0	0	519	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1428	651	328	1626	0	0	0	708	0	0	795
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		57.9	57.9	20.1	82.5				120.0			28.5
Effective Green, g (s)		57.9	57.9	20.1	82.5				120.0			28.5
Actuated g/C Ratio		0.48	0.48	0.17	0.69				1.00			0.24
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1619	1275	526	2307				1686			662
v/s Ratio Prot		c0.43		0.10	c0.48							
v/s Ratio Perm			0.25						0.42			c0.29
v/c Ratio		0.88	0.51	0.62	0.70				0.42			1.20
Uniform Delay, d1		28.0	21.3	46.4	11.4				0.0			45.8
Progression Factor		0.91	1.78	0.89	0.89				1.00			1.00
Incremental Delay, d2		3.8	0.2	5.1	1.4				0.8			104.5
Delay (s)		29.4	38.2	46.2	11.5				0.8			150.2
Level of Service		C	D	D	B				A			F
Approach Delay (s)		33.4			17.3			0.8			150.2	
Approach LOS		C			B			A			F	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	635	1501	825	497	552	1135
v/c Ratio	0.71	0.45	0.43	0.55	0.34	0.74
Control Delay	22.4	0.3	5.0	7.2	0.6	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	0.3	5.0	7.2	0.6	3.3
Queue Length 50th (ft)	154	0	72	128	0	0
Queue Length 95th (ft)	m179	0	m65	m91	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	1053	3355	1902	906	1611	1528
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	0.60	0.45	0.43	0.55	0.34	0.74

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	584	1381	0	0	759	457	0	0	508	0	0	1044
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	635	1501	0	0	825	497	0	0	552	0	0	1135
RTOR Reduction (vph)	0	0	0	0	0	38	0	0	0	0	0	0
Lane Group Flow (vph)	635	1501	0	0	825	459	0	0	552	0	0	1135
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	17.0	60.0			34.0	34.0			60.0			60.0
Effective Green, g (s)	17.0	60.0			34.0	34.0			60.0			60.0
Actuated g/C Ratio	0.28	1.00			0.57	0.57			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	891	3355			1901	868			1611			1528
v/s Ratio Prot	0.20	0.45			0.25							
v/s Ratio Perm						0.30			0.34			c0.74
v/c Ratio	0.71	0.45			0.43	0.53			0.34			0.74
Uniform Delay, d1	19.3	0.0			7.5	8.0			0.0			0.0
Progression Factor	1.00	1.00			0.55	0.71			1.00			1.00
Incremental Delay, d2	1.8	0.1			0.6	2.0			0.6			3.3
Delay (s)	21.2	0.1			4.7	7.7			0.6			3.3
Level of Service	C	A			A	A			A			A
Approach Delay (s)		6.4			5.8			0.6			3.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	485	714	1043	253	20	287	577	26	75	811	172
v/c Ratio	1.29	1.01	0.59	0.90	0.06	0.97	0.40	0.05	0.47	0.84	0.33
Control Delay	173.1	67.7	1.4	72.0	14.8	86.7	23.2	10.8	52.6	42.1	16.0
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	173.1	67.7	1.4	72.0	14.8	86.7	23.2	10.8	52.6	42.1	16.0
Queue Length 50th (ft)	~294	~459	0	157	1	183	142	2	46	253	41
Queue Length 95th (ft)	#497	#703	0	#304	20	#347	191	20	92	#336	96
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	377	706	1770	282	347	297	1428	538	172	971	517
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	1.29	1.01	0.59	0.90	0.06	0.97	0.40	0.05	0.44	0.84	0.33

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	446	657	960	9	224	18	264	531	24	69	746	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	3.6	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1735	1475	1652	3539	1337	1652	3303	1551
Flt Permitted	0.32	1.00	1.00		0.72	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	549	1739	1770		1248	1475	1652	3539	1337	1652	3303	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	485	714	1043	10	243	20	287	577	26	75	811	172
RTOR Reduction (vph)	0	0	0	0	0	14	0	0	12	0	0	61
Lane Group Flow (vph)	485	714	1043	0	253	6	287	577	14	75	811	111
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	40.1	40.1	100.0		22.1	22.1	17.0	38.4	38.4	7.5	28.4	28.4
Effective Green, g (s)	40.6	40.6	100.0		22.6	22.6	18.0	39.4	38.4	8.4	29.4	29.4
Actuated g/C Ratio	0.41	0.41	1.00		0.23	0.23	0.18	0.39	0.38	0.08	0.29	0.29
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	377	706	1770		282	333	297	1394	513	139	971	456
v/s Ratio Prot	c0.18	0.41					c0.17	0.16		0.05	c0.25	
v/s Ratio Perm	c0.34		0.59		0.20	0.00			0.01			0.07
v/c Ratio	1.29	1.01	0.59		0.90	0.02	0.97	0.41	0.03	0.54	0.84	0.24
Uniform Delay, d1	26.7	29.7	0.0		37.6	30.1	40.7	21.9	19.2	43.9	33.0	26.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	147.6	36.7	1.4		29.0	0.0	42.7	0.9	0.1	4.5	8.4	1.3
Delay (s)	174.3	66.4	1.4		66.5	30.1	83.4	22.8	19.3	48.4	41.5	28.1
Level of Service	F	E	A		E	C	F	C	B	D	D	C
Approach Delay (s)		59.5			63.9			42.3			39.8	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	51.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	91	1608	141	1415
v/c Ratio	0.41	0.50	0.38	0.70	0.48
Control Delay	55.7	29.5	1.7	28.9	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	55.7	29.5	1.7	28.9	4.0
Queue Length 50th (ft)	33	23	33	30	106
Queue Length 95th (ft)	67	70	86	#203	211
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	260	337	4217	201	2965
Starvation Cap Reductn	0	0	0	0	968
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.27	0.38	0.70	0.71

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	44	0	84	0	1445	34	130	1301	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		1.00		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1562	1395		4934		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.14	1.00	
Satd. Flow (perm)					1245	1395		4934		235	3471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	48	0	91	0	1571	37	141	1414	1
RTOR Reduction (vph)	0	0	0	0	0	52	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	39	0	1607	0	141	1415	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					9.2	9.2		92.2		92.2	92.2	
Effective Green, g (s)					9.2	9.2		92.2		92.2	92.2	
Actuated g/C Ratio					0.08	0.08		0.84		0.84	0.84	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					104	117		4136		197	2909	
v/s Ratio Prot								0.33			0.41	
v/s Ratio Perm					c0.04	0.03				c0.60		
v/c Ratio					0.46	0.33		0.39		0.72	0.49	
Uniform Delay, d1					48.0	47.5		2.1		3.6	2.4	
Progression Factor					1.00	1.00		0.60		1.00	1.00	
Incremental Delay, d2					3.2	1.7		0.2		19.9	0.6	
Delay (s)					51.3	49.2		1.5		23.5	3.0	
Level of Service					D	D		A		C	A	
Approach Delay (s)		0.0			49.9			1.5			4.9	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	5.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	36	626	625	241	99
v/c Ratio	0.29	0.46	0.27	0.74	0.27
Control Delay	51.4	5.2	14.3	55.5	8.7
Queue Delay	0.0	0.3	0.0	0.0	0.0
Total Delay	51.4	5.5	14.3	55.5	8.7
Queue Length 50th (ft)	25	95	93	162	0
Queue Length 95th (ft)	m41	190	229	231	42
Internal Link Dist (ft)		524	522	183	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	156	1367	2315	523	537
Starvation Cap Reductn	0	262	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	0.57	0.27	0.46	0.18

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	33	576	528	47	222	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3496		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3496		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	626	574	51	241	99
RTOR Reduction (vph)	0	0	4	0	0	81
Lane Group Flow (vph)	36	626	621	0	241	18
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	5.3	80.7	70.9		20.3	20.3
Effective Green, g (s)	5.3	80.7	70.9		20.3	20.3
Actuated g/C Ratio	0.05	0.73	0.64		0.18	0.18
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	85	1367	2253		327	292
v/s Ratio Prot	0.02	c0.34	0.18		c0.14	
v/s Ratio Perm						0.01
v/c Ratio	0.42	0.46	0.28		0.74	0.06
Uniform Delay, d1	50.9	5.9	8.4		42.3	37.0
Progression Factor	0.97	0.62	1.50		1.00	1.00
Incremental Delay, d2	2.8	0.9	0.3		8.4	0.1
Delay (s)	52.3	4.6	12.9		50.7	37.1
Level of Service	D	A	B		D	D
Approach Delay (s)		7.2	12.9		46.7	
Approach LOS		A	B		D	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	2091	489	1960	507
v/c Ratio	0.80	0.63	0.39	0.71
Control Delay	16.9	17.0	0.1	20.7
Queue Delay	4.2	1.4	0.0	1.1
Total Delay	21.1	18.4	0.2	21.7
Queue Length 50th (ft)	263	173	0	141
Queue Length 95th (ft)	m259	m197	m0	#248
Internal Link Dist (ft)	390		254	
Turn Bay Length (ft)				
Base Capacity (vph)	2615	782	5085	712
Starvation Cap Reductn	0	135	0	0
Spillback Cap Reductn	445	0	864	65
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.96	0.76	0.46	0.78

Intersection Summary

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.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1893	30	450	1803	0	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6393		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6393		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2058	33	489	1960	0	507
RTOR Reduction (vph)	4	0	0	0	0	1
Lane Group Flow (vph)	2087	0	489	1960	0	506
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	24.5		26.5	60.0		26.5
Effective Green, g (s)	24.5		26.5	60.0		26.5
Actuated g/C Ratio	0.41		0.44	1.00		0.44
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	2610		782	5085		712
v/s Ratio Prot	c0.33		0.28	0.39		c0.31
v/s Ratio Perm						
v/c Ratio	0.80		0.63	0.39		0.71
Uniform Delay, d1	15.6		12.9	0.0		13.6
Progression Factor	0.97		1.15	1.00		1.00
Incremental Delay, d2	1.7		0.8	0.1		3.4
Delay (s)	16.8		15.6	0.1		17.0
Level of Service	B		B	A		B
Approach Delay (s)	16.8			3.2	17.0	
Approach LOS	B			A	B	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	222	249	205	884	36	604	190	392	426	54
v/c Ratio	0.76	0.56	0.19	0.26	0.89	0.47	0.65	0.20	0.85	0.42	0.11
Control Delay	103.9	52.7	26.6	22.2	30.8	83.5	50.8	1.3	72.7	37.5	8.9
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	103.9	52.7	26.6	22.2	30.8	83.5	50.8	1.3	72.7	37.5	8.9
Queue Length 50th (ft)	63	84	65	100	537	31	176	0	171	157	0
Queue Length 95th (ft)	#160	125	121	174	#1014	72	219	18	#287	208	32
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	104	1338	1338	849	997	94	1278	1050	461	1177	583
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	0.71	0.17	0.19	0.24	0.89	0.38	0.47	0.18	0.85	0.36	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	162	42	229	189	813	33	556	175	361	392	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3092		3255	1689	1501	1620	4655	1449	3143	3240	1510
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3092		3255	1689	1501	1620	4655	1449	3143	3240	1510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	176	46	249	205	884	36	604	190	392	426	54
RTOR Reduction (vph)	0	24	0	0	0	24	0	0	73	0	0	37
Lane Group Flow (vph)	74	198	0	249	205	860	36	604	117	392	426	17
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	7.5	15.6		52.9	61.0	84.4	5.0	26.7	79.6	18.9	40.6	40.6
Effective Green, g (s)	7.5	15.6		52.9	61.0	84.4	5.0	26.7	79.6	18.9	40.6	40.6
Actuated g/C Ratio	0.06	0.12		0.41	0.47	0.65	0.04	0.21	0.62	0.15	0.31	0.31
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	97	373		1331	796	979	63	960	891	459	1017	474
v/s Ratio Prot	c0.04	0.06		0.08	0.12	c0.57	0.02	c0.13	0.08	0.12	0.13	
v/s Ratio Perm												0.01
v/c Ratio	0.76	0.53		0.19	0.26	0.88	0.57	0.63	0.13	0.85	0.42	0.04
Uniform Delay, d1	60.1	53.5		24.5	20.6	18.3	61.1	46.8	10.4	53.9	35.1	30.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.7	2.3		0.0	0.2	9.3	7.6	1.3	0.1	13.8	0.3	0.0
Delay (s)	86.8	55.7		24.5	20.8	27.6	68.7	48.1	10.5	67.7	35.4	30.8
Level of Service	F	E		C	C	C	E	D	B	E	D	C
Approach Delay (s)		63.5			26.0			40.4			49.6	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM Average Control Delay	39.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	129.4	Sum of lost time (s)	11.8
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	690	108	1485	637	55	235	564	278
v/c Ratio	0.87	0.40	0.66	0.91	0.64	0.57	0.79	0.95	0.65
Control Delay	92.0	17.3	73.5	19.4	1.5	77.1	28.0	74.8	22.1
Queue Delay	0.0	0.0	0.0	35.5	2.2	0.0	4.1	0.0	0.0
Total Delay	92.0	17.4	73.5	55.0	3.7	77.1	32.0	74.8	22.1
Queue Length 50th (ft)	117	155	90	420	0	42	7	224	58
Queue Length 95th (ft)	#244	222	m93	m#559	m7	86	#112	#331	155
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	185	1728	203	1626	1002	126	317	602	433
Starvation Cap Reductn	0	0	0	245	229	0	0	0	0
Spillback Cap Reductn	0	27	0	0	0	0	36	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.41	0.53	1.08	0.82	0.44	0.84	0.94	0.64

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	142	620	15	99	1228	724	51	8	208	519	41	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98	0.85	1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3167		1620	3025	1318	1678	1437		3143	1451	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3167		1620	3025	1318	1678	1437		3143	1451	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	674	16	108	1335	787	55	9	226	564	45	233
RTOR Reduction (vph)	0	1	0	0	7	296	0	213	0	0	156	0
Lane Group Flow (vph)	154	689	0	108	1478	341	55	22	0	564	122	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	13.2	65.4		12.0	64.2	64.2	6.9	6.9		22.7	22.7	
Effective Green, g (s)	13.2	65.4		12.0	64.2	64.2	6.9	6.9		22.7	22.7	
Actuated g/C Ratio	0.11	0.55		0.10	0.54	0.54	0.06	0.06		0.19	0.19	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	178	1726		162	1618	705	96	83		595	274	
v/s Ratio Prot	c0.10	0.22		0.07	c0.49		c0.03	0.02		c0.18	0.08	
v/s Ratio Perm						0.26						
v/c Ratio	0.87	0.40		0.67	0.91	0.48	0.57	0.27		0.95	0.45	
Uniform Delay, d1	52.5	15.9		52.1	25.4	17.5	55.1	54.1		48.1	43.1	
Progression Factor	1.00	1.00		1.25	0.55	0.17	1.00	1.00		1.00	1.00	
Incremental Delay, d2	31.8	0.7		3.3	4.4	1.0	5.0	0.6		24.4	1.2	
Delay (s)	84.4	16.6		68.4	18.2	3.9	60.2	54.7		72.5	44.2	
Level of Service	F	B		E	B	A	E	D		E	D	
Approach Delay (s)		28.9			16.6			55.8			63.1	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	58	1496	770	1979	286	559	70	51
v/c Ratio	0.83	0.77	1.00	0.95	0.96	0.48	0.90	0.53
Control Delay	109.4	27.1	65.7	23.8	93.8	18.0	133.4	52.9
Queue Delay	0.0	3.3	0.0	27.5	0.0	0.0	0.0	0.2
Total Delay	109.4	30.4	65.7	51.2	93.8	18.1	133.4	53.1
Queue Length 50th (ft)	47	293	315	625	222	127	55	20
Queue Length 95th (ft)	m#90	m331	m#420	#926	#392	173	#148	#70
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	70	1934	773	2092	302	1175	78	97
Starvation Cap Reductn	0	333	0	219	0	0	0	0
Spillback Cap Reductn	0	0	0	225	0	29	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.93	1.00	1.06	0.95	0.49	0.90	0.53

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	1207	169	708	1709	111	232	31	514	64	24	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99			1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4484		3143	3289			1808	2810	1562	1457	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4484		3143	3289			1808	2810	1562	1457	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	1312	184	770	1858	121	252	34	559	70	26	25
RTOR Reduction (vph)	0	15	0	0	4	0	0	0	34	0	24	0
Lane Group Flow (vph)	58	1481	0	770	1975	0	0	286	525	70	27	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	5.1	51.3		29.5	76.2			19.7	49.2	6.0	6.0	
Effective Green, g (s)	5.1	51.3		29.5	76.2			19.7	49.2	6.0	6.0	
Actuated g/C Ratio	0.04	0.43		0.25	0.64			0.16	0.41	0.05	0.05	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	69	1917		773	2089			297	1152	78	73	
v/s Ratio Prot	0.04	c0.33		0.25	c0.60			c0.16	0.11	c0.04	0.02	
v/s Ratio Perm									0.07			
v/c Ratio	0.84	0.77		1.00	0.95			0.96	0.46	0.90	0.37	
Uniform Delay, d1	57.0	29.4		45.2	20.0			49.8	25.7	56.7	55.2	
Progression Factor	0.88	0.84		0.92	0.82			1.00	1.00	1.00	1.00	
Incremental Delay, d2	46.5	2.4		23.2	6.6			41.7	0.1	66.4	1.2	
Delay (s)	96.6	27.2		64.9	23.0			91.5	25.8	123.1	56.3	
Level of Service	F	C		E	C			F	C	F	E	
Approach Delay (s)		29.8			34.7			48.0			95.0	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM Average Control Delay	36.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1162	1055	1849	792	422	400	389
v/c Ratio	0.54	0.73	0.88	0.54	0.89	0.84	0.82
Control Delay	6.0	9.1	22.6	1.4	63.0	54.6	53.0
Queue Delay	0.5	0.0	20.9	0.0	0.0	0.1	0.1
Total Delay	6.5	9.1	43.5	1.4	63.0	54.7	53.1
Queue Length 50th (ft)	98	244	559	0	329	303	280
Queue Length 95th (ft)	m127	m474	691	0	#524	#486	#451
Internal Link Dist (ft)	509		1069			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2167	1439	2113	1478	474	478	472
Starvation Cap Reductn	517	0	0	0	0	0	0
Spillback Cap Reductn	0	0	329	0	0	2	2
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.73	1.04	0.54	0.89	0.84	0.83

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1069	971	0	1701	729	0	0	0	452	0	662
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.88	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.99	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1629	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.99	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1629	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1162	1055	0	1849	792	0	0	0	491	0	720
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	17	17
Lane Group Flow (vph)	0	1162	1055	0	1849	792	0	0	0	422	383	372
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Perm
Protected Phases		2			6					4	4	
Permitted Phases			2 4			Free				4		4
Actuated Green, G (s)		78.0	120.0		78.0	120.0				34.0	34.0	34.0
Effective Green, g (s)		79.0	120.0		79.0	120.0				35.0	34.0	35.0
Actuated g/C Ratio		0.66	1.00		0.66	1.00				0.29	0.28	0.29
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2167	1439		2113	1478				474	462	455
v/s Ratio Prot		0.35			c0.58					c0.26	0.24	
v/s Ratio Perm			0.73			0.54						0.24
v/c Ratio		0.54	0.73		0.88	0.54				0.89	0.83	0.82
Uniform Delay, d1		10.8	0.0		16.5	0.0				40.7	40.3	39.5
Progression Factor		0.47	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.8	1.7		5.4	1.4				18.9	12.2	11.4
Delay (s)		5.9	1.7		22.0	1.4				59.5	52.4	51.0
Level of Service		A	A		C	A				E	D	D
Approach Delay (s)		3.9			15.8			0.0			54.4	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	61	67	225	368	428
v/c Ratio	0.80	0.09	0.49	0.32	0.72	0.56
Control Delay	23.5	3.5	42.8	13.1	28.3	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	3.5	42.8	13.1	28.3	5.4
Queue Length 50th (ft)	177	0	24	52	121	0
Queue Length 95th (ft)	#348	17	#78	95	#241	57
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	957	883	137	965	613	834
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	0.63	0.07	0.49	0.23	0.60	0.51

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	556	56	62	207	339	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1559
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	61	67	225	368	428
RTOR Reduction (vph)	0	34	0	0	0	302
Lane Group Flow (vph)	604	27	67	225	368	126
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	22.9	22.9	2.0	21.4	15.4	15.4
Effective Green, g (s)	22.9	22.9	2.0	21.4	15.4	15.4
Actuated g/C Ratio	0.44	0.44	0.04	0.41	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	735	657	62	748	502	459
v/s Ratio Prot	c0.36		c0.04	0.12	c0.22	
v/s Ratio Perm		0.02				0.08
v/c Ratio	0.82	0.04	1.08	0.30	0.73	0.27
Uniform Delay, d1	12.9	8.4	25.1	10.4	16.6	14.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.4	0.0	138.3	0.2	5.5	0.3
Delay (s)	20.3	8.4	163.5	10.6	22.1	14.5
Level of Service	C	A	F	B	C	B
Approach Delay (s)	19.2			45.7	18.0	
Approach LOS	B			D	B	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	52.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	84	117	105	26	781	66	479
v/c Ratio	0.21	0.30	0.24	0.06	0.44	0.20	0.27
Control Delay	12.0	14.2	4.8	7.8	8.4	9.9	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	14.2	4.8	7.8	8.4	9.9	7.2
Queue Length 50th (ft)	11	18	0	2	46	7	25
Queue Length 95th (ft)	42	60	25	17	148	39	84
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	974	980	957	618	2316	427	2322
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	0.09	0.12	0.11	0.04	0.34	0.15	0.21

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	44	9	55	52	97	24	656	63	61	411	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1534			1687	1308	1615	3032		1561	3042	
Flt Permitted		0.88			0.80	1.00	0.48	1.00		0.34	1.00	
Satd. Flow (perm)		1370			1383	1308	813	3032		561	3042	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	48	10	60	57	105	26	713	68	66	447	32
RTOR Reduction (vph)	0	8	0	0	0	81	0	9	0	0	7	0
Lane Group Flow (vph)	0	76	0	0	117	24	26	772	0	66	472	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		9.4			9.4	9.4	21.9	21.9		21.9	21.9	
Effective Green, g (s)		9.4			9.4	9.4	21.9	21.9		21.9	21.9	
Actuated g/C Ratio		0.23			0.23	0.23	0.54	0.54		0.54	0.54	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		318			321	304	440	1640		303	1645	
v/s Ratio Prot								c0.25			0.16	
v/s Ratio Perm		0.06			c0.08	0.02	0.03			0.12		
v/c Ratio		0.24			0.36	0.08	0.06	0.47		0.22	0.29	
Uniform Delay, d1		12.6			13.0	12.2	4.4	5.7		4.8	5.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			1.0	0.2	0.1	0.3		0.5	0.1	
Delay (s)		13.2			14.0	12.3	4.5	6.0		5.3	5.2	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		13.2			13.2			6.0			5.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	40.5	Sum of lost time (s)	9.2
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	20	198	316	178	287	34
v/c Ratio	0.07	0.27	0.50	0.14	0.52	0.07
Control Delay	22.3	9.1	14.6	0.6	16.3	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	9.1	14.6	0.6	16.3	6.6
Queue Length 50th (ft)	3	23	39	0	38	1
Queue Length 95th (ft)	27	75	176	9	168	18
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	453	1793	1605	1539	1266	1100
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	0.04	0.11	0.20	0.12	0.23	0.03

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	18	182	291	164	264	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1623	1562	1361
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1623	1562	1361
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	198	316	178	287	34
RTOR Reduction (vph)	0	0	0	56	0	20
Lane Group Flow (vph)	20	198	316	122	287	14
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	0.9	20.1	15.2	29.5	14.3	14.3
Effective Green, g (s)	0.9	20.1	15.2	29.5	14.3	14.3
Actuated g/C Ratio	0.02	0.47	0.35	0.69	0.33	0.33
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	34	854	603	1113	519	453
v/s Ratio Prot	0.01	c0.11	c0.19	0.04	c0.18	
v/s Ratio Perm				0.04		0.01
v/c Ratio	0.59	0.23	0.52	0.11	0.55	0.03
Uniform Delay, d1	20.9	6.8	11.0	2.3	11.7	9.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.4	0.1	0.8	0.0	1.3	0.0
Delay (s)	44.2	7.0	11.9	2.3	13.0	9.7
Level of Service	D	A	B	A	B	A
Approach Delay (s)		10.4	8.4		12.7	
Approach LOS		B	A		B	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	43.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	208	266	324	267	265	224
v/c Ratio	0.56	0.51	0.68	0.28	0.48	0.39
Control Delay	38.5	8.1	36.2	10.6	28.6	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	8.1	36.2	10.6	28.6	11.4
Queue Length 50th (ft)	98	0	148	65	113	27
Queue Length 95th (ft)	204	66	307	133	232	97
Internal Link Dist (ft)	328			4916	905	
Turn Bay Length (ft)		350	75			100
Base Capacity (vph)	837	836	678	1494	737	746
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	0.25	0.32	0.48	0.18	0.36	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	190	245	298	245	1	242	2	206	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5			
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.98			
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		1758	1461	1562	1704			1683	1724			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		1757	1461	1562	1704			1683	1724			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	207	266	324	266	1	263	2	224	0	0	0
RTOR Reduction (vph)	0	0	208	0	0	0	0	0	110	0	0	0
Lane Group Flow (vph)	0	208	58	324	267	0	0	265	114	0	0	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		18.3	18.3	25.8	48.1			27.2	23.2			
Effective Green, g (s)		18.3	18.3	25.8	48.1			27.2	23.2			
Actuated g/C Ratio		0.22	0.22	0.31	0.57			0.32	0.27			
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0			
Lane Grp Cap (vph)		381	317	477	971			542	474			
v/s Ratio Prot				c0.21	0.16			c0.16	0.02			
v/s Ratio Perm		c0.12	0.04						0.05			
v/c Ratio		0.55	0.18	0.68	0.27			0.49	0.24			
Uniform Delay, d1		29.4	26.9	25.7	9.3			23.0	23.8			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Incremental Delay, d2		1.6	0.3	3.8	0.2			0.7	0.3			
Delay (s)		31.0	27.2	29.5	9.4			23.7	24.0			
Level of Service		C	C	C	A			C	C			
Approach Delay (s)		28.9			20.4			23.8			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	84.4	Sum of lost time (s)	12.6
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	166	408	64	245	386	503	24	382	143	228	463
v/c Ratio	0.65	0.81	0.15	0.75	0.67	0.66	0.25	0.66	0.45	0.77	0.44
Control Delay	60.6	53.1	23.1	61.0	40.5	9.5	66.4	50.8	22.5	65.3	29.8
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	60.6	53.1	23.1	61.0	40.5	9.5	66.4	50.8	22.5	65.3	29.8
Queue Length 50th (ft)	123	295	22	179	252	26	18	147	32	168	140
Queue Length 95th (ft)	218	462	63	#329	414	148	53	216	101	#327	208
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	356	664	570	407	731	846	100	876	429	363	1300
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	0.47	0.61	0.11	0.60	0.53	0.59	0.24	0.44	0.33	0.63	0.36

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	153	375	59	225	355	463	22	351	132	210	319	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1452	1620	1739	1395	1652	3240	1332	1620	2955	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1452	1620	1739	1395	1652	3240	1332	1620	2955	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	408	64	245	386	503	24	382	143	228	347	116
RTOR Reduction (vph)	0	0	18	0	0	304	0	0	77	0	23	0
Lane Group Flow (vph)	166	408	46	245	386	199	24	382	66	228	440	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	17.6	32.5	32.5	22.7	37.6	37.6	3.9	22.3	22.3	21.6	40.0	
Effective Green, g (s)	17.5	32.4	32.4	22.6	37.5	37.5	2.9	21.8	21.8	20.6	39.5	
Actuated g/C Ratio	0.15	0.29	0.29	0.20	0.33	0.33	0.03	0.19	0.19	0.18	0.35	
Clearance Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	255	497	415	323	575	461	42	623	256	294	1029	
v/s Ratio Prot	0.10	c0.23		c0.15	0.22		0.01	c0.12		c0.14	0.15	
v/s Ratio Perm			0.03			0.14			0.05			
v/c Ratio	0.65	0.82	0.11	0.76	0.67	0.43	0.57	0.61	0.26	0.78	0.43	
Uniform Delay, d1	45.1	37.8	29.9	42.8	32.6	29.6	54.6	41.9	38.9	44.2	28.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.4	10.9	0.2	10.4	3.4	0.9	20.6	2.1	0.7	12.7	0.4	
Delay (s)	51.5	48.7	30.0	53.2	36.0	30.5	75.2	44.0	39.7	56.9	28.7	
Level of Service	D	D	C	D	D	C	E	D	D	E	C	
Approach Delay (s)		47.6			37.3			44.2			38.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	40.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	113.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	59	590	61	1068	1052	187	286	546	205	337	20
v/c Ratio	0.50	0.61	0.17	0.97	0.67	0.93	0.46	0.36	0.55	0.57	0.07
Control Delay	62.9	39.3	10.1	55.2	21.9	94.3	39.0	12.9	49.7	41.9	14.8
Queue Delay	0.0	0.0	0.0	2.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	39.3	10.1	57.3	22.6	94.3	39.0	12.9	49.7	41.9	14.8
Queue Length 50th (ft)	37	125	0	343	256	120	85	100	64	104	0
Queue Length 95th (ft)	#97	176	35	#567	371	#287	132	152	113	156	21
Internal Link Dist (ft)		238			391		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	117	1185	421	1102	1639	201	1079	1894	375	922	434
Starvation Cap Reductn	0	0	0	15	266	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	0.50	0.50	0.14	0.98	0.77	0.93	0.27	0.29	0.55	0.37	0.05

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	543	56	983	724	244	172	263	502	189	310	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	3.1	4.0	4.0	3.1	4.0		4.0	4.0	3.1	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3105		1678	3355	2706	3255	3240	1472
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3105		1678	3355	2706	3255	3240	1472
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	590	61	1068	787	265	187	286	546	205	337	20
RTOR Reduction (vph)	0	0	48	0	26	0	0	0	0	0	0	16
Lane Group Flow (vph)	59	590	13	1068	1026	0	187	286	546	205	337	4
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	5.2	19.5	19.5	34.1	48.4		12.1	17.3	55.4	11.7	16.9	16.9
Effective Green, g (s)	6.1	21.0	21.0	35.0	49.9		12.1	18.8	56.3	11.7	18.4	18.4
Actuated g/C Ratio	0.06	0.21	0.21	0.34	0.49		0.12	0.19	0.55	0.12	0.18	0.18
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	94	962	305	1121	1525		200	621	1499	375	587	267
v/s Ratio Prot	0.04	c0.13		c0.33	c0.33		c0.11	0.09	0.20	0.06	c0.10	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.63	0.61	0.04	0.95	0.67		0.94	0.46	0.36	0.55	0.57	0.01
Uniform Delay, d1	46.6	36.6	32.2	32.5	19.6		44.4	36.9	12.7	42.4	38.0	34.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.9	1.3	0.1	16.8	1.3		45.6	0.7	0.2	2.0	1.6	0.0
Delay (s)	60.6	37.9	32.3	49.3	20.9		90.0	37.6	12.9	44.5	39.7	34.2
Level of Service	E	D	C	D	C		F	D	B	D	D	C
Approach Delay (s)		39.3			35.2			34.0			41.2	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	36.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	101.6	Sum of lost time (s)	19.1
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	301	1522	484	193	845	224	227	122	131
v/c Ratio	0.83	0.80	0.53	0.94	0.59	0.61	0.61	0.27	0.62
Control Delay	56.3	28.7	4.6	91.5	29.4	37.6	37.3	6.3	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	28.7	4.6	91.5	29.4	37.6	37.3	6.3	39.3
Queue Length 50th (ft)	161	263	0	108	143	120	121	0	21
Queue Length 95th (ft)	#374	#458	70	#289	233	192	194	38	#68
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	361	1909	913	206	1437	628	638	691	213
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.80	0.53	0.94	0.59	0.36	0.36	0.18	0.62

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	277	1400	445	178	750	28	355	60	112	18	48	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	4655	1531	1678	4626		1539	1564	1515		3064	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1620	4655	1531	1678	4626		1539	1564	1515		3064	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	1522	484	193	815	30	386	65	122	20	52	59
RTOR Reduction (vph)	0	0	285	0	3	0	0	0	93	0	56	0
Lane Group Flow (vph)	301	1522	199	193	842	0	224	227	29	0	75	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	19.1	36.1	36.1	10.1	27.1		20.9	20.9	20.9		4.0	
Effective Green, g (s)	20.1	37.1	37.1	11.1	28.1		21.5	21.5	21.5		4.6	
Actuated g/C Ratio	0.22	0.41	0.41	0.12	0.31		0.24	0.24	0.24		0.05	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	361	1913	629	206	1440		366	372	361		156	
v/s Ratio Prot	c0.19	c0.33		0.12	0.18		c0.15	0.15			c0.02	
v/s Ratio Perm			0.13						0.02			
v/c Ratio	0.83	0.80	0.32	0.94	0.58		0.61	0.61	0.08		0.48	
Uniform Delay, d1	33.5	23.3	18.0	39.3	26.2		30.7	30.7	26.7		41.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.7	2.9	0.8	45.2	1.2		3.5	3.4	0.1		3.2	
Delay (s)	49.3	26.2	18.8	84.4	27.4		34.1	34.0	26.9		44.9	
Level of Service	D	C	B	F	C		C	C	C		D	
Approach Delay (s)		27.7			38.0			32.5			44.9	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	174	1533	184	626	164	125	191	24	206
v/c Ratio	0.35	0.77	0.73	0.70	0.56	0.15	0.34	0.21	0.40
Control Delay	29.4	24.2	54.7	32.7	47.2	25.5	5.7	48.2	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	24.2	54.7	32.7	47.2	25.5	5.7	48.2	22.1
Queue Length 50th (ft)	67	219	92	152	42	26	0	6	33
Queue Length 95th (ft)	179	#419	#252	250	#98	51	47	22	62
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	498	2084	255	1215	301	1378	816	115	1161
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.74	0.72	0.52	0.54	0.09	0.23	0.21	0.18

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	1123	287	169	561	15	151	115	176	22	120	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4583		1652	3276		3143	3240	1660	3204	3039	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4583		1652	3276		3143	3240	1660	3204	3039	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	1221	312	184	610	16	164	125	191	24	130	76
RTOR Reduction (vph)	0	39	0	0	2	0	0	0	143	0	63	0
Lane Group Flow (vph)	174	1494	0	184	624	0	164	125	48	24	143	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	26.2	35.2		13.1	22.1		8.9	22.2	22.2	1.5	14.8	
Effective Green, g (s)	26.1	36.2		13.0	23.1		7.9	21.8	21.8	0.5	14.4	
Actuated g/C Ratio	0.30	0.42		0.15	0.27		0.09	0.25	0.25	0.01	0.17	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	488	1916		248	874		287	816	418	18	505	
v/s Ratio Prot	0.11	c0.33		0.11	c0.19		c0.05	0.04		0.01	c0.05	
v/s Ratio Perm									0.03			
v/c Ratio	0.36	0.78		0.74	0.71		0.57	0.15	0.12	1.33	0.28	
Uniform Delay, d1	23.7	21.8		35.2	28.8		37.7	25.2	25.0	43.0	31.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	2.2		12.0	3.0		3.3	0.1	0.2	331.2	0.4	
Delay (s)	24.1	24.0		47.2	31.7		41.0	25.3	25.1	374.2	32.0	
Level of Service	C	C		D	C		D	C	C	F	C	
Approach Delay (s)		24.0			35.3			30.6			67.7	
Approach LOS		C			D			C			E	

Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	20	139	316	4	651	666	353	629
v/c Ratio	0.10	0.70	0.46	0.01	0.30	0.53	0.31	0.24
Control Delay	33.3	62.2	6.6	2.8	6.4	2.5	4.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	62.2	6.6	2.8	6.4	2.5	4.4	5.3
Queue Length 50th (ft)	10	94	0	0	83	21	27	53
Queue Length 95th (ft)	31	155	40	m1	74	6	48	126
Internal Link Dist (ft)	387	325			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	272	260	799	567	2183	1263	1525	2570
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	0.07	0.53	0.40	0.01	0.30	0.53	0.23	0.24

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	0	4	126	2	291	4	599	613	325	533	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1703			1775	2787	1676	3355	1583	3433	3423	
Flt Permitted		0.78			0.71	1.00	0.41	1.00	1.00	0.36	1.00	
Satd. Flow (perm)		1374			1331	2787	729	3355	1583	1288	3423	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	0	4	137	2	316	4	651	666	353	579	50
RTOR Reduction (vph)	0	3	0	0	0	269	0	0	232	0	5	0
Lane Group Flow (vph)	0	17	0	0	139	47	4	651	434	353	624	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	pm+pt		Perm	pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)		16.4			16.4	16.4	72.8	71.6	71.6	84.6	78.9	
Effective Green, g (s)		16.4			16.4	16.4	72.8	71.6	71.6	84.6	78.9	
Actuated g/C Ratio		0.15			0.15	0.15	0.66	0.65	0.65	0.77	0.72	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		205			198	416	493	2184	1030	1156	2455	
v/s Ratio Prot							0.00	0.19		c0.02	0.18	
v/s Ratio Perm		0.01			c0.10	0.02	0.01		c0.27	0.21		
v/c Ratio		0.08			0.70	0.11	0.01	0.30	0.42	0.31	0.25	
Uniform Delay, d1		40.3			44.5	40.5	6.3	8.3	9.2	3.8	5.4	
Progression Factor		1.00			1.00	1.00	0.64	0.67	1.20	1.00	1.00	
Incremental Delay, d2		0.2			10.7	0.1	0.0	0.3	1.1	0.2	0.2	
Delay (s)		40.5			55.2	40.6	4.1	5.9	12.2	3.9	5.6	
Level of Service		D			E	D	A	A	B	A	A	
Approach Delay (s)		40.5			45.1			9.1			5.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	218	67	100	126	174	60	387	127	297
v/c Ratio	0.48	0.15	0.32	0.23	0.33	0.21	0.45	0.37	0.27
Control Delay	19.2	5.5	17.8	15.4	4.9	24.4	17.1	23.5	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	5.5	17.8	15.4	4.9	24.4	17.1	23.5	12.9
Queue Length 50th (ft)	49	0	21	26	0	15	41	30	28
Queue Length 95th (ft)	127	23	66	73	36	56	106	95	75
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	1111	978	776	1326	1040	525	1969	727	2266
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.07	0.13	0.10	0.17	0.11	0.20	0.17	0.13

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	123	62	92	116	160	55	275	81	117	226	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1701	1261	1620	1739	1320	1711	2958		1620	2995	
Flt Permitted		0.84	1.00	0.60	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1461	1261	1018	1739	1320	1711	2958		1620	2995	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	134	67	100	126	174	60	299	88	127	246	51
RTOR Reduction (vph)	0	0	46	0	0	120	0	29	0	0	18	0
Lane Group Flow (vph)	0	218	21	100	126	54	60	358	0	127	279	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		14.9	14.9	14.9	14.9	14.9	4.4	14.1		7.8	17.5	
Effective Green, g (s)		14.9	14.9	14.9	14.9	14.9	4.4	14.1		7.8	17.5	
Actuated g/C Ratio		0.31	0.31	0.31	0.31	0.31	0.09	0.29		0.16	0.36	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		451	389	314	536	407	156	864		262	1085	
v/s Ratio Prot					0.07		0.04	c0.12		c0.08	0.09	
v/s Ratio Perm		c0.15	0.02	0.10		0.04						
v/c Ratio		0.48	0.05	0.32	0.24	0.13	0.38	0.41		0.48	0.26	
Uniform Delay, d1		13.6	11.7	12.8	12.5	12.0	20.7	13.8		18.4	10.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8	0.1	0.6	0.2	0.1	1.6	0.4		1.4	0.2	
Delay (s)		14.4	11.8	13.4	12.7	12.2	22.3	14.2		19.8	11.0	
Level of Service		B	B	B	B	B	C	B		B	B	
Approach Delay (s)		13.8			12.6			15.3			13.6	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	48.3	Sum of lost time (s)	11.5
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	141	157	70	70	200	354	92	747	71	652
v/c Ratio	0.65	0.38	0.20	0.46	0.66	0.66	0.51	0.50	0.48	0.45
Control Delay	58.5	38.7	9.1	64.5	59.1	16.9	55.7	23.7	61.8	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	38.7	9.1	64.5	59.1	16.9	55.7	23.7	61.8	18.4
Queue Length 50th (ft)	95	97	0	52	123	7	62	195	49	116
Queue Length 95th (ft)	159	149	35	102	193	139	113	287	m93	179
Internal Link Dist (ft)		2946			525			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	259	493	400	176	396	598	225	1494	165	1448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.32	0.17	0.40	0.51	0.59	0.41	0.50	0.43	0.45

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	144	64	64	184	326	85	585	102	65	509	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1845	1306	1593	1863	1559	1652	3156		1593	3150	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3156		1593	3150	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	157	70	70	200	354	92	636	111	71	553	99
RTOR Reduction (vph)	0	0	54	0	0	281	0	11	0	0	11	0
Lane Group Flow (vph)	141	157	16	70	200	73	92	736	0	71	641	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	15.2	24.7	24.7	9.1	18.6	18.6	10.4	50.1		8.9	48.6	
Effective Green, g (s)	15.2	24.7	24.7	9.1	18.6	18.6	10.4	50.1		8.9	48.6	
Actuated g/C Ratio	0.14	0.22	0.22	0.08	0.17	0.17	0.09	0.46		0.08	0.44	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	218	414	293	132	315	264	156	1437		129	1392	
v/s Ratio Prot	c0.09	0.09		0.04	c0.11		c0.06	c0.23		0.04	0.20	
v/s Ratio Perm			0.01			0.05						
v/c Ratio	0.65	0.38	0.05	0.53	0.63	0.28	0.59	0.51		0.55	0.46	
Uniform Delay, d1	44.9	36.2	33.5	48.4	42.5	39.8	47.8	21.3		48.6	21.5	
Progression Factor	1.00	1.00	1.00	1.17	1.13	1.99	1.00	1.00		1.09	0.76	
Incremental Delay, d2	7.2	0.8	0.1	5.1	4.6	0.8	6.6	1.3		6.0	1.1	
Delay (s)	52.0	36.9	33.6	61.7	52.9	80.2	54.4	22.6		59.1	17.4	
Level of Service	D	D	C	E	D	F	D	C		E	B	
Approach Delay (s)		42.1			69.4			26.1			21.5	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	37.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	12	259	30	677	10	11	26	32	48
v/c Ratio	0.11	0.20	0.27	0.46	0.11	0.10	0.27	0.23	0.37
Control Delay	50.2	7.8	53.9	9.5	49.3	48.7	54.5	21.4	51.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	7.8	53.9	9.5	49.3	48.7	54.5	21.4	51.5
Queue Length 50th (ft)	8	46	20	167	7	7	18	1	29
Queue Length 95th (ft)	27	120	51	417	24	25	46	32	66
Internal Link Dist (ft)		522		1458		986		413	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	105	1300	114	1477	217	259	229	287	268
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.20	0.26	0.46	0.05	0.04	0.11	0.11	0.18

Intersection Summary

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	225	13	28	564	59	9	0	10	24	2	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	8	9	14	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.85		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1845		1593	1959		1711	1583		1770	1601	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1845		1593	1959		1326	1583		1398	1601	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	245	14	30	613	64	10	0	11	26	2	30
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	28	0
Lane Group Flow (vph)	12	258	0	30	677	0	10	11	0	26	4	0
Confl. Peds. (#/hr)			2									
Parking (#/hr)												
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.5	73.0		5.2	76.7		6.5	6.5		6.5	6.5	
Effective Green, g (s)	1.5	73.0		5.2	76.7		6.5	6.5		6.5	6.5	
Actuated g/C Ratio	0.01	0.66		0.05	0.70		0.06	0.06		0.06	0.06	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	24	1224		75	1366		78	94		83	95	
v/s Ratio Prot	0.01	0.14		c0.02	c0.35			0.01			0.00	
v/s Ratio Perm							0.01			c0.02		
v/c Ratio	0.50	0.21		0.40	0.50		0.13	0.12		0.31	0.04	
Uniform Delay, d1	53.9	7.2		50.9	7.7		49.1	49.0		49.6	48.8	
Progression Factor	0.98	0.82		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.4	0.4		3.5	1.3		0.7	0.6		2.2	0.2	
Delay (s)	68.4	6.3		54.4	9.0		49.8	49.6		51.8	49.0	
Level of Service	E	A		D	A		D	D		D	D	
Approach Delay (s)		9.1			10.9			49.7			50.2	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SWR	SWR2
Lane Configurations		
Volume (vph)	40	5
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.5	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1611	
Flt Permitted	1.00	
Satd. Flow (perm)	1611	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	43	5
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	43	0
Confl. Peds. (#/hr)		
Parking (#/hr)		
Turn Type	custom	
Protected Phases	9	
Permitted Phases		
Actuated Green, G (s)	7.3	
Effective Green, g (s)	7.3	
Actuated g/C Ratio	0.07	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	107	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.40	
Uniform Delay, d1	49.3	
Progression Factor	1.00	
Incremental Delay, d2	2.5	
Delay (s)	51.8	
Level of Service	D	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	55	297	7	527	41	59	7	36	374
v/c Ratio	0.23	0.31	0.04	0.74	0.24	0.11	0.02	0.10	0.63
Control Delay	30.4	9.6	30.7	24.2	21.0	16.6	9.7	17.0	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	9.6	30.7	24.2	21.0	16.6	9.7	17.0	18.9
Queue Length 50th (ft)	20	40	3	159	12	17	0	10	94
Queue Length 95th (ft)	57	138	15	#381	36	40	8	29	174
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	245	1240	175	925	340	1088	777	726	1057
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.24	0.04	0.57	0.12	0.05	0.01	0.05	0.35

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	184	89	6	446	39	38	54	6	33	152	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1917		1711	1698		1652	1863	1327	1644	1741	
Flt Permitted	0.95	1.00		0.95	1.00		0.34	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1711	1917		1711	1698		583	1863	1327	1243	1741	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	200	97	7	485	42	41	59	7	36	165	209
RTOR Reduction (vph)	0	20	0	0	3	0	0	0	5	0	70	0
Lane Group Flow (vph)	55	277	0	7	524	0	41	59	2	36	304	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	3.4	26.7		0.8	24.1		16.2	16.2	16.2	16.2	16.2	
Effective Green, g (s)	3.4	26.7		0.8	24.1		16.2	16.2	16.2	16.2	16.2	
Actuated g/C Ratio	0.06	0.47		0.01	0.43		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	103	903		24	722		167	532	379	355	497	
v/s Ratio Prot	c0.03	c0.14		0.00	c0.31			0.03			c0.17	
v/s Ratio Perm							0.07		0.00	0.03		
v/c Ratio	0.53	0.31		0.29	0.73		0.25	0.11	0.01	0.10	0.61	
Uniform Delay, d1	25.9	9.3		27.7	13.5		15.6	14.9	14.5	14.9	17.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.6	0.3		9.0	3.9		1.0	0.1	0.0	0.2	2.6	
Delay (s)	32.5	9.5		36.7	17.4		16.6	15.1	14.5	15.1	20.1	
Level of Service	C	A		D	B		B	B	B	B	C	
Approach Delay (s)		13.1			17.7			15.6			19.6	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	56.7	Sum of lost time (s)	17.5
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	105	90	3	10	445	437	40	25	568
v/c Ratio	0.44	0.19	0.03	0.04	0.81	0.24	0.05	0.19	0.65
Control Delay	39.2	7.2	39.7	20.2	39.0	11.1	6.6	40.8	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	7.2	39.7	20.2	39.0	11.1	6.6	40.8	21.0
Queue Length 50th (ft)	39	3	1	2	163	37	1	10	72
Queue Length 95th (ft)	#133	36	11	14	#542	135	23	43	171
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	260	917	100	776	552	2043	922	130	1294
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.10	0.03	0.01	0.81	0.21	0.04	0.19	0.44

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	9	74	3	5	5	409	402	37	23	292	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.87		1.00	0.93		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1529		1652	1592		1652	3240	1452	1711	3160	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1529		1652	1592		1652	3240	1452	1711	3160	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	105	10	80	3	5	5	445	437	40	25	317	251
RTOR Reduction (vph)	0	59	0	0	4	0	0	0	15	0	141	0
Lane Group Flow (vph)	105	31	0	3	6	0	445	437	25	25	427	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	7.5	19.3		0.6	12.4		23.2	39.6	39.6	1.7	18.1	
Effective Green, g (s)	7.5	19.3		0.6	12.4		23.2	39.6	39.6	1.7	18.1	
Actuated g/C Ratio	0.10	0.26		0.01	0.17		0.31	0.54	0.54	0.02	0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	174	400		13	268		520	1741	780	39	776	
v/s Ratio Prot	c0.06	c0.02		0.00	0.00		c0.27	0.13		0.01	c0.14	
v/s Ratio Perm									0.02			
v/c Ratio	0.60	0.08		0.23	0.02		0.86	0.25	0.03	0.64	0.55	
Uniform Delay, d1	31.7	20.5		36.3	25.6		23.7	9.1	8.0	35.7	24.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.7	0.1		12.0	0.0		13.4	0.1	0.0	33.8	1.0	
Delay (s)	38.4	20.6		48.4	25.6		37.1	9.2	8.1	69.5	25.3	
Level of Service	D	C		D	C		D	A	A	E	C	
Approach Delay (s)		30.2			30.9			22.6			27.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	73.7	Sum of lost time (s)	9.5
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	58	17	16	780	667
v/c Ratio	0.18	0.06	0.03	0.32	0.27
Control Delay	16.6	8.0	5.3	4.8	4.5
Queue Delay	0.0	0.0	0.0	0.2	0.0
Total Delay	16.6	8.0	5.3	5.0	4.5
Queue Length 50th (ft)	16	0	1	38	31
Queue Length 95th (ft)	35	11	10	116	95
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	801	653	501	2344	2327
Starvation Cap Reductn	0	0	0	680	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.03	0.03	0.47	0.29

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	53	16	15	718	578	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3210	
Flt Permitted	0.95	1.00	0.40	1.00	1.00	
Satd. Flow (perm)	1652	1330	692	3240	3210	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	17	16	780	628	39
RTOR Reduction (vph)	0	15	0	0	5	0
Lane Group Flow (vph)	58	2	16	780	662	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	5.6	5.6	30.4	30.4	30.4	
Effective Green, g (s)	5.6	5.6	30.4	30.4	30.4	
Actuated g/C Ratio	0.12	0.12	0.68	0.68	0.68	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	206	166	467	2189	2169	
v/s Ratio Prot	c0.04			c0.24	0.21	
v/s Ratio Perm		0.00	0.02			
v/c Ratio	0.28	0.01	0.03	0.36	0.31	
Uniform Delay, d1	17.9	17.3	2.4	3.1	3.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.0	0.1	0.3	0.2	
Delay (s)	18.6	17.3	2.5	3.4	3.2	
Level of Service	B	B	A	A	A	
Approach Delay (s)	18.3			3.4	3.2	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	4.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	30.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1137	1046	490	1859	686	965
v/c Ratio	0.96	0.65	0.86	0.93	0.41	1.27
Control Delay	31.1	2.8	34.9	16.4	0.7	157.8
Queue Delay	0.0	0.3	0.0	0.6	0.0	0.0
Total Delay	31.1	3.0	34.9	17.0	0.7	157.8
Queue Length 50th (ft)	110	16	105	338	0	~305
Queue Length 95th (ft)	#368	26	#179	m355	0	#426
Internal Link Dist (ft)	247			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1184	1609	570	2008	1686	760
Starvation Cap Reductn	0	130	0	0	0	0
Spillback Cap Reductn	0	0	0	28	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.71	0.86	0.94	0.41	1.27

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1046	962	451	1710	0	0	0	631	0	0	888
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1137	1046	490	1859	0	0	0	686	0	0	965
RTOR Reduction (vph)	0	0	677	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1137	369	490	1859	0	0	0	686	0	0	965
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		24.7	24.7	12.7	41.9				70.0			19.1
Effective Green, g (s)		24.7	24.7	12.7	41.9				70.0			19.1
Actuated g/C Ratio		0.35	0.35	0.18	0.60				1.00			0.27
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1184	932	570	2008				1686			760
v/s Ratio Prot		0.34		0.16	c0.55							
v/s Ratio Perm			0.14						0.41			c0.35
v/c Ratio		0.96	0.40	0.86	0.93				0.41			1.27
Uniform Delay, d1		22.2	17.0	27.8	12.7				0.0			25.4
Progression Factor		0.56	0.77	0.67	0.86				1.00			1.00
Incremental Delay, d2		16.1	1.0	14.4	4.1				0.7			131.7
Delay (s)		28.5	14.1	32.9	15.0				0.7			157.1
Level of Service		C	B	C	B				A			F
Approach Delay (s)		21.6			18.8			0.7			157.1	
Approach LOS		C			B			A			F	

Intersection Summary			
HCM Average Control Delay	39.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	705	1117	861	521	775	1542
v/c Ratio	0.76	0.33	0.45	0.57	0.48	1.01
Control Delay	18.0	0.2	9.9	11.8	1.0	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	0.2	9.9	11.8	1.0	29.5
Queue Length 50th (ft)	142	0	104	112	0	~13
Queue Length 95th (ft)	m169	m0	158	219	0	#254
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	1078	3355	1934	912	1611	1528
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	0.65	0.33	0.45	0.57	0.48	1.01

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	649	1028	0	0	792	479	0	0	713	0	0	1419
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	705	1117	0	0	861	521	0	0	775	0	0	1542
RTOR Reduction (vph)	0	0	0	0	0	30	0	0	0	0	0	0
Lane Group Flow (vph)	705	1117	0	0	861	491	0	0	775	0	0	1542
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	20.6	70.0			40.4	40.4			70.0			70.0
Effective Green, g (s)	20.6	70.0			40.4	40.4			70.0			70.0
Actuated g/C Ratio	0.29	1.00			0.58	0.58			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	925	3355			1936	884			1611			1528
v/s Ratio Prot	0.22	0.33			0.26							
v/s Ratio Perm						0.32			0.48			c1.01
v/c Ratio	0.76	0.33			0.44	0.56			0.48			1.01
Uniform Delay, d1	22.5	0.0			8.4	9.2			0.0			35.0
Progression Factor	0.64	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	2.4	0.2			0.7	2.5			1.0			25.3
Delay (s)	16.9	0.2			9.2	11.7			1.0			60.3
Level of Service	B	A			A	B			A			E
Approach Delay (s)		6.6			10.1			1.0			60.3	
Approach LOS		A			B			A			E	

Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	349	374	471	343	15	303	577	15	45	566	201
v/c Ratio	1.04	0.51	0.27	0.88	0.04	0.81	0.38	0.03	0.40	0.70	0.43
Control Delay	89.8	27.6	0.4	65.5	23.4	58.3	23.1	11.9	62.8	44.0	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	89.8	27.6	0.4	65.5	23.4	58.3	23.1	11.9	62.8	44.0	19.1
Queue Length 50th (ft)	~228	202	0	244	3	209	152	2	32	200	50
Queue Length 95th (ft)	#425	304	0	#417	22	#318	198	15	72	269	122
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	335	752	1770	414	358	441	1612	602	114	851	485
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	1.04	0.50	0.27	0.83	0.04	0.69	0.36	0.02	0.39	0.67	0.41

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	321	344	433	4	312	14	279	531	14	41	521	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1472	1652	3539	1337	1652	3303	1550
Flt Permitted	0.17	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	291	1739	1770		1731	1472	1652	3539	1337	1652	3303	1550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	349	374	471	4	339	15	303	577	15	45	566	201
RTOR Reduction (vph)	0	0	0	0	0	7	0	0	6	0	0	87
Lane Group Flow (vph)	349	374	471	0	343	8	303	577	9	45	566	114
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	45.5	45.5	110.6		24.4	24.4	23.7	45.6	45.6	5.1	26.9	26.9
Effective Green, g (s)	46.0	46.0	110.6		24.9	24.9	24.7	46.6	45.6	6.0	27.9	27.9
Actuated g/C Ratio	0.42	0.42	1.00		0.23	0.23	0.22	0.42	0.41	0.05	0.25	0.25
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.9	5.0	5.0
Vehicle Extension (s)	4.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	331	723	1770		390	331	369	1491	551	90	833	391
v/s Ratio Prot	c0.16	0.22					c0.18	0.16		0.03	c0.17	
v/s Ratio Perm	c0.27		0.27		0.20	0.01			0.01			0.07
v/c Ratio	1.05	0.52	0.27		0.88	0.02	0.82	0.39	0.02	0.50	0.68	0.29
Uniform Delay, d1	28.9	24.0	0.0		41.4	33.4	40.8	22.1	19.2	50.8	37.3	33.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	64.5	0.8	0.4		20.1	0.0	13.6	0.5	0.0	5.1	3.4	1.2
Delay (s)	93.4	24.9	0.4		61.5	33.4	54.5	22.6	19.3	55.9	40.7	34.6
Level of Service	F	C	A		E	C	D	C	B	E	D	C
Approach Delay (s)		35.2			60.3			33.3			40.0	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	38.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	29	90	913	160	967
v/c Ratio	0.10	0.24	0.24	0.41	0.37
Control Delay	15.3	6.0	3.9	11.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.3	6.0	3.9	11.6	4.8
Queue Length 50th (ft)	6	0	24	15	44
Queue Length 95th (ft)	22	25	79	#115	144
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	664	763	3890	404	2746
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.12	0.23	0.40	0.35

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	26	1	83	0	799	41	147	888	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.99		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		0.99		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1570	1401		4912		1619	3470	
Flt Permitted					0.79	1.00		1.00		0.30	1.00	
Satd. Flow (perm)					1294	1401		4912		512	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	28	1	90	0	868	45	160	965	2
RTOR Reduction (vph)	0	0	0	0	0	79	0	7	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	29	11	0	906	0	160	967	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					5.0	5.0		27.0		27.0	27.0	
Effective Green, g (s)					5.0	5.0		27.0		27.0	27.0	
Actuated g/C Ratio					0.12	0.12		0.67		0.67	0.67	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					159	173		3267		340	2308	
v/s Ratio Prot								0.18			0.28	
v/s Ratio Perm					c0.02	0.01				c0.31		
v/c Ratio					0.18	0.06		0.28		0.47	0.42	
Uniform Delay, d1					16.0	15.7		2.8		3.3	3.2	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.6	0.2		0.0		0.4	0.0	
Delay (s)					16.5	15.9		2.8		3.7	3.2	
Level of Service					B	B		A		A	A	
Approach Delay (s)		0.0			16.0			2.8			3.3	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	3.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	40.6	Sum of lost time (s)	8.6
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	12	278	724	38	30
v/c Ratio	0.11	0.17	0.24	0.30	0.21
Control Delay	56.0	1.2	0.8	53.7	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	1.2	0.8	53.7	19.6
Queue Length 50th (ft)	9	7	6	26	0
Queue Length 95th (ft)	m23	49	37	59	29
Internal Link Dist (ft)		525	522	196	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	169	1627	2974	426	404
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.17	0.24	0.09	0.07

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	11	256	607	59	35	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3492		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3492		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	278	660	64	38	30
RTOR Reduction (vph)	0	0	3	0	0	28
Lane Group Flow (vph)	12	278	721	0	38	2
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	1.5	94.2	88.2		6.8	6.8
Effective Green, g (s)	1.5	94.2	88.2		6.8	6.8
Actuated g/C Ratio	0.01	0.86	0.80		0.06	0.06
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	24	1595	2800		109	98
v/s Ratio Prot	c0.01	0.15	c0.21		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.50	0.17	0.26		0.35	0.02
Uniform Delay, d1	53.9	1.3	2.7		49.5	48.5
Progression Factor	1.11	0.67	0.27		1.00	1.00
Incremental Delay, d2	14.5	0.2	0.2		1.9	0.1
Delay (s)	74.0	1.1	0.9		51.4	48.5
Level of Service	E	A	A		D	D
Approach Delay (s)		4.1	0.9		50.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	4.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1374	543	2121	554
v/c Ratio	0.67	0.56	0.42	0.62
Control Delay	22.3	10.7	0.0	14.7
Queue Delay	0.1	7.8	0.0	0.0
Total Delay	22.5	18.6	0.0	14.7
Queue Length 50th (ft)	145	149	0	149
Queue Length 95th (ft)	182	m132	m0	247
Internal Link Dist (ft)	391		247	
Turn Bay Length (ft)				
Base Capacity (vph)	2056	974	5085	887
Starvation Cap Reductn	0	384	0	0
Spillback Cap Reductn	103	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.70	0.92	0.42	0.62

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1234	30	500	1951	0	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6385		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6385		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1341	33	543	2121	0	554
RTOR Reduction (vph)	5	0	0	0	0	1
Lane Group Flow (vph)	1369	0	543	2121	0	553
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	22.5		38.5	70.0		38.5
Effective Green, g (s)	22.5		38.5	70.0		38.5
Actuated g/C Ratio	0.32		0.55	1.00		0.55
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	2052		974	5085		886
v/s Ratio Prot	c0.21		0.31	0.42		c0.34
v/s Ratio Perm						
v/c Ratio	0.67		0.56	0.42		0.62
Uniform Delay, d1	20.5		10.2	0.0		10.8
Progression Factor	1.00		0.98	1.00		1.00
Incremental Delay, d2	1.7		0.1	0.0		1.4
Delay (s)	22.3		10.1	0.0		12.2
Level of Service	C		B	A		B
Approach Delay (s)	22.3			2.1	12.2	
Approach LOS	C			A	B	

Intersection Summary			
HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	58	173	289	166	1077	27	1334	253	1424	1124	90
v/c Ratio	0.97	0.44	0.90	0.36	0.62	0.38	1.09	0.34	1.26	0.58	0.10
Control Delay	173.0	55.2	85.8	43.6	15.9	80.0	100.7	6.5	164.5	19.4	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	173.0	55.2	85.8	43.6	15.9	80.0	100.7	6.5	164.5	19.4	2.7
Queue Length 50th (ft)	54	73	257	123	300	24	~501	32	~844	341	0
Queue Length 95th (ft)	#151	102	#555	192	372	58	#599	72	#982	410	24
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	60	702	320	467	1732	79	1228	755	1126	1943	945
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	0.97	0.25	0.90	0.36	0.62	0.34	1.09	0.34	1.26	0.58	0.10

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	134	25	266	153	991	25	1227	233	1310	1034	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	2.5	2.5		2.5	2.5	2.5	2.5	1.8	1.8	2.5	1.8	1.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3113		1678	1689	2642	1620	4655	1449	3143	3240	1515
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3113		1678	1689	2642	1620	4655	1449	3143	3240	1515
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	146	27	289	166	1077	27	1334	253	1424	1124	90
RTOR Reduction (vph)	0	12	0	0	0	8	0	0	88	0	0	37
Lane Group Flow (vph)	58	161	0	289	166	1069	27	1334	165	1424	1124	53
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	4.0	15.1		25.9	37.0	91.0	3.5	36.6	62.5	49.5	82.6	82.6
Effective Green, g (s)	5.0	17.1		26.9	39.0	93.0	4.5	38.6	66.5	50.5	84.6	84.6
Actuated g/C Ratio	0.04	0.12		0.19	0.27	0.65	0.03	0.27	0.47	0.35	0.59	0.59
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	3.0	3.0
Lane Grp Cap (vph)	59	374		317	463	1725	51	1262	677	1115	1925	900
v/s Ratio Prot	c0.03	0.05		c0.17	0.10	c0.40	0.02	c0.29	0.11	c0.45	0.35	
v/s Ratio Perm												0.04
v/c Ratio	0.98	0.43		0.91	0.36	0.62	0.53	1.06	0.24	1.28	0.58	0.06
Uniform Delay, d1	68.7	58.1		56.6	41.6	14.4	67.9	51.9	22.8	46.0	18.0	12.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	110.3	1.4		28.6	0.7	0.8	4.5	41.9	0.3	131.8	0.5	0.0
Delay (s)	179.0	59.5		85.2	42.3	15.2	72.4	93.8	23.1	177.7	18.4	12.2
Level of Service	F	E		F	D	B	E	F	C	F	B	B
Approach Delay (s)		89.5			31.3			82.3			104.2	
Approach LOS		F			C			F			F	

Intersection Summary			
HCM Average Control Delay	79.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	11.8
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	140	1713	25	1434	165	28	148	187	124
v/c Ratio	0.57	0.78	0.15	0.81	0.20	0.25	0.64	0.49	0.52
Control Delay	51.2	17.4	51.4	15.2	0.5	50.9	21.2	46.7	28.5
Queue Delay	0.0	2.9	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	51.2	20.3	51.4	15.2	0.5	50.9	21.4	46.7	28.5
Queue Length 50th (ft)	88	245	17	85	0	18	1	62	36
Queue Length 95th (ft)	154	#758	m26	#659	1	45	60	94	92
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	247	2210	170	1762	825	224	318	462	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	377	0	0	0	0	17	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.93	0.15	0.81	0.20	0.13	0.49	0.40	0.45

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	129	1560	16	23	1303	168	26	2	134	172	42	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	2.0	3.0		2.0	3.0	3.0	2.0	2.0		2.0	2.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.98		1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3174		1620	3068	1319	1678	1431		3143	1474	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3174		1620	3068	1319	1678	1431		3143	1474	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	1696	17	25	1416	183	28	2	146	187	46	78
RTOR Reduction (vph)	0	0	0	0	1	71	0	136	0	0	59	0
Lane Group Flow (vph)	140	1713	0	25	1433	94	28	12	0	187	65	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	16.8	70.3		4.0	57.5	57.5	5.9	5.9		11.8	11.8	
Effective Green, g (s)	17.8	71.3		5.0	58.5	58.5	6.9	6.9		12.8	12.8	
Actuated g/C Ratio	0.17	0.68		0.05	0.56	0.56	0.07	0.07		0.12	0.12	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	275	2155		77	1709	735	110	94		383	180	
v/s Ratio Prot	0.09	c0.54		0.02	c0.47		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.07						
v/c Ratio	0.51	0.79		0.32	0.84	0.13	0.25	0.12		0.49	0.36	
Uniform Delay, d1	39.6	11.7		48.4	19.3	11.1	46.6	46.2		43.0	42.3	
Progression Factor	1.00	1.00		1.15	0.54	0.02	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	3.1		0.8	4.5	0.3	0.4	0.2		1.0	1.2	
Delay (s)	40.2	14.9		56.5	14.9	0.5	47.1	46.4		44.0	43.6	
Level of Service	D	B		E	B	A	D	D		D	D	
Approach Delay (s)		16.8			14.1			46.5			43.9	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	1931	309	1521	173	215	147	88
v/c Ratio	0.36	0.79	0.77	0.50	0.75	0.28	0.81	0.45
Control Delay	50.9	19.1	58.9	8.5	63.4	11.7	76.2	40.5
Queue Delay	0.0	1.6	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	50.9	20.7	58.9	8.6	63.4	11.7	76.2	40.6
Queue Length 50th (ft)	21	416	99	152	112	26	95	42
Queue Length 95th (ft)	m29	284	m139	178	183	50	#198	92
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	93	2432	434	3052	276	802	198	213
Starvation Cap Reductn	0	312	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	244	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.91	0.71	0.54	0.63	0.27	0.74	0.42

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	1630	146	284	1345	54	141	18	198	135	53	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	2.0	3.0		2.5	3.0			2.0	2.5	2.0	2.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4511		3143	4744			1808	2806	1562	1536	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4511		3143	4744			1808	2806	1562	1536	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	1772	159	309	1462	59	153	20	215	147	58	30
RTOR Reduction (vph)	0	9	0	0	4	0	0	0	69	0	18	0
Lane Group Flow (vph)	32	1922	0	309	1517	0	0	173	146	147	70	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	3.0	55.4		12.4	65.3			12.4	24.8	11.3	11.3	
Effective Green, g (s)	4.0	56.4		13.4	66.3			13.4	26.8	12.3	12.3	
Actuated g/C Ratio	0.04	0.54		0.13	0.63			0.13	0.26	0.12	0.12	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	62	2423		401	2995			231	716	183	180	
v/s Ratio Prot	0.02	c0.43		c0.10	0.32			c0.10	0.03	c0.09	0.05	
v/s Ratio Perm									0.03			
v/c Ratio	0.52	0.79		0.77	0.51			0.75	0.20	0.80	0.39	
Uniform Delay, d1	49.6	19.6		44.3	10.5			44.2	30.7	45.2	42.9	
Progression Factor	0.89	0.82		1.09	0.73			1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	1.9		6.4	0.5			11.0	0.1	20.8	0.5	
Delay (s)	46.3	18.0		54.7	8.1			55.2	30.8	66.0	43.4	
Level of Service	D	B		D	A			E	C	E	D	
Approach Delay (s)		18.5			16.0			41.7			57.5	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	663	2151	1293	424	191	576
v/c Ratio	0.18	0.85	0.53	0.35	0.32	0.83
Control Delay	2.0	12.4	5.9	1.2	39.1	38.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	12.4	5.9	1.2	39.1	38.5
Queue Length 50th (ft)	20	346	150	0	58	140
Queue Length 95th (ft)	25	363	190	21	91	#235
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3604	2533	2445	1217	601	690
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	0.18	0.85	0.53	0.35	0.32	0.83

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	610	1979	0	1190	390	0	0	0	176	0	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	663	2151	0	1293	424	0	0	0	191	0	576
RTOR Reduction (vph)	0	0	0	0	0	105	0	0	0	0	0	167
Lane Group Flow (vph)	0	663	2151	0	1293	319	0	0	0	191	0	409
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		4
Permitted Phases			2 4			6				4		
Actuated Green, G (s)		79.0	105.0		79.0	79.0				18.0		18.0
Effective Green, g (s)		80.0	105.0		80.0	79.0				19.0		19.0
Actuated g/C Ratio		0.76	1.00		0.76	0.75				0.18		0.18
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3604	2533		2445	1112				601		523
v/s Ratio Prot		0.14			0.40					0.06		0.14
v/s Ratio Perm			c0.85			0.22						
v/c Ratio		0.18	0.85		0.53	0.29				0.32		0.78
Uniform Delay, d1		3.5	0.0		5.0	4.1				37.4		41.0
Progression Factor		0.53	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.1	2.5		0.8	0.6				0.4		7.9
Delay (s)		1.9	2.5		5.8	4.8				37.8		48.9
Level of Service		A	A		A	A				D		D
Approach Delay (s)		2.4			5.5			0.0			46.2	
Approach LOS		A			A			A			D	

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	196	21	36	116	255	122
v/c Ratio	0.53	0.06	0.18	0.09	0.25	0.12
Control Delay	25.2	8.2	25.6	4.4	8.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	8.2	25.6	4.4	8.9	2.9
Queue Length 50th (ft)	63	0	12	11	28	0
Queue Length 95th (ft)	105	13	34	33	109	25
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	587	539	216	1242	1034	994
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	0.33	0.04	0.17	0.09	0.25	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	180	19	33	107	235	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1562
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	21	36	116	255	122
RTOR Reduction (vph)	0	16	0	0	0	53
Lane Group Flow (vph)	196	5	36	116	255	69
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	12.2	12.2	2.8	39.8	33.0	33.0
Effective Green, g (s)	13.2	13.2	3.8	40.8	34.0	34.0
Actuated g/C Ratio	0.22	0.22	0.06	0.68	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	369	330	103	1242	966	885
v/s Ratio Prot	c0.12		c0.02	0.06	c0.15	
v/s Ratio Perm		0.00				0.04
v/c Ratio	0.53	0.01	0.35	0.09	0.26	0.08
Uniform Delay, d1	20.7	18.3	26.9	3.3	6.6	5.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0	2.1	0.1	0.7	0.2
Delay (s)	22.1	18.3	29.0	3.4	7.3	6.1
Level of Service	C	B	C	A	A	A
Approach Delay (s)	21.8			9.5	6.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	214	249	296	30	1367	66	1159
v/c Ratio	0.52	0.66	0.70	0.20	0.85	0.57	0.72
Control Delay	20.1	26.2	24.9	13.3	20.1	37.9	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	26.2	24.9	13.3	20.1	37.9	14.6
Queue Length 50th (ft)	57	74	80	5	194	14	147
Queue Length 95th (ft)	111	141	153	24	#397	#80	262
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	565	519	574	159	1672	120	1675
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	0.48	0.52	0.19	0.82	0.55	0.69

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	116	22	136	93	272	28	1174	84	61	1017	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1536			1681	1306	1618	3042		1562	3052	
Flt Permitted		0.84			0.70	1.00	0.17	1.00		0.13	1.00	
Satd. Flow (perm)		1310			1218	1306	289	3042		218	3052	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	126	24	148	101	296	30	1276	91	66	1105	54
RTOR Reduction (vph)	0	8	0	0	0	21	0	8	0	0	5	0
Lane Group Flow (vph)	0	206	0	0	249	275	30	1359	0	66	1154	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		17.7			17.7	17.7	30.1	30.1		30.1	30.1	
Effective Green, g (s)		17.7			17.7	17.7	30.1	30.1		30.1	30.1	
Actuated g/C Ratio		0.31			0.31	0.31	0.53	0.53		0.53	0.53	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		407			378	406	153	1606		115	1612	
v/s Ratio Prot								c0.45			0.38	
v/s Ratio Perm		0.16			0.20	c0.21	0.10			0.30		
v/c Ratio		0.51			0.66	0.68	0.20	0.85		0.57	0.72	
Uniform Delay, d1		16.1			17.0	17.2	7.1	11.5		9.1	10.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4			4.6	4.9	0.9	4.5		8.1	1.6	
Delay (s)		17.4			21.6	22.0	7.9	16.0		17.2	11.9	
Level of Service		B			C	C	A	B		B	B	
Approach Delay (s)		17.4			21.8			15.8			12.1	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	57.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	28	298	646	167	240	27
v/c Ratio	0.27	0.22	0.56	0.12	0.86	0.10
Control Delay	55.2	5.0	9.6	0.2	72.3	17.5
Queue Delay	0.0	0.0	0.9	0.0	0.5	0.0
Total Delay	55.2	5.0	10.5	0.2	72.9	17.5
Queue Length 50th (ft)	19	58	114	0	163	2
Queue Length 95th (ft)	49	88	308	m0	#292	27
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	118	1358	1158	1394	298	276
Starvation Cap Reductn	0	0	256	0	0	0
Spillback Cap Reductn	0	3	0	0	4	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.22	0.72	0.12	0.82	0.10

Intersection Summary

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.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	26	274	594	154	221	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1573	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1573	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	298	646	167	240	27
RTOR Reduction (vph)	0	0	0	26	0	19
Lane Group Flow (vph)	28	298	646	141	240	8
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	4.7	81.8	73.1	92.7	19.6	19.6
Effective Green, g (s)	4.7	81.8	73.1	92.7	19.6	19.6
Actuated g/C Ratio	0.04	0.74	0.66	0.84	0.18	0.18
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	69	1359	1133	1326	278	240
v/s Ratio Prot	c0.02	0.16	c0.38	0.02	c0.15	
v/s Ratio Perm				0.07		0.01
v/c Ratio	0.41	0.22	0.57	0.11	0.86	0.03
Uniform Delay, d1	51.3	4.3	10.0	1.5	43.9	37.4
Progression Factor	1.00	1.00	0.74	0.26	1.00	1.00
Incremental Delay, d2	3.9	0.4	1.7	0.0	23.1	0.1
Delay (s)	55.2	4.7	9.0	0.4	67.0	37.4
Level of Service	E	A	A	A	E	D
Approach Delay (s)		9.0	7.3		64.0	
Approach LOS		A	A		E	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	354	266	448	394	437	280	3
v/c Ratio	0.74	0.45	1.11	0.41	0.76	0.46	0.04
Control Delay	35.2	3.2	119.0	15.8	42.5	15.4	51.3
Queue Delay	1.6	0.0	0.0	0.0	1.4	0.0	0.0
Total Delay	36.8	3.2	119.0	15.8	44.0	15.4	51.3
Queue Length 50th (ft)	176	0	~346	143	273	66	2
Queue Length 95th (ft)	m303	m0	#638	257	399	138	12
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	478	591	402	964	562	614	81
Starvation Cap Reductn	37	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	35	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.45	1.11	0.41	0.83	0.46	0.04

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	325	245	412	362	1	399	3	258	2	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.98		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (prot)		1759	1462	1562	1704			1682	1725		1754	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (perm)		1757	1462	1562	1704			1682	1725		1754	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	353	266	448	393	1	434	3	280	2	1	0
RTOR Reduction (vph)	0	0	201	0	0	0	0	0	104	0	0	0
Lane Group Flow (vph)	0	354	65	448	394	0	0	437	176	0	3	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		26.7	26.7	28.3	59.0			36.9	32.9		1.0	
Effective Green, g (s)		26.7	26.7	28.3	59.0			36.9	32.9		1.0	
Actuated g/C Ratio		0.24	0.24	0.26	0.54			0.34	0.30		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		426	355	402	914			564	516		16	
v/s Ratio Prot				c0.29	0.23			c0.26	0.04		c0.00	
v/s Ratio Perm		c0.20	0.04						0.06			
v/c Ratio		0.83	0.18	1.11	0.43			0.77	0.34		0.19	
Uniform Delay, d1		39.5	33.0	40.9	15.4			32.8	30.1		54.1	
Progression Factor		0.69	0.22	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		15.9	1.0	79.7	1.5			6.6	0.4		5.6	
Delay (s)		43.2	8.2	120.5	16.9			39.4	30.5		59.7	
Level of Service		D	A	F	B			D	C		E	
Approach Delay (s)		28.2			72.0			35.9			59.7	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM Average Control Delay	47.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	79	160	27	142	121	527	15	754	139	236	779
v/c Ratio	0.51	0.49	0.09	0.62	0.26	0.82	0.14	0.76	0.31	0.73	0.50
Control Delay	64.1	44.7	15.7	59.5	34.9	22.9	58.7	40.0	22.0	57.4	21.3
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	64.1	44.7	15.7	59.5	34.9	22.9	58.7	40.0	22.0	57.4	21.3
Queue Length 50th (ft)	51	98	1	91	68	104	10	239	43	145	150
Queue Length 95th (ft)	#134	184	27	194	130	280	38	397	116	#357	353
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	188	647	556	335	809	846	188	1407	608	385	1746
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	0.42	0.25	0.05	0.42	0.15	0.62	0.08	0.54	0.23	0.61	0.45

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	147	25	131	111	485	14	694	128	217	668	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1448	1620	1739	1396	1652	3240	1332	1620	3044	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1448	1620	1739	1396	1652	3240	1332	1620	3044	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	160	27	142	121	527	15	754	139	236	726	53
RTOR Reduction (vph)	0	0	20	0	0	276	0	0	36	0	3	0
Lane Group Flow (vph)	79	160	7	142	121	251	15	754	103	236	776	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	8.5	21.0	21.0	15.6	28.1	28.1	2.9	34.4	34.4	21.6	53.1	
Effective Green, g (s)	7.5	20.5	20.5	14.6	27.6	27.6	1.9	33.9	33.9	20.6	52.6	
Actuated g/C Ratio	0.07	0.19	0.19	0.14	0.26	0.26	0.02	0.32	0.32	0.20	0.50	
Clearance Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	117	338	281	224	455	365	30	1040	428	316	1516	
v/s Ratio Prot	0.05	0.09		c0.09	0.07		0.01	c0.23		c0.15	0.25	
v/s Ratio Perm			0.00			c0.18			0.08			
v/c Ratio	0.68	0.47	0.02	0.63	0.27	0.69	0.50	0.72	0.24	0.75	0.51	
Uniform Delay, d1	47.9	37.8	34.5	43.0	31.0	35.1	51.4	31.7	26.4	40.0	17.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	15.6	1.4	0.0	6.5	0.4	5.7	16.8	2.7	0.4	9.8	0.4	
Delay (s)	63.4	39.2	34.5	49.4	31.4	40.9	68.1	34.4	26.8	49.9	18.2	
Level of Service	E	D	C	D	C	D	E	C	C	D	B	
Approach Delay (s)		45.9			40.9			33.8			25.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	105.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	34	615	42	1299	1305	113	470	788	258	512	45
v/c Ratio	0.44	0.83	0.15	0.92	0.72	0.75	0.73	0.46	0.79	0.79	0.14
Control Delay	82.6	67.6	15.4	43.2	22.2	77.8	55.4	11.0	79.3	62.8	25.0
Queue Delay	0.0	0.0	0.0	12.9	0.5	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	82.6	67.6	15.4	56.1	22.6	77.8	55.4	11.1	79.3	62.8	25.0
Queue Length 50th (ft)	31	201	0	546	455	106	227	165	120	236	14
Queue Length 95th (ft)	70	249	35	#686	594	#204	298	249	#185	305	50
Internal Link Dist (ft)		238			393		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	78	748	273	1418	1821	156	640	1695	326	652	318
Starvation Cap Reductn	0	0	0	134	165	0	0	99	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	0.44	0.82	0.15	1.01	0.79	0.72	0.73	0.49	0.79	0.79	0.14

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	566	39	1195	970	231	104	432	725	237	471	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3136		1678	3355	2706	3255	3240	1471
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3136		1678	3355	2706	3255	3240	1471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	615	42	1299	1054	251	113	470	788	258	512	45
RTOR Reduction (vph)	0	0	35	0	14	0	0	0	0	0	0	22
Lane Group Flow (vph)	34	615	7	1299	1291	0	113	470	788	258	512	23
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	4.2	22.4	22.4	61.0	79.2		12.5	23.6	84.6	14.0	25.1	25.1
Effective Green, g (s)	4.2	23.9	23.9	61.0	80.7		12.5	25.1	84.6	14.0	26.6	26.6
Actuated g/C Ratio	0.03	0.17	0.17	0.44	0.58		0.09	0.18	0.60	0.10	0.19	0.19
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	47	795	252	1418	1808		150	602	1635	326	616	279
v/s Ratio Prot	0.02	0.13		c0.40	c0.41		0.07	c0.14	0.29	0.08	c0.16	
v/s Ratio Perm			0.00									0.02
v/c Ratio	0.72	0.77	0.03	0.92	0.71		0.75	0.78	0.48	0.79	0.83	0.08
Uniform Delay, d1	67.3	55.5	48.4	37.1	21.3		62.2	54.8	15.5	61.6	54.5	46.7
Progression Factor	1.00	1.00	1.00	0.89	0.91		0.79	0.90	1.41	1.00	1.00	1.00
Incremental Delay, d2	44.8	5.0	0.1	8.6	1.3		19.7	9.5	0.3	13.0	12.4	0.6
Delay (s)	112.1	60.5	48.4	41.7	20.8		68.6	58.6	22.1	74.6	66.9	47.2
Level of Service	F	E	D	D	C		E	E	C	E	E	D
Approach Delay (s)		62.3			31.2			38.5			68.2	
Approach LOS		E			C			D			E	

Intersection Summary			
HCM Average Control Delay	42.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	148	1499	251	1908	146	151	89	323
v/c Ratio	0.85	0.58	0.79	0.77	0.60	0.61	0.28	0.86
Control Delay	87.3	19.9	64.7	14.7	63.5	63.7	10.5	60.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.3	19.9	64.7	14.7	63.5	63.7	10.5	60.0
Queue Length 50th (ft)	130	245	193	261	133	138	0	95
Queue Length 95th (ft)	#260	353	m247	m#659	185	190	44	#177
Internal Link Dist (ft)		660		577		351		533
Turn Bay Length (ft)	125		180		200			
Base Capacity (vph)	174	2584	332	2478	405	413	464	378
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	0.85	0.58	0.76	0.77	0.36	0.37	0.19	0.85

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	136	1030	349	231	1693	63	221	52	82	41	116	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.86		1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	5622		1678	4625		1539	1571	1512		3064	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1620	5622		1678	4625		1539	1571	1512		3064	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	148	1120	379	251	1840	68	240	57	89	45	126	152
RTOR Reduction (vph)	0	37	0	0	2	0	0	0	75	0	115	0
Lane Group Flow (vph)	148	1462	0	251	1906	0	146	151	14	0	208	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases									8			
Actuated Green, G (s)	14.1	62.4		25.5	73.8		21.6	21.6	21.6		11.3	
Effective Green, g (s)	15.1	63.4		26.5	74.8		22.2	22.2	22.2		11.9	
Actuated g/C Ratio	0.11	0.45		0.19	0.53		0.16	0.16	0.16		0.09	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	175	2546		318	2471		244	249	240		260	
v/s Ratio Prot	c0.09	0.26		0.15	c0.41		0.09	c0.10			c0.07	
v/s Ratio Perm									0.01			
v/c Ratio	0.85	0.57		0.79	0.77		0.60	0.61	0.06		0.80	
Uniform Delay, d1	61.3	28.3		54.1	25.8		54.8	54.8	50.0		62.9	
Progression Factor	0.81	0.66		0.98	0.46		1.00	1.00	1.00		1.00	
Incremental Delay, d2	29.4	0.9		8.2	1.5		4.6	4.8	0.1		16.4	
Delay (s)	79.3	19.6		61.4	13.4		59.3	59.6	50.2		79.3	
Level of Service	E	B		E	B		E	E	D		E	
Approach Delay (s)		25.0			19.0			57.3			79.3	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	152	1208	439	1503	216	234	197	52	547
v/c Ratio	0.85	0.77	0.95	0.90	0.96	0.29	0.35	0.46	0.85
Control Delay	75.3	26.9	81.1	40.9	114.5	44.0	7.1	79.2	62.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	26.9	81.1	40.9	114.5	44.0	7.1	79.2	62.2
Queue Length 50th (ft)	134	377	394	664	103	91	0	24	231
Queue Length 95th (ft)	m#259	445	#609	#836	#187	130	62	47	298
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	182	1574	461	1662	225	825	569	114	708
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.77	0.95	0.90	0.96	0.28	0.35	0.46	0.77

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	764	348	404	1353	29	199	215	181	48	346	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4496		1652	3278		3143	3240	1658	3204	3069	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4496		1652	3278		3143	3240	1658	3204	3069	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	830	378	439	1471	32	216	234	197	52	376	171
RTOR Reduction (vph)	0	57	0	0	1	0	0	0	148	0	38	0
Lane Group Flow (vph)	152	1151	0	439	1502	0	216	234	49	52	509	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	15.5	45.6		39.2	69.3		11.0	34.9	34.9	4.8	28.7	
Effective Green, g (s)	15.4	46.6		39.1	70.3		10.0	34.5	34.5	3.8	28.3	
Actuated g/C Ratio	0.11	0.33		0.28	0.50		0.07	0.25	0.25	0.03	0.20	
Clearance Time (s)	3.9	5.0		3.9	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	178	1497		461	1646		225	798	409	87	620	
v/s Ratio Prot	c0.09	0.26		0.27	c0.46		c0.07	0.07		0.02	c0.17	
v/s Ratio Perm									0.03			
v/c Ratio	0.85	0.77		0.95	0.91		0.96	0.29	0.12	0.60	0.82	
Uniform Delay, d1	61.2	41.9		49.5	32.0		64.8	42.8	40.9	67.3	53.4	
Progression Factor	0.66	0.61		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	27.5	3.4		30.1	9.2		48.4	0.3	0.2	12.3	8.9	
Delay (s)	67.6	28.8		79.7	41.3		113.2	43.1	41.1	79.6	62.4	
Level of Service	E	C		E	D		F	D	D	E	E	
Approach Delay (s)		33.1			49.9			65.9			63.9	
Approach LOS		C			D			E			E	

Intersection Summary			
HCM Average Control Delay	49.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	45	67	172	17	1088	78	555	1270
v/c Ratio	0.38	0.55	0.43	0.20	0.53	0.08	0.81	0.46
Control Delay	58.4	77.3	11.1	75.9	6.6	0.3	76.5	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	58.4	77.3	11.1	75.9	6.6	0.3	76.5	0.7
Queue Length 50th (ft)	31	60	0	16	129	1	245	2
Queue Length 95th (ft)	71	108	38	m24	251	m4	271	2
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	181	193	536	94	2069	1005	920	2783
Starvation Cap Reductn	0	0	0	0	0	0	0	463
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	0.25	0.35	0.32	0.18	0.53	0.08	0.60	0.55

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	0	9	60	2	158	16	1001	72	511	1085	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697			1777	2787	1678	3355	1583	3433	3427	
Flt Permitted		0.70			0.75	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1240			1389	2787	1678	3355	1583	3433	3427	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	0	10	65	2	172	17	1088	78	555	1179	91
RTOR Reduction (vph)	0	8	0	0	0	157	0	0	29	0	3	0
Lane Group Flow (vph)	0	37	0	0	67	15	17	1088	49	555	1267	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		12.2			12.2	12.2	3.3	86.4	86.4	27.9	111.0	
Effective Green, g (s)		12.2			12.2	12.2	3.3	86.4	86.4	27.9	111.0	
Actuated g/C Ratio		0.09			0.09	0.09	0.02	0.62	0.62	0.20	0.79	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		108			121	243	40	2071	977	684	2717	
v/s Ratio Prot							0.01	c0.32		c0.16	0.37	
v/s Ratio Perm		0.03			c0.05	0.01			0.03			
v/c Ratio		0.34			0.55	0.06	0.42	0.53	0.05	0.81	0.47	
Uniform Delay, d1		60.1			61.3	58.6	67.4	15.2	10.6	53.5	4.8	
Progression Factor		1.00			1.00	1.00	1.14	0.35	0.06	1.29	0.04	
Incremental Delay, d2		1.9			5.4	0.1	5.4	0.7	0.1	5.9	0.5	
Delay (s)		62.0			66.7	58.8	82.0	6.1	0.7	74.8	0.6	
Level of Service		E			E	E	F	A	A	E	A	
Approach Delay (s)		62.0			61.0			6.8			23.2	
Approach LOS		E			E			A			C	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	186	26	71	92	466	32	502	324	559
v/c Ratio	0.52	0.08	0.29	0.21	0.69	0.19	0.61	0.69	0.32
Control Delay	29.2	10.0	26.1	23.2	8.7	38.8	25.3	31.7	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	10.0	26.1	23.2	8.7	38.8	25.3	31.7	9.7
Queue Length 50th (ft)	61	0	22	28	0	12	83	108	45
Queue Length 95th (ft)	156	19	69	80	84	49	184	265	134
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	690	624	470	842	874	171	1336	784	2385
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.04	0.15	0.11	0.53	0.19	0.38	0.41	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	94	24	65	85	429	29	384	78	298	485	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1693	1259	1620	1739	1314	1711	2988		1620	3050	
Flt Permitted		0.83	1.00	0.57	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1428	1259	971	1739	1314	1711	2988		1620	3050	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	102	26	71	92	466	32	417	85	324	527	32
RTOR Reduction (vph)	0	0	20	0	0	352	0	17	0	0	4	0
Lane Group Flow (vph)	0	186	6	71	92	114	32	485	0	324	555	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		16.3	16.3	16.3	16.3	16.3	1.9	20.1		18.8	37.0	
Effective Green, g (s)		16.3	16.3	16.3	16.3	16.3	1.9	20.1		18.8	37.0	
Actuated g/C Ratio		0.24	0.24	0.24	0.24	0.24	0.03	0.30		0.28	0.55	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		349	308	237	425	321	49	900		457	1692	
v/s Ratio Prot					0.05		0.02	c0.16		c0.20	0.18	
v/s Ratio Perm		c0.13	0.01	0.07		0.09						
v/c Ratio		0.53	0.02	0.30	0.22	0.35	0.65	0.54		0.71	0.33	
Uniform Delay, d1		21.9	19.1	20.5	20.1	20.8	32.1	19.4		21.5	8.1	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6	0.0	0.7	0.3	0.7	27.1	0.8		5.0	0.2	
Delay (s)		23.5	19.2	21.3	20.4	21.5	59.2	20.2		26.5	8.2	
Level of Service		C	B	C	C	C	E	C		C	A	
Approach Delay (s)		22.9			21.3			22.6			14.9	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	66.7	Sum of lost time (s)	11.5
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	213	253	173	586	213	1130	43	1214
v/c Ratio	0.66	0.76	0.61	0.80	0.83	0.84	0.64	0.40	0.79
Control Delay	77.7	74.6	12.8	85.5	61.4	84.4	24.0	56.9	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.7	74.6	12.8	85.5	61.4	84.4	24.0	56.9	22.3
Queue Length 50th (ft)	67	187	0	155	257	189	380	35	350
Queue Length 95th (ft)	#120	#292	85	#267	321	#314	460	79	512
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	222	295	421	228	784	271	1756	114	1536
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.72	0.60	0.76	0.75	0.79	0.64	0.38	0.79

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	196	233	159	406	133	196	839	201	40	1032	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1305	1770	3394		1652	3127		1770	3409	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1305	1770	3394		1652	3127		1770	3409	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	213	253	173	441	145	213	912	218	43	1122	92
RTOR Reduction (vph)	0	0	215	0	23	0	0	14	0	0	4	0
Lane Group Flow (vph)	146	213	38	173	563	0	213	1116	0	43	1210	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	10.2	21.3	21.3	17.1	28.2		21.5	77.2		7.2	62.9	
Effective Green, g (s)	10.2	21.3	21.3	17.1	28.2		21.5	77.2		7.2	62.9	
Actuated g/C Ratio	0.07	0.15	0.15	0.12	0.20		0.15	0.55		0.05	0.45	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	223	281	199	216	684		254	1724		91	1532	
v/s Ratio Prot	0.05	c0.12		0.10	c0.17		c0.13	0.36		0.02	c0.35	
v/s Ratio Perm			0.03									
v/c Ratio	0.65	0.76	0.19	0.80	0.82		0.84	0.65		0.47	0.79	
Uniform Delay, d1	63.2	56.9	51.8	59.8	53.5		57.6	21.9		64.6	32.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		0.74	0.54	
Incremental Delay, d2	7.4	11.8	0.6	19.8	8.3		21.6	1.9		4.7	3.9	
Delay (s)	70.6	68.7	52.5	79.6	61.8		79.2	23.8		52.6	21.7	
Level of Service	E	E	D	E	E		E	C		D	C	
Approach Delay (s)		62.4			65.8			32.6			22.8	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	50	345	101	972	16	14	34	37	22
v/c Ratio	0.36	0.28	0.54	0.74	0.16	0.10	0.32	0.24	0.28
Control Delay	61.0	10.8	56.8	19.9	49.9	24.0	55.4	20.1	56.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	10.8	56.8	19.9	49.9	24.0	55.4	20.1	56.2
Queue Length 50th (ft)	34	77	69	349	11	1	23	1	15
Queue Length 95th (ft)	76	107	119	#965	33	20	55	33	40
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	139	1215	218	1312	216	273	228	291	179
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.28	0.46	0.74	0.07	0.05	0.15	0.13	0.12

Intersection Summary

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

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	286	31	93	790	104	15	1	12	31	2	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1831		1770	1830		1711	1603		1770	1598	
Flt Permitted	0.95	1.00		0.95	1.00		0.73	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1831		1770	1830		1320	1603		1394	1598	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	311	34	101	859	113	16	1	13	34	2	35
RTOR Reduction (vph)	0	2	0	0	0	0	0	12	0	0	33	0
Lane Group Flow (vph)	50	343	0	101	972	0	16	2	0	34	4	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.5	69.3		11.6	73.4		7.1	7.1		7.1	7.1	
Effective Green, g (s)	7.5	69.3		11.6	73.4		7.1	7.1		7.1	7.1	
Actuated g/C Ratio	0.07	0.63		0.11	0.67		0.06	0.06		0.06	0.06	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	121	1154		187	1221		85	103		90	103	
v/s Ratio Prot	0.03	0.19		c0.06	c0.53			0.00			0.00	
v/s Ratio Perm							0.01			c0.02		
v/c Ratio	0.41	0.30		0.54	0.80		0.19	0.02		0.38	0.04	
Uniform Delay, d1	49.1	9.3		46.7	13.0		48.7	48.2		49.3	48.3	
Progression Factor	1.14	0.94		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.6		3.2	5.4		1.1	0.1		2.6	0.2	
Delay (s)	58.3	9.4		49.8	18.4		49.8	48.3		52.0	48.4	
Level of Service	E	A		D	B		D	D		D	D	
Approach Delay (s)		15.6			21.4			49.1			50.1	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1096
Flt Permitted	1.00
Satd. Flow (perm)	1096
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	22
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	50%
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	
Actuated Green, G (s)	4.0
Effective Green, g (s)	4.0
Actuated g/C Ratio	0.04
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	40
v/s Ratio Prot	c0.02
v/s Ratio Perm	
v/c Ratio	0.55
Uniform Delay, d1	52.1
Progression Factor	1.00
Incremental Delay, d2	15.3
Delay (s)	67.5
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	89	306	11	897	67	126	14	78	429
v/c Ratio	0.88	0.28	0.11	1.15	0.62	0.23	0.04	0.23	0.76
Control Delay	102.0	9.7	35.5	103.5	46.9	18.8	8.5	19.4	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.0	9.7	35.5	103.5	46.9	18.8	8.5	19.4	27.5
Queue Length 50th (ft)	38	50	5	~454	24	39	0	24	135
Queue Length 95th (ft)	#130	142	20	#760	#76	76	11	55	230
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	101	1081	101	782	147	742	536	465	744
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.28	0.11	1.15	0.46	0.17	0.03	0.17	0.58

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	82	191	90	10	771	54	62	116	13	72	206	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1920		1711	1702		1652	1863	1325	1642	1764	
Flt Permitted	0.95	1.00		0.95	1.00		0.21	1.00	1.00	0.68	1.00	
Satd. Flow (perm)	1711	1920		1711	1702		371	1863	1325	1169	1764	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	208	98	11	838	59	67	126	14	78	224	205
RTOR Reduction (vph)	0	18	0	0	3	0	0	0	10	0	50	0
Lane Group Flow (vph)	89	288	0	11	894	0	67	126	4	78	379	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	4.0	37.8		0.7	34.5		19.9	19.9	19.9	19.9	19.9	
Effective Green, g (s)	4.0	37.8		0.7	34.5		19.9	19.9	19.9	19.9	19.9	
Actuated g/C Ratio	0.06	0.53		0.01	0.48		0.28	0.28	0.28	0.28	0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	96	1016		17	822		103	519	369	326	492	
v/s Ratio Prot	c0.05	c0.15		0.01	c0.53			0.07			c0.22	
v/s Ratio Perm							0.18		0.00	0.07		
v/c Ratio	0.93	0.28		0.65	1.09		0.65	0.24	0.01	0.24	0.77	
Uniform Delay, d1	33.6	9.3		35.2	18.5		22.7	19.9	18.6	19.9	23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	68.5	0.2		67.6	57.9		15.1	0.3	0.0	0.5	7.8	
Delay (s)	102.1	9.5		102.8	76.3		37.8	20.3	18.6	20.4	31.4	
Level of Service	F	A		F	E		D	C	B	C	C	
Approach Delay (s)		30.4			76.6			25.8			29.7	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM Average Control Delay	50.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	71.4	Sum of lost time (s)	17.5
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	174	96	4	28	555	607	13	27	1008
v/c Ratio	0.99	0.22	0.05	0.13	1.06	0.30	0.01	0.23	0.94
Control Delay	110.0	8.7	46.8	20.8	86.3	10.3	8.8	47.5	44.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.0	8.7	46.8	20.8	86.3	10.3	8.8	47.5	44.9
Queue Length 50th (ft)	93	5	2	6	~295	53	1	14	241
Queue Length 95th (ft)	#286	41	15	28	#704	189	13	47	#531
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	175	709	75	600	526	2034	906	117	1070
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.14	0.05	0.05	1.06	0.30	0.01	0.23	0.94

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	10	78	4	11	15	516	558	12	25	582	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.87		1.00	0.91		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1530		1652	1571		1652	3240	1446	1711	3191	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1530		1652	1571		1652	3240	1446	1711	3191	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	11	85	4	12	16	555	607	13	27	633	375
RTOR Reduction (vph)	0	65	0	0	14	0	0	0	3	0	72	0
Lane Group Flow (vph)	174	31	0	4	14	0	555	607	10	27	936	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	9.1	22.0		0.7	13.6		28.3	55.7	55.7	2.2	29.6	
Effective Green, g (s)	9.1	22.0		0.7	13.6		28.3	55.7	55.7	2.2	29.6	
Actuated g/C Ratio	0.10	0.24		0.01	0.15		0.30	0.60	0.60	0.02	0.32	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	167	362		12	229		502	1938	865	40	1015	
v/s Ratio Prot	c0.10	c0.02		0.00	0.01		c0.34	0.19		0.02	c0.29	
v/s Ratio Perm									0.01			
v/c Ratio	1.04	0.09		0.33	0.06		1.11	0.31	0.01	0.68	0.92	
Uniform Delay, d1	42.0	27.7		46.0	34.3		32.4	9.2	7.6	45.1	30.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	81.1	0.1		21.0	0.2		72.2	0.1	0.0	39.6	13.5	
Delay (s)	123.1	27.9		67.0	34.4		104.6	9.4	7.6	84.7	44.2	
Level of Service	F	C		E	C		F	A	A	F	D	
Approach Delay (s)		89.3			38.5			54.3			45.2	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM Average Control Delay	54.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	93.1	Sum of lost time (s)	9.5
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	38	7	17	1348	1502
v/c Ratio	0.27	0.06	0.07	0.47	0.53
Control Delay	49.5	24.2	3.2	3.2	3.6
Queue Delay	0.0	0.0	0.0	1.1	0.0
Total Delay	49.5	24.2	3.2	4.2	3.6
Queue Length 50th (ft)	26	0	1	92	111
Queue Length 95th (ft)	54	13	9	221	267
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	300	248	245	2874	2848
Starvation Cap Reductn	0	0	0	1184	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.03	0.07	0.80	0.53

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	6	16	1240	1299	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3209	
Flt Permitted	0.95	1.00	0.16	1.00	1.00	
Satd. Flow (perm)	1652	1330	277	3240	3209	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	7	17	1348	1412	90
RTOR Reduction (vph)	0	7	0	0	2	0
Lane Group Flow (vph)	38	0	17	1348	1500	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	7.0	7.0	94.0	94.0	94.0	
Effective Green, g (s)	7.0	7.0	94.0	94.0	94.0	
Actuated g/C Ratio	0.06	0.06	0.85	0.85	0.85	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	105	85	237	2769	2742	
v/s Ratio Prot	c0.02			0.42	c0.47	
v/s Ratio Perm		0.00	0.06			
v/c Ratio	0.36	0.01	0.07	0.49	0.55	
Uniform Delay, d1	49.4	48.2	1.2	2.0	2.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	0.0	0.6	0.6	0.8	
Delay (s)	51.5	48.3	1.8	2.6	3.0	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.6	3.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	3.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1097	778	975	1961	763	875
v/c Ratio	0.66	0.58	0.87	1.05	0.50	0.86
Control Delay	18.8	15.9	43.9	57.0	1.2	55.0
Queue Delay	1.5	0.5	0.0	0.0	0.0	0.0
Total Delay	20.3	16.3	43.9	57.0	1.2	55.0
Queue Length 50th (ft)	244	156	410	~1020	0	328
Queue Length 95th (ft)	373	264	m489	#1165	0	403
Internal Link Dist (ft)	247			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1650	1331	1121	1866	1517	1013
Starvation Cap Reductn	347	199	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	0.84	0.69	0.87	1.05	0.50	0.86

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1009	716	897	1804	0	0	0	702	0	0	805
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.76
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3020	2378	2828	3020				1517			3187
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			3187
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1097	778	975	1961	0	0	0	763	0	0	875
RTOR Reduction (vph)	0	0	32	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1097	746	975	1961	0	0	0	763	0	0	875
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							4
Permitted Phases			2 4						Free			
Actuated Green, G (s)		75.5	75.5	55.5	86.5				140.0			44.5
Effective Green, g (s)		75.5	75.5	55.5	86.5				140.0			44.5
Actuated g/C Ratio		0.54	0.54	0.40	0.62				1.00			0.32
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		1629	1282	1121	1866				1517			1013
v/s Ratio Prot		0.36		0.34	c0.65							c0.27
v/s Ratio Perm			0.31						0.50			
v/c Ratio		0.67	0.58	0.87	1.05				0.50			0.86
Uniform Delay, d1		23.3	21.6	38.9	26.8				0.0			44.9
Progression Factor		0.73	0.74	0.98	0.96				1.00			1.00
Incremental Delay, d2		1.0	0.6	5.4	31.0				1.2			9.7
Delay (s)		18.1	16.5	43.4	56.6				1.2			54.6
Level of Service		B	B	D	E				A			D
Approach Delay (s)		17.5			52.2			1.2			54.6	
Approach LOS		B			D			A			D	

Intersection Summary			
HCM Average Control Delay	36.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	627	1182	1562	516	512	1366
v/c Ratio	0.79	0.35	0.75	0.53	0.32	0.89
Control Delay	29.9	0.2	16.6	8.7	0.5	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	0.2	16.6	8.7	0.5	10.0
Queue Length 50th (ft)	184	0	582	197	0	0
Queue Length 95th (ft)	234	0	276	m166	0	#86
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	876	3355	2073	966	1611	1528
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	0.35	0.75	0.53	0.32	0.89

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	577	1087	0	0	1437	475	0	0	471	0	0	1257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	627	1182	0	0	1562	516	0	0	512	0	0	1366
RTOR Reduction (vph)	0	0	0	0	0	20	0	0	0	0	0	0
Lane Group Flow (vph)	627	1182	0	0	1562	496	0	0	512	0	0	1366
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	17.8	70.0			43.2	43.2			70.0			70.0
Effective Green, g (s)	17.8	70.0			43.2	43.2			70.0			70.0
Actuated g/C Ratio	0.25	1.00			0.62	0.62			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	799	3355			2071	945			1611			1528
v/s Ratio Prot	0.20	0.35			0.47							
v/s Ratio Perm						0.32			0.32			c0.89
v/c Ratio	0.78	0.35			0.75	0.52			0.32			0.89
Uniform Delay, d1	24.3	0.0			9.6	7.6			0.0			0.0
Progression Factor	0.98	1.00			1.47	1.01			1.00			1.00
Incremental Delay, d2	4.1	0.1			1.7	1.4			0.5			8.4
Delay (s)	27.8	0.1			15.8	9.0			0.5			8.4
Level of Service	C	A			B	A			A			A
Approach Delay (s)		9.7			14.2			0.5			8.4	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	378	392	486	666	18	835	988	10	67	908	540
v/c Ratio	1.53	0.55	0.27	1.46	0.05	1.18	0.67	0.02	0.59	1.14	0.99
Control Delay	280.5	24.9	0.4	247.0	20.3	130.4	21.4	11.2	65.0	108.8	55.4
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	280.5	24.9	0.4	247.0	20.3	130.4	21.4	11.2	65.0	108.8	55.4
Queue Length 50th (ft)	~277	176	0	~553	5	~317	216	2	37	~342	215
Queue Length 95th (ft)	#458	267	0	#766	22	#423	302	m6	m#92	#468	#432
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	247	714	1770	457	394	708	1475	546	113	800	548
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	1.53	0.55	0.27	1.46	0.05	1.18	0.67	0.02	0.59	1.14	0.99

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	348	361	447	2	611	17	768	909	9	62	835	497
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1477	3204	3539	1338	1652	3303	1552
Flt Permitted	0.14	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	240	1739	1770		1737	1477	3204	3539	1338	1652	3303	1552
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	378	392	486	2	664	18	835	988	10	67	908	540
RTOR Reduction (vph)	0	0	0	0	0	5	0	0	3	0	0	172
Lane Group Flow (vph)	378	392	486	0	666	13	835	988	7	67	908	368
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	38.5	38.5	95.0		24.5	24.5	20.0	37.7	37.7	4.8	22.0	22.0
Effective Green, g (s)	39.0	39.0	95.0		25.0	25.0	21.0	38.7	37.7	5.3	23.0	23.0
Actuated g/C Ratio	0.41	0.41	1.00		0.26	0.26	0.22	0.41	0.40	0.06	0.24	0.24
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	247	714	1770		457	389	708	1442	531	92	800	376
v/s Ratio Prot	c0.16	0.23					c0.26	0.28		0.04	c0.27	
v/s Ratio Perm	c0.47		0.27		0.38	0.01			0.01			0.24
v/c Ratio	1.53	0.55	0.27		1.46	0.03	1.18	0.69	0.01	0.73	1.14	0.98
Uniform Delay, d1	23.8	21.3	0.0		35.0	26.0	37.0	23.1	17.4	44.1	36.0	35.8
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.04	0.81	0.80	1.00	0.94	0.89
Incremental Delay, d2	258.1	1.1	0.4		217.7	0.0	94.7	2.6	0.0	25.3	75.8	41.2
Delay (s)	281.9	22.4	0.4		252.7	26.1	133.3	21.4	13.9	69.4	109.7	72.8
Level of Service	F	C	A		F	C	F	C	B	E	F	E
Approach Delay (s)		92.0			246.7			72.3			94.8	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	106.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	14	1	1320	82	1920
v/c Ratio	0.21	0.12	0.01	0.29	0.27	0.61
Control Delay	63.5	25.2	2.0	1.2	1.5	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	63.5	25.2	2.0	1.2	1.5	1.1
Queue Length 50th (ft)	16	0	0	32	1	6
Queue Length 95th (ft)	39	21	m0	85	m2	17
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		150	
Base Capacity (vph)	200	241	155	4489	300	3156
Starvation Cap Reductn	0	0	0	0	0	563
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.06	0.01	0.29	0.27	0.74

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	16	1	13	1	1188	27	75	1763	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00	1.00	0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00	1.00	1.00		1.00	1.00	
Frt					1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1572	1395	1651	4935		1618	3470	
Flt Permitted					0.74	1.00	0.10	1.00		0.19	1.00	
Satd. Flow (perm)					1214	1395	171	4935		331	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	17	1	14	1	1291	29	82	1916	4
RTOR Reduction (vph)	0	0	0	0	0	13	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	18	1	1	1319	0	82	1920	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					7.5	7.5	123.9	123.9		123.9	123.9	
Effective Green, g (s)					7.5	7.5	123.9	123.9		123.9	123.9	
Actuated g/C Ratio					0.05	0.05	0.89	0.89		0.89	0.89	
Clearance Time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)					65	75	151	4367		293	3071	
v/s Ratio Prot								0.27			c0.55	
v/s Ratio Perm					c0.01	0.00	0.01			0.25		
v/c Ratio					0.28	0.01	0.01	0.30		0.28	0.63	
Uniform Delay, d1					63.6	62.7	0.9	1.3		1.2	2.1	
Progression Factor					1.00	1.00	0.73	0.65		0.07	0.09	
Incremental Delay, d2					2.3	0.1	0.1	0.2		1.4	0.6	
Delay (s)					66.0	62.8	0.7	1.0		1.4	0.7	
Level of Service					E	E	A	A		A	A	
Approach Delay (s)		0.0			64.6			1.0			0.8	
Approach LOS		A			E			A			A	

Intersection Summary			
HCM Average Control Delay	1.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	51	408	910	37	41
v/c Ratio	0.37	0.25	0.34	0.29	0.27
Control Delay	54.7	2.0	1.1	53.6	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	2.0	1.1	53.6	18.9
Queue Length 50th (ft)	35	39	10	25	0
Queue Length 95th (ft)	72	70	20	58	34
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	217	1628	2689	394	384
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.25	0.34	0.09	0.11

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	47	375	733	104	34	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3473		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3473		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	408	797	113	37	41
RTOR Reduction (vph)	0	0	6	0	0	39
Lane Group Flow (vph)	51	408	904	0	37	2
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	7.5	94.3	82.3		6.7	6.7
Effective Green, g (s)	7.5	94.3	82.3		6.7	6.7
Actuated g/C Ratio	0.07	0.86	0.75		0.06	0.06
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	121	1597	2598		108	96
v/s Ratio Prot	c0.03	0.22	c0.26		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.42	0.26	0.35		0.34	0.03
Uniform Delay, d1	49.2	1.4	4.7		49.5	48.6
Progression Factor	1.00	1.00	0.17		1.00	1.00
Incremental Delay, d2	2.4	0.4	0.3		1.9	0.1
Delay (s)	51.5	1.8	1.1		51.4	48.7
Level of Service	D	A	A		D	D
Approach Delay (s)		7.3	1.1		50.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	5.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1672	217	2604	171
v/c Ratio	0.50	0.35	0.51	0.30
Control Delay	7.6	17.8	0.1	16.9
Queue Delay	0.0	0.0	0.0	0.1
Total Delay	7.6	17.8	0.1	17.0
Queue Length 50th (ft)	103	77	0	48
Queue Length 95th (ft)	165	m78	m0	93
Internal Link Dist (ft)	393		247	
Turn Bay Length (ft)				
Base Capacity (vph)	3339	620	5085	573
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	231	0	407	68
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.35	0.56	0.34

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1528	10	200	2396	0	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6402		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6402		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1661	11	217	2604	0	171
RTOR Reduction (vph)	1	0	0	0	0	9
Lane Group Flow (vph)	1671	0	217	2604	0	162
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	36.5		24.5	70.0		24.5
Effective Green, g (s)	36.5		24.5	70.0		24.5
Actuated g/C Ratio	0.52		0.35	1.00		0.35
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3338		620	5085		564
v/s Ratio Prot	0.26		0.12	c0.51		0.10
v/s Ratio Perm						
v/c Ratio	0.50		0.35	0.51		0.29
Uniform Delay, d1	10.8		16.9	0.0		16.4
Progression Factor	0.66		1.02	1.00		1.00
Incremental Delay, d2	0.4		0.1	0.1		0.3
Delay (s)	7.5		17.3	0.1		16.7
Level of Service	A		B	A		B
Approach Delay (s)	7.5			1.4	16.7	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	183	296	58	1465	46	1213	424	993	1047	70
v/c Ratio	1.47	0.51	0.46	0.08	0.89	0.72	1.05	0.41	1.98	0.85	0.12
Control Delay	311.9	47.7	37.3	23.6	30.6	117.5	91.2	3.1	477.4	48.6	10.3
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	311.9	47.7	37.3	23.6	30.6	117.5	91.2	3.1	477.4	48.6	10.3
Queue Length 50th (ft)	~142	63	197	31	607	42	~442	19	~728	471	8
Queue Length 95th (ft)	#271	93	333	59	757	#111	#539	50	#862	568	43
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	77	1077	638	739	1648	68	1155	1027	502	1229	607
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	1.47	0.17	0.46	0.08	0.89	0.68	1.05	0.41	1.98	0.85	0.12

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	104	120	49	272	53	1348	42	1116	390	914	963	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3057		1678	1689	2642	1620	4655	1449	3143	3240	1512
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3057		1678	1689	2642	1620	4655	1449	3143	3240	1512
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	130	53	296	58	1465	46	1213	424	993	1047	70
RTOR Reduction (vph)	0	43	0	0	0	4	0	0	118	0	0	35
Lane Group Flow (vph)	113	140	0	296	58	1461	46	1213	306	993	1047	35
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	6.5	14.6		53.6	61.7	88.7	4.7	35.7	89.3	22.5	53.5	53.5
Effective Green, g (s)	6.5	14.6		53.6	61.7	88.7	4.7	35.7	89.3	22.5	53.5	53.5
Actuated g/C Ratio	0.05	0.10		0.38	0.44	0.63	0.03	0.25	0.63	0.16	0.38	0.38
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	4.5	4.5
Lane Grp Cap (vph)	77	315		635	735	1654	54	1173	913	499	1223	571
v/s Ratio Prot	c0.07	0.05		0.18	0.03	c0.55	0.03	c0.26	0.21	c0.32	0.32	
v/s Ratio Perm												0.02
v/c Ratio	1.47	0.44		0.47	0.08	0.88	0.85	1.03	0.34	1.99	0.86	0.06
Uniform Delay, d1	67.6	59.7		33.3	23.4	22.2	68.2	53.0	12.3	59.6	40.6	28.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	268.0	1.7		0.2	0.1	6.1	68.8	35.5	0.3	452.6	6.5	0.1
Delay (s)	335.6	61.5		33.4	23.4	28.3	137.0	88.5	12.6	512.2	47.1	28.2
Level of Service	F	E		C	C	C	F	F	B	F	D	C
Approach Delay (s)		166.1			29.0			70.7			265.4	
Approach LOS		F			C			E			F	

Intersection Summary			
HCM Average Control Delay	132.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	141.7	Sum of lost time (s)	15.3
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	1360	157	1499	571	74	289	890	557
v/c Ratio	1.05	1.04	0.80	1.14	0.66	0.58	0.98	1.06	1.02
Control Delay	130.3	67.1	73.0	90.8	2.9	65.5	65.9	86.8	66.3
Queue Delay	0.0	227.6	0.0	1.5	1.4	0.0	51.3	3.4	0.0
Total Delay	130.3	294.7	73.0	92.3	4.3	65.5	117.2	90.2	66.3
Queue Length 50th (ft)	~132	~536	90	~648	0	49	60	~340	~259
Queue Length 95th (ft)	#270	#674	m131	m#748	m8	#108	#235	#462	#487
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	170	1309	216	1312	861	128	294	838	548
Starvation Cap Reductn	0	0	0	4	135	0	0	0	0
Spillback Cap Reductn	0	436	0	0	0	0	40	7	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	1.56	0.73	1.15	0.79	0.58	1.14	1.07	1.02

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	165	1241	10	144	1321	583	68	3	263	819	57	455
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99	0.85	1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3174		1620	3054	1319	1678	1431		3143	1420	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3174		1620	3054	1319	1678	1431		3143	1420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	1349	11	157	1436	634	74	3	286	890	62	495
RTOR Reduction (vph)	0	1	0	0	3	283	0	185	0	0	169	0
Lane Group Flow (vph)	179	1359	0	157	1496	288	74	104	0	890	388	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	11.0	43.3		12.7	45.0	45.0	8.0	8.0		28.0	28.0	
Effective Green, g (s)	11.0	43.3		12.7	45.0	46.0	8.0	8.0		28.0	28.0	
Actuated g/C Ratio	0.10	0.41		0.12	0.43	0.44	0.08	0.08		0.27	0.27	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	170	1309		196	1309	578	128	109		838	379	
v/s Ratio Prot	0.11	c0.43		0.10	c0.49		0.04	c0.07		c0.28	0.27	
v/s Ratio Perm						0.22						
v/c Ratio	1.05	1.04		0.80	1.14	0.50	0.58	0.96		1.06	1.02	
Uniform Delay, d1	47.0	30.9		44.9	30.0	21.2	46.9	48.3		38.5	38.5	
Progression Factor	1.00	1.00		1.19	0.58	0.07	1.00	1.00		1.00	1.00	
Incremental Delay, d2	83.7	35.5		13.5	70.9	2.0	3.9	71.2		48.9	52.1	
Delay (s)	130.7	66.3		66.8	88.2	3.5	50.8	119.5		87.4	90.6	
Level of Service	F	E		E	F	A	D	F		F	F	
Approach Delay (s)		73.8			65.0			105.5			88.7	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM Average Control Delay	76.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	87	2553	322	1904	365	789	82	54
v/c Ratio	0.58	1.10	0.92	0.73	1.06	0.92	0.92	0.48
Control Delay	43.0	68.1	72.6	16.0	106.6	43.8	126.9	39.4
Queue Delay	0.0	69.5	0.0	0.3	0.0	0.0	0.0	0.1
Total Delay	43.0	137.6	72.6	16.4	106.6	43.8	126.9	39.6
Queue Length 50th (ft)	54	~706	108	292	~270	227	56	14
Queue Length 95th (ft)	m54	m#661	m#161	371	#452	#361	#151	#55
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	170	2321	353	2602	345	859	89	112
Starvation Cap Reductn	0	290	0	185	0	0	0	0
Spillback Cap Reductn	0	0	0	227	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	1.26	0.91	0.80	1.06	0.92	0.92	0.49

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	2158	190	296	1615	137	298	38	726	75	19	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4512		3143	4712			1808	2801	1562	1422	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4512		3143	4712			1808	2801	1562	1422	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	2346	207	322	1755	149	324	41	789	82	21	33
RTOR Reduction (vph)	0	10	0	0	9	0	0	0	24	0	31	0
Lane Group Flow (vph)	87	2543	0	322	1895	0	0	365	765	82	23	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	8.8	53.8		11.7	57.2			20.0	31.7	6.0	6.0	
Effective Green, g (s)	8.8	53.8		11.7	57.2			20.0	31.7	6.0	6.0	
Actuated g/C Ratio	0.08	0.51		0.11	0.54			0.19	0.30	0.06	0.06	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	136	2312		350	2567			344	846	89	81	
v/s Ratio Prot	0.05	c0.56		c0.10	0.40			c0.20	0.10	c0.05	0.02	
v/s Ratio Perm									0.17			
v/c Ratio	0.64	1.10		0.92	0.74			1.06	0.90	0.92	0.28	
Uniform Delay, d1	46.6	25.6		46.2	18.2			42.5	35.2	49.3	47.4	
Progression Factor	0.86	0.76		1.11	0.81			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.7	46.9		18.9	1.1			65.6	12.8	68.9	0.7	
Delay (s)	41.8	66.5		70.1	15.8			108.1	47.9	118.1	48.1	
Level of Service	D	E		E	B			F	D	F	D	
Approach Delay (s)		65.7			23.6			67.0			90.3	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM Average Control Delay	51.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1649	653	2016	538	422	395
v/c Ratio	0.46	0.26	0.82	0.43	0.71	0.70
Control Delay	3.8	0.0	11.8	1.4	47.7	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	0.0	11.8	1.4	47.7	42.2
Queue Length 50th (ft)	102	0	377	0	138	123
Queue Length 95th (ft)	m90	m0	488	23	192	181
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3609	2521	2449	1246	601	567
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	0.46	0.26	0.82	0.43	0.70	0.70

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1517	601	0	1855	495	0	0	0	388	0	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1649	653	0	2016	538	0	0	0	422	0	395
RTOR Reduction (vph)	0	0	0	0	0	133	0	0	0	0	0	44
Lane Group Flow (vph)	0	1649	653	0	2016	405	0	0	0	422	0	351
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		4
Permitted Phases			2 4			6				4		
Actuated Green, G (s)		79.1	105.0		79.1	79.1				17.9		17.9
Effective Green, g (s)		80.1	105.0		80.1	79.1				18.9		18.9
Actuated g/C Ratio		0.76	1.00		0.76	0.75				0.18		0.18
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3608	2533		2448	1113				597		520
v/s Ratio Prot		0.35			c0.63					c0.13		0.12
v/s Ratio Perm			0.26			0.27						
v/c Ratio		0.46	0.26		0.82	0.36				0.71		0.67
Uniform Delay, d1		4.5	0.0		7.9	4.4				40.4		40.2
Progression Factor		0.83	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.0	0.0		3.3	0.9				4.1		3.8
Delay (s)		3.8	0.0		11.2	5.3				44.5		43.9
Level of Service		A	A		B	A				D		D
Approach Delay (s)		2.7			10.0			0.0			44.2	
Approach LOS		A			A			A			D	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	611	45	39	229	190	428
v/c Ratio	0.85	0.07	0.39	0.28	0.28	0.49
Control Delay	29.6	3.6	41.0	13.6	17.4	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	3.6	41.0	13.6	17.4	4.5
Queue Length 50th (ft)	196	0	15	58	47	0
Queue Length 95th (ft)	#332	14	#44	108	113	60
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	800	739	100	824	685	882
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	0.76	0.06	0.39	0.28	0.28	0.49

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	562	41	36	211	175	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1560
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	611	45	39	229	190	428
RTOR Reduction (vph)	0	26	0	0	0	272
Lane Group Flow (vph)	611	19	39	229	190	156
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	27.7	27.7	1.6	29.3	23.7	23.7
Effective Green, g (s)	27.7	27.7	1.6	29.3	23.7	23.7
Actuated g/C Ratio	0.43	0.43	0.02	0.45	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	715	640	40	824	622	569
v/s Ratio Prot	c0.36		c0.02	0.13	c0.11	
v/s Ratio Perm		0.01				0.10
v/c Ratio	0.85	0.03	0.97	0.28	0.31	0.27
Uniform Delay, d1	16.8	10.8	31.7	11.2	14.8	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.8	0.0	131.6	0.8	1.3	1.2
Delay (s)	26.6	10.9	163.3	12.0	16.0	15.8
Level of Service	C	B	F	B	B	B
Approach Delay (s)	25.5			34.1	15.9	
Approach LOS	C			C	B	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	181	145	14	1295	202	1272
v/c Ratio	0.41	0.53	0.40	0.09	0.73	1.40	0.71
Control Delay	17.6	22.8	14.8	9.6	13.7	241.3	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	22.8	14.8	9.6	13.7	241.3	13.3
Queue Length 50th (ft)	34	49	26	2	131	~89	128
Queue Length 95th (ft)	73	96	64	13	#362	#193	#352
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	595	577	581	155	1770	144	1781
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	0.25	0.31	0.25	0.09	0.73	1.40	0.71

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	80	21	91	75	133	13	1072	120	186	1127	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1529			1685	1305	1618	3024		1561	3058	
Flt Permitted		0.89			0.78	1.00	0.16	1.00		0.15	1.00	
Satd. Flow (perm)		1372			1352	1305	266	3024		246	3058	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	87	23	99	82	145	14	1165	130	202	1225	47
RTOR Reduction (vph)	0	13	0	0	0	31	0	11	0	0	3	0
Lane Group Flow (vph)	0	135	0	0	181	114	14	1284	0	202	1269	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		14.4			14.4	14.4	32.9	32.9		32.9	32.9	
Effective Green, g (s)		14.4			14.4	14.4	32.9	32.9		32.9	32.9	
Actuated g/C Ratio		0.25			0.25	0.25	0.58	0.58		0.58	0.58	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		350			345	333	155	1761		143	1781	
v/s Ratio Prot								0.42			0.41	
v/s Ratio Perm		0.10			c0.13	0.09	0.05			c0.82		
v/c Ratio		0.39			0.52	0.34	0.09	0.73		1.41	0.71	
Uniform Delay, d1		17.4			18.1	17.2	5.2	8.6		11.8	8.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			1.9	0.8	0.3	1.7		221.7	1.5	
Delay (s)		18.4			20.0	18.0	5.5	10.2		233.5	9.9	
Level of Service		B			B	B	A	B		F	A	
Approach Delay (s)		18.4			19.1			10.2			40.5	
Approach LOS		B			B			B			D	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	56.5	Sum of lost time (s)	9.2
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	37	511	339	210	164	26
v/c Ratio	0.31	0.36	0.29	0.15	0.68	0.11
Control Delay	54.3	5.5	10.3	0.9	57.8	14.2
Queue Delay	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	54.3	5.5	10.7	0.9	57.8	14.2
Queue Length 50th (ft)	25	96	83	0	111	0
Queue Length 95th (ft)	58	184	186	22	172	24
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	150	1403	1186	1493	454	411
Starvation Cap Reductn	0	0	409	0	0	0
Spillback Cap Reductn	0	11	0	0	2	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.37	0.44	0.14	0.36	0.06

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	34	470	312	193	151	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1570	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1570	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	511	339	210	164	26
RTOR Reduction (vph)	0	0	0	35	0	22
Lane Group Flow (vph)	37	511	339	175	164	4
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	5.6	84.5	74.9	91.8	16.9	16.9
Effective Green, g (s)	5.6	84.5	74.9	91.8	16.9	16.9
Actuated g/C Ratio	0.05	0.77	0.68	0.83	0.15	0.15
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	82	1403	1161	1310	240	207
v/s Ratio Prot	0.02	c0.28	0.20	0.02	c0.10	
v/s Ratio Perm				0.09		0.00
v/c Ratio	0.45	0.36	0.29	0.13	0.68	0.02
Uniform Delay, d1	50.7	4.1	7.0	1.7	44.0	39.5
Progression Factor	1.00	1.00	1.15	2.89	1.00	1.00
Incremental Delay, d2	3.9	0.7	0.6	0.0	7.8	0.0
Delay (s)	54.6	4.8	8.6	4.9	51.8	39.6
Level of Service	D	A	A	A	D	D
Approach Delay (s)		8.2	7.2		50.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	401	273	175	193	342	464	3
v/c Ratio	0.52	0.35	0.73	0.18	0.72	0.72	0.04
Control Delay	22.0	2.5	62.6	11.0	44.5	17.4	45.3
Queue Delay	0.9	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	2.6	62.6	11.0	44.5	17.4	45.3
Queue Length 50th (ft)	132	0	119	52	216	86	1
Queue Length 95th (ft)	287	19	#218	119	298	185	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	764	790	241	1065	566	645	84
Starvation Cap Reductn	150	104	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	0.65	0.40	0.73	0.18	0.60	0.72	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	369	251	161	177	1	313	2	427	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		0.90	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1759	1466	1562	1703			1682	1728		1538	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)		1759	1466	1562	1703			1682	1728		1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	401	273	175	192	1	340	2	464	1	1	1
RTOR Reduction (vph)	0	0	162	0	0	0	0	0	238	0	1	0
Lane Group Flow (vph)	0	401	111	175	193	0	0	342	226	0	2	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		44.6	44.6	17.0	65.6			30.8	26.3		1.0	
Effective Green, g (s)		44.6	44.6	17.0	65.6			26.3	26.3		1.0	
Actuated g/C Ratio		0.41	0.41	0.15	0.60			0.24	0.24		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		713	594	241	1016			402	484		14	
v/s Ratio Prot		c0.23		c0.11	0.11			c0.20	0.05		c0.00	
v/s Ratio Perm			0.08						0.08			
v/c Ratio		0.56	0.19	0.73	0.19			0.85	0.47		0.14	
Uniform Delay, d1		25.2	21.0	44.3	10.1			40.0	35.8		54.1	
Progression Factor		0.76	0.41	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.0	0.7	10.4	0.4			15.7	0.7		4.7	
Delay (s)		22.2	9.3	54.7	10.5			55.7	36.6		58.8	
Level of Service		C	A	D	B			E	D		E	
Approach Delay (s)		17.0			31.5			44.7			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	61	140	25	203	249	322	26	791	116	333	971
v/c Ratio	0.43	0.58	0.11	0.74	0.56	0.54	0.28	0.83	0.28	0.82	0.60
Control Delay	64.2	58.1	17.5	64.6	45.5	7.9	65.3	47.2	24.9	58.5	21.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	58.1	17.5	64.6	45.5	7.9	65.3	47.2	24.9	58.5	21.5
Queue Length 50th (ft)	45	102	0	148	172	0	19	292	43	242	275
Queue Length 95th (ft)	99	179	26	#292	277	79	54	#455	106	379	385
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	164	443	387	310	617	700	100	1067	465	532	1821
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	0.37	0.32	0.06	0.65	0.40	0.46	0.26	0.74	0.25	0.63	0.53

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	129	23	187	229	296	24	728	107	306	825	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	3.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1444	1620	1739	1393	1652	3240	1332	1620	3040	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1444	1620	1739	1393	1652	3240	1332	1620	3040	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	140	25	203	249	322	26	791	116	333	897	74
RTOR Reduction (vph)	0	0	21	0	0	241	0	0	28	0	4	0
Lane Group Flow (vph)	61	140	4	203	249	81	26	791	88	333	967	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	7.8	16.6	16.6	19.2	28.9	28.9	4.1	35.4	35.4	29.3	60.6	
Effective Green, g (s)	7.7	16.5	16.5	19.1	28.8	28.8	3.1	34.9	34.9	28.3	60.1	
Actuated g/C Ratio	0.07	0.14	0.14	0.17	0.25	0.25	0.03	0.30	0.30	0.25	0.52	
Clearance Time (s)	3.0	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	111	250	208	270	436	349	45	985	405	399	1591	
v/s Ratio Prot	0.04	0.08		c0.13	c0.14		0.02	c0.24		c0.21	0.32	
v/s Ratio Perm			0.00			0.06			0.07			
v/c Ratio	0.55	0.56	0.02	0.75	0.57	0.23	0.58	0.80	0.22	0.83	0.61	
Uniform Delay, d1	51.9	45.8	42.2	45.6	37.6	34.2	55.2	36.8	29.8	41.0	19.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.8	3.5	0.0	11.9	2.2	0.5	19.7	5.1	0.4	14.5	0.8	
Delay (s)	58.7	49.2	42.2	57.5	39.8	34.7	74.9	41.9	30.1	55.5	19.9	
Level of Service	E	D	D	E	D	C	E	D	C	E	B	
Approach Delay (s)		51.0			42.3			41.3			29.0	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	114.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	723	48	1147	826	335	646	1058	414	243	20
v/c Ratio	0.57	0.89	0.16	1.03	0.58	0.85	0.80	0.64	0.99	0.56	0.09
Control Delay	79.0	70.1	14.0	75.3	29.1	63.8	51.5	10.0	101.4	61.6	19.5
Queue Delay	0.0	0.0	0.0	38.9	0.6	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	79.0	70.1	14.0	114.2	29.7	63.8	51.5	10.2	101.4	61.6	19.5
Queue Length 50th (ft)	65	238	0	~572	296	241	237	257	196	111	0
Queue Length 95th (ft)	120	#307	37	#710	370	#518	341	176	#308	150	24
Internal Link Dist (ft)		238			387		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	145	815	298	1116	1426	395	803	1653	419	567	274
Starvation Cap Reductn	0	0	0	98	250	0	0	87	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	0.51	0.89	0.16	1.13	0.70	0.85	0.80	0.68	0.99	0.43	0.07

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	665	44	1055	575	185	308	594	973	381	224	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3108		1678	3355	2706	3255	3240	1468
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3108		1678	3355	2706	3255	3240	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	723	48	1147	625	201	335	646	1058	414	243	20
RTOR Reduction (vph)	0	0	40	0	21	0	0	0	0	0	0	17
Lane Group Flow (vph)	74	723	8	1147	805	0	335	646	1058	414	243	3
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	10.0	23.0	23.0	48.0	61.0		32.9	32.0	85.5	18.0	17.1	17.1
Effective Green, g (s)	10.0	24.5	24.5	48.0	62.5		32.9	33.5	80.0	18.0	18.6	18.6
Actuated g/C Ratio	0.07	0.18	0.18	0.34	0.45		0.23	0.24	0.57	0.13	0.13	0.13
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	112	815	258	1116	1388		394	803	1546	419	430	195
v/s Ratio Prot	0.05	c0.16		c0.35	0.26		c0.20	0.19	0.39	c0.13	0.08	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.66	0.89	0.03	1.03	0.58		0.85	0.80	0.68	0.99	0.57	0.01
Uniform Delay, d1	63.3	56.4	47.9	46.0	28.9		51.2	50.2	21.1	60.9	56.9	52.7
Progression Factor	1.00	1.00	1.00	0.92	0.98		0.86	0.86	0.47	1.00	1.00	1.00
Incremental Delay, d2	14.9	13.7	0.2	33.4	1.7		15.3	5.7	1.3	40.5	2.1	0.0
Delay (s)	78.3	70.1	48.2	76.0	29.9		59.4	49.1	11.1	101.4	59.0	52.8
Level of Service	E	E	D	E	C		E	D	B	F	E	D
Approach Delay (s)		69.5			56.7			31.1			84.7	
Approach LOS		E			E			C			F	

Intersection Summary			
HCM Average Control Delay	52.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	343	2252	299	1373	207	213	178	249
v/c Ratio	0.85	0.85	1.00	0.76	0.70	0.71	0.41	0.86
Control Delay	65.1	31.7	85.7	25.4	64.8	65.3	8.6	58.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.1	31.7	85.7	25.4	64.8	65.3	8.6	58.2
Queue Length 50th (ft)	282	480	288	464	187	193	0	58
Queue Length 95th (ft)	#494	#688	m#410	m527	258	266	59	#136
Internal Link Dist (ft)		660		577		351		533
Turn Bay Length (ft)	125		180		200			
Base Capacity (vph)	408	2658	300	1796	402	409	528	291
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	0.84	0.85	1.00	0.76	0.51	0.52	0.34	0.86

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	316	1878	194	275	1219	44	334	52	164	61	52	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.86		1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1620	5775		1678	4626		1539	1563	1513		3018	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1620	5775		1678	4626		1539	1563	1513		3018	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	343	2041	211	299	1325	48	363	57	178	66	57	126
RTOR Reduction (vph)	0	11	0	0	2	0	0	0	144	0	119	0
Lane Group Flow (vph)	343	2241	0	299	1371	0	207	213	34	0	130	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases									8			
Actuated Green, G (s)	33.9	63.2		24.0	53.3		26.2	26.2	26.2		7.4	
Effective Green, g (s)	34.9	64.2		25.0	54.3		26.8	26.8	26.8		8.0	
Actuated g/C Ratio	0.25	0.46		0.18	0.39		0.19	0.19	0.19		0.06	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	404	2648		300	1794		295	299	290		172	
v/s Ratio Prot	0.21	c0.39		c0.18	0.30		0.13	c0.14			c0.04	
v/s Ratio Perm									0.02			
v/c Ratio	0.85	0.85		1.00	0.76		0.70	0.71	0.12		0.76	
Uniform Delay, d1	50.0	33.5		57.5	37.3		52.9	53.0	46.8		65.0	
Progression Factor	0.96	0.83		0.73	0.59		1.00	1.00	1.00		1.00	
Incremental Delay, d2	13.5	3.0		42.2	2.2		7.9	8.3	0.2		18.2	
Delay (s)	61.6	30.8		84.1	24.3		60.7	61.3	47.1		83.2	
Level of Service	E	C		F	C		E	E	D		F	
Approach Delay (s)		34.9			35.0			56.9			83.2	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM Average Control Delay	39.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	265	1766	122	764	495	295	466	92	675
v/c Ratio	0.80	0.92	0.85	0.78	0.93	0.27	0.67	0.52	0.95
Control Delay	36.3	13.6	106.7	51.8	82.3	34.9	26.6	75.0	75.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	13.6	106.7	51.8	82.3	34.9	26.6	75.0	75.3
Queue Length 50th (ft)	240	528	111	336	231	103	204	42	312
Queue Length 95th (ft)	m252	39	#230	417	#334	142	332	73	#437
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	331	1928	143	974	539	1088	696	183	710
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.92	0.85	0.78	0.92	0.27	0.67	0.50	0.95

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	244	1183	442	112	681	22	455	271	429	85	483	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4529		1652	3273		3143	3240	1659	3204	3119	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4529		1652	3273		3143	3240	1659	3204	3119	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	265	1286	480	122	740	24	495	295	466	92	525	150
RTOR Reduction (vph)	0	48	0	0	1	0	0	0	139	0	19	0
Lane Group Flow (vph)	265	1718	0	122	763	0	495	295	327	92	656	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	28.7	57.1		12.2	40.6		24.7	47.4	47.4	8.7	31.4	
Effective Green, g (s)	28.6	58.1		12.1	41.6		23.7	47.0	47.0	7.7	31.0	
Actuated g/C Ratio	0.20	0.42		0.09	0.30		0.17	0.34	0.34	0.06	0.22	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	331	1880		143	973		532	1088	557	176	691	
v/s Ratio Prot	0.16	c0.38		c0.07	0.23		c0.16	0.09		0.03	c0.21	
v/s Ratio Perm									0.20			
v/c Ratio	0.80	0.91		0.85	0.78		0.93	0.27	0.59	0.52	0.95	
Uniform Delay, d1	53.0	38.6		63.1	45.1		57.3	34.0	38.5	64.4	53.7	
Progression Factor	0.46	0.21		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.7	5.0		37.0	6.3		23.4	0.2	1.9	3.6	22.6	
Delay (s)	31.8	13.2		100.1	51.4		80.7	34.2	40.4	68.0	76.3	
Level of Service	C	B		F	D		F	C	D	E	E	
Approach Delay (s)		15.7			58.1			54.8			75.3	
Approach LOS		B			E			D			E	

Intersection Summary			
HCM Average Control Delay	42.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	94	221	572	3	1266	196	583	871
v/c Ratio	0.51	0.83	0.56	0.04	0.75	0.22	0.87	0.35
Control Delay	49.7	77.8	5.6	84.0	20.9	3.9	46.5	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	49.7	77.8	5.6	84.0	21.1	3.9	46.5	7.9
Queue Length 50th (ft)	62	189	1	3	484	37	212	198
Queue Length 95th (ft)	123	#304	52	m3	623	m41	296	393
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	207	301	1085	72	1685	872	723	2461
Starvation Cap Reductn	0	0	0	0	64	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	0.45	0.73	0.53	0.04	0.78	0.22	0.81	0.35

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	2	28	203	0	526	3	1165	180	536	758	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		0.99			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.96			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1684			1770	2787	1678	3355	1583	3433	3438	
Flt Permitted		0.48			0.69	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		839			1294	2787	1678	3355	1583	3433	3438	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	2	30	221	0	572	3	1266	196	583	824	47
RTOR Reduction (vph)	0	13	0	0	0	453	0	0	77	0	2	0
Lane Group Flow (vph)	0	81	0	0	221	119	3	1266	119	583	869	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		28.8			28.8	28.8	1.2	70.3	70.3	27.4	96.5	
Effective Green, g (s)		28.8			28.8	28.8	1.2	70.3	70.3	27.4	96.5	
Actuated g/C Ratio		0.21			0.21	0.21	0.01	0.50	0.50	0.20	0.69	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		173			266	573	14	1685	795	672	2370	
v/s Ratio Prot							0.00	c0.38		c0.17	0.25	
v/s Ratio Perm		0.10			c0.17	0.04			0.08			
v/c Ratio		0.47			0.83	0.21	0.21	0.75	0.15	0.87	0.37	
Uniform Delay, d1		48.9			53.3	46.1	68.9	27.9	18.8	54.5	9.0	
Progression Factor		1.00			1.00	1.00	1.29	0.65	0.63	0.61	0.89	
Incremental Delay, d2		2.0			19.3	0.2	3.7	1.6	0.2	10.4	0.4	
Delay (s)		50.9			72.6	46.3	92.9	19.7	12.1	43.9	8.4	
Level of Service		D			E	D	F	B	B	D	A	
Approach Delay (s)		50.9			53.6			18.9			22.7	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	38	170	148	486	50	588	516	647
v/c Ratio	0.31	0.12	0.64	0.37	0.72	0.34	0.76	0.86	0.36
Control Delay	30.2	9.9	42.0	30.7	9.7	47.8	34.4	41.2	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	9.9	42.0	30.7	9.7	47.8	34.4	41.2	10.5
Queue Length 50th (ft)	54	0	87	71	0	27	145	253	94
Queue Length 95th (ft)	102	24	158	126	92	67	223	#480	151
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	539	452	389	588	764	156	936	738	2029
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.08	0.44	0.25	0.64	0.32	0.63	0.70	0.32

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	81	35	156	136	447	46	386	155	475	520	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715	1258	1620	1739	1311	1711	2926		1620	3015	
Flt Permitted		0.92	1.00	0.67	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1591	1258	1148	1739	1311	1711	2926		1620	3015	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	88	38	170	148	486	50	420	168	516	565	82
RTOR Reduction (vph)	0	0	29	0	0	376	0	43	0	0	11	0
Lane Group Flow (vph)	0	114	9	170	148	110	50	545	0	516	636	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		18.6	18.6	18.6	18.6	18.6	3.6	21.7		30.1	48.2	
Effective Green, g (s)		18.6	18.6	18.6	18.6	18.6	3.6	21.7		30.1	48.2	
Actuated g/C Ratio		0.23	0.23	0.23	0.23	0.23	0.04	0.26		0.37	0.59	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		361	286	261	395	298	75	775		595	1774	
v/s Ratio Prot					0.09		0.03	c0.19		c0.32	0.21	
v/s Ratio Perm		0.07	0.01	c0.15		0.08						
v/c Ratio		0.32	0.03	0.65	0.37	0.37	0.67	0.70		0.87	0.36	
Uniform Delay, d1		26.4	24.6	28.7	26.7	26.7	38.6	27.2		24.0	8.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5	0.0	5.7	0.6	0.8	20.1	3.1		12.7	0.2	
Delay (s)		26.9	24.7	34.4	27.3	27.5	58.7	30.3		36.7	9.0	
Level of Service		C	C	C	C	C	E	C		D	A	
Approach Delay (s)		26.3			28.9			32.5			21.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	81.9	Sum of lost time (s)	11.5
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	350	489	185	105	647	259	1276	86	933
v/c Ratio	0.86	0.93	0.40	0.92	0.86	0.90	0.86	0.80	0.77
Control Delay	79.7	74.0	16.4	129.3	63.7	88.7	40.3	119.3	25.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.7	74.0	16.4	129.3	63.7	88.7	40.3	119.3	25.9
Queue Length 50th (ft)	162	428	41	97	291	233	536	81	194
Queue Length 95th (ft)	#240	#630	110	#216	366	#390	645	m#173	318
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	415	546	473	114	784	297	1477	108	1206
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.90	0.39	0.92	0.83	0.87	0.86	0.80	0.77

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	322	450	170	97	499	97	238	962	212	79	764	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1305	1770	3444		1652	3134		1770	3394	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1305	1770	3444		1652	3134		1770	3394	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	350	489	185	105	542	105	259	1046	230	86	830	103
RTOR Reduction (vph)	0	0	89	0	12	0	0	13	0	0	6	0
Lane Group Flow (vph)	350	489	96	105	635	0	259	1263	0	86	927	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	18.7	39.9	39.9	9.0	30.2		24.4	65.3		8.6	49.5	
Effective Green, g (s)	18.7	39.9	39.9	9.0	30.2		24.4	65.3		8.6	49.5	
Actuated g/C Ratio	0.13	0.28	0.28	0.06	0.22		0.17	0.47		0.06	0.35	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	409	526	372	114	743		288	1462		109	1200	
v/s Ratio Prot	c0.11	c0.27		0.06	0.18		c0.16	c0.40		0.05	0.27	
v/s Ratio Perm			0.07									
v/c Ratio	0.86	0.93	0.26	0.92	0.85		0.90	0.86		0.79	0.77	
Uniform Delay, d1	59.3	48.7	38.6	65.1	52.8		56.6	33.4		64.8	40.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.25	0.52	
Incremental Delay, d2	16.5	23.2	0.5	60.5	9.8		28.9	7.0		29.8	4.5	
Delay (s)	75.8	71.9	39.1	125.7	62.6		85.4	40.4		110.8	25.6	
Level of Service	E	E	D	F	E		F	D		F	C	
Approach Delay (s)		67.3			71.4			48.0			32.8	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM Average Control Delay	53.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	45	751	22	637	87	73	199	42	48
v/c Ratio	0.41	0.66	0.22	0.62	0.37	0.21	0.83	0.13	0.51
Control Delay	60.4	14.9	55.1	21.6	44.1	11.3	71.8	13.1	64.7
Queue Delay	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	15.4	55.1	21.6	44.1	11.3	71.8	13.1	64.7
Queue Length 50th (ft)	30	210	15	358	52	1	131	1	30
Queue Length 95th (ft)	m52	418	42	438	105	41	#268	32	#78
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	112	1135	100	1065	248	357	249	333	99
Starvation Cap Reductn	0	123	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.74	0.22	0.60	0.35	0.20	0.80	0.13	0.48

Intersection Summary

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.

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	677	14	20	520	66	80	2	65	183	1	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1856		1770	1831		1711	1591		1770	1590	
Flt Permitted	0.95	1.00		0.95	1.00		0.73	1.00		0.71	1.00	
Satd. Flow (perm)	1770	1856		1770	1831		1314	1591		1322	1590	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	736	15	22	565	72	87	2	71	199	1	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	58	0	0	34	0
Lane Group Flow (vph)	45	751	0	22	637	0	87	15	0	199	8	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.6	63.4		2.4	60.2		19.9	19.9		19.9	19.9	
Effective Green, g (s)	5.6	63.4		2.4	60.2		19.9	19.9		19.9	19.9	
Actuated g/C Ratio	0.05	0.58		0.02	0.55		0.18	0.18		0.18	0.18	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	90	1070		39	1002		238	288		239	288	
v/s Ratio Prot	c0.03	c0.40		0.01	0.35			0.01			0.01	
v/s Ratio Perm							0.07			c0.15		
v/c Ratio	0.50	0.70		0.56	0.64		0.37	0.05		0.83	0.03	
Uniform Delay, d1	50.8	16.6		53.3	17.3		39.5	37.2		43.4	37.1	
Progression Factor	1.03	0.72		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	3.1		17.3	3.1		1.0	0.1		21.3	0.0	
Delay (s)	55.8	15.1		70.6	20.4		40.5	37.3		64.7	37.1	
Level of Service	E	B		E	C		D	D		E	D	
Approach Delay (s)		17.4			22.0			39.0			59.9	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR	SWR2
Lane Configurations		
Volume (vph)	40	5
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.5	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1340	
Flt Permitted	1.00	
Satd. Flow (perm)	1340	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	43	5
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	44	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	25%	2%
Parking (#/hr)		
Turn Type	custom	
Protected Phases	9	
Permitted Phases	9	
Actuated Green, G (s)	6.3	
Effective Green, g (s)	6.3	
Actuated g/C Ratio	0.06	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	77	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.57	
Uniform Delay, d1	50.5	
Progression Factor	1.00	
Incremental Delay, d2	10.0	
Delay (s)	60.5	
Level of Service	E	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	171	1025	7	544	60	110	13	41	364
v/c Ratio	0.66	0.92	0.07	0.85	0.43	0.22	0.03	0.13	0.69
Control Delay	43.0	30.9	33.7	35.9	29.8	18.9	8.8	18.2	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	30.9	33.7	35.9	29.8	18.9	8.8	18.2	25.6
Queue Length 50th (ft)	65	300	3	189	20	34	0	12	112
Queue Length 95th (ft)	#171	#833	15	#440	53	68	11	33	193
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	265	1112	106	656	212	782	564	498	779
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.92	0.07	0.83	0.28	0.14	0.02	0.08	0.47

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	157	711	232	6	442	59	55	101	12	38	203	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1946		1711	1685		1652	1863	1326	1643	1788	
Flt Permitted	0.95	1.00		0.95	1.00		0.29	1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1711	1946		1711	1685		506	1863	1326	1186	1788	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	171	773	252	7	480	64	60	110	13	41	221	143
RTOR Reduction (vph)	0	12	0	0	6	0	0	0	10	0	36	0
Lane Group Flow (vph)	171	1013	0	7	538	0	60	110	3	41	328	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	9.8	36.9		0.7	27.8		17.9	17.9	17.9	17.9	17.9	
Effective Green, g (s)	9.8	36.9		0.7	27.8		17.9	17.9	17.9	17.9	17.9	
Actuated g/C Ratio	0.14	0.54		0.01	0.41		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	245	1048		17	684		132	487	347	310	467	
v/s Ratio Prot	c0.10	c0.52		0.00	0.32			0.06			c0.18	
v/s Ratio Perm							0.12		0.00	0.03		
v/c Ratio	0.70	0.97		0.41	0.79		0.45	0.23	0.01	0.13	0.70	
Uniform Delay, d1	27.9	15.2		33.7	17.8		21.2	19.9	18.7	19.4	22.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.0	20.0		20.6	6.3		3.4	0.3	0.0	0.3	5.1	
Delay (s)	37.0	35.2		54.3	24.1		24.6	20.2	18.8	19.6	28.0	
Level of Service	D	D		D	C		C	C	B	B	C	
Approach Delay (s)		35.5			24.4			21.5			27.1	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	13.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	287	442	10	48	310	723	64	20	810
v/c Ratio	0.92	0.56	0.12	0.19	0.96	0.42	0.08	0.18	0.77
Control Delay	69.7	5.7	43.6	19.2	76.6	14.1	9.1	43.2	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.7	5.7	43.6	19.2	76.6	14.1	9.1	43.2	29.8
Queue Length 50th (ft)	133	9	5	11	145	85	6	9	159
Queue Length 95th (ft)	#382	74	23	37	#412	253	43	37	#359
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	312	1026	86	700	323	1732	784	111	1150
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.43	0.12	0.07	0.96	0.42	0.08	0.18	0.70

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	264	13	394	9	23	21	288	665	59	18	559	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85		1.00	0.93		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1506		1652	1597		1652	3240	1449	1711	3245	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1506		1652	1597		1652	3240	1449	1711	3245	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	287	14	428	10	25	23	310	723	64	20	608	202
RTOR Reduction (vph)	0	277	0	0	19	0	0	0	14	0	30	0
Lane Group Flow (vph)	287	165	0	10	29	0	310	723	50	20	780	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.2	27.3		0.6	13.7		15.3	41.7	41.7	0.8	27.2	
Effective Green, g (s)	14.2	27.3		0.6	13.7		15.3	41.7	41.7	0.8	27.2	
Actuated g/C Ratio	0.17	0.33		0.01	0.17		0.18	0.50	0.50	0.01	0.33	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	293	496		12	264		305	1630	729	17	1065	
v/s Ratio Prot	c0.17	c0.11		0.01	0.02		c0.19	0.22		0.01	c0.24	
v/s Ratio Perm									0.03			
v/c Ratio	0.98	0.33		0.83	0.11		1.02	0.44	0.07	1.18	0.73	
Uniform Delay, d1	34.2	20.9		41.1	29.4		33.8	13.2	10.6	41.1	24.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	46.5	0.5		172.9	0.3		55.8	0.3	0.1	279.8	2.8	
Delay (s)	80.7	21.5		214.0	29.7		89.6	13.4	10.7	320.8	27.5	
Level of Service	F	C		F	C		F	B	B	F	C	
Approach Delay (s)		44.8			61.4			34.8			34.5	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	38.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	82.9	Sum of lost time (s)	9.5
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	73	25	5	1332	1303
v/c Ratio	0.48	0.17	0.02	0.48	0.47
Control Delay	56.7	19.0	2.4	3.5	3.5
Queue Delay	0.0	0.0	0.0	1.6	0.0
Total Delay	56.7	19.0	2.4	5.2	3.5
Queue Length 50th (ft)	50	0	0	110	105
Queue Length 95th (ft)	94	26	3	178	172
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	360	310	293	2763	2755
Starvation Cap Reductn	0	0	0	1186	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.08	0.02	0.84	0.47

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	67	23	5	1225	1173	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3229	
Flt Permitted	0.95	1.00	0.20	1.00	1.00	
Satd. Flow (perm)	1652	1330	344	3240	3229	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	25	5	1332	1275	28
RTOR Reduction (vph)	0	23	0	0	1	0
Lane Group Flow (vph)	73	2	5	1332	1302	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	9.0	9.0	92.0	92.0	92.0	
Effective Green, g (s)	9.0	9.0	92.0	92.0	92.0	
Actuated g/C Ratio	0.08	0.08	0.84	0.84	0.84	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	135	109	288	2710	2701	
v/s Ratio Prot	c0.04			c0.41	0.40	
v/s Ratio Perm		0.00	0.01			
v/c Ratio	0.54	0.02	0.02	0.49	0.48	
Uniform Delay, d1	48.5	46.4	1.5	2.5	2.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.4	0.1	0.1	0.6	0.6	
Delay (s)	52.9	46.5	1.6	3.1	3.1	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.3			3.1	3.1	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	4.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1503	1162	598	1564	826	897
v/c Ratio	0.71	0.69	0.91	0.91	0.54	0.77
Control Delay	12.0	11.0	83.6	24.4	1.4	44.2
Queue Delay	29.9	5.0	0.0	0.3	0.0	0.0
Total Delay	41.9	16.0	83.6	24.8	1.4	44.2
Queue Length 50th (ft)	420	52	287	339	0	313
Queue Length 95th (ft)	439	59	#372	440	0	383
Internal Link Dist (ft)	251			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	2123	1693	693	1715	1517	1172
Starvation Cap Reductn	698	457	0	0	0	0
Spillback Cap Reductn	0	0	0	16	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.94	0.86	0.92	0.54	0.77

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1383	1069	550	1439	0	0	0	760	0	0	825
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.76
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3020	2378	2828	3020				1517			3187
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			3187
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1503	1162	598	1564	0	0	0	826	0	0	897
RTOR Reduction (vph)	0	0	21	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1503	1141	598	1564	0	0	0	826	0	0	897
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		98.4	98.4	32.6	79.5				140.0			51.5
Effective Green, g (s)		98.4	98.4	32.6	79.5				140.0			51.5
Actuated g/C Ratio		0.70	0.70	0.23	0.57				1.00			0.37
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		2123	1671	659	1715				1517			1172
v/s Ratio Prot		0.50		0.21	c0.52							
v/s Ratio Perm			0.48						0.54			c0.28
v/c Ratio		0.71	0.68	0.91	0.91				0.54			0.77
Uniform Delay, d1		12.3	11.9	52.2	27.1				0.0			38.9
Progression Factor		0.82	0.81	1.31	0.61				1.00			1.00
Incremental Delay, d2		1.4	1.6	13.6	7.3				1.4			4.8
Delay (s)		11.5	11.2	81.9	23.8				1.4			43.7
Level of Service		B	B	F	C				A			D
Approach Delay (s)		11.4			39.8			1.4			43.7	
Approach LOS		B			D			A			D	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	633	1697	1142	615	1062	1012
v/c Ratio	0.77	0.51	0.56	0.64	0.66	0.66
Control Delay	23.7	0.4	5.4	8.8	2.1	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	0.4	5.4	8.8	2.1	2.3
Queue Length 50th (ft)	153	0	49	0	0	0
Queue Length 95th (ft)	196	0	165	m139	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	920	3355	2048	958	1611	1528
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	0.69	0.51	0.56	0.64	0.66	0.66

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	582	1561	0	0	1051	566	0	0	977	0	0	931
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	633	1697	0	0	1142	615	0	0	1062	0	0	1012
RTOR Reduction (vph)	0	0	0	0	0	23	0	0	0	0	0	0
Lane Group Flow (vph)	633	1697	0	0	1142	592	0	0	1062	0	0	1012
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	18.3	70.0			42.7	42.7			70.0			70.0
Effective Green, g (s)	18.3	70.0			42.7	42.7			70.0			70.0
Actuated g/C Ratio	0.26	1.00			0.61	0.61			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	822	3355			2047	934			1611			1528
v/s Ratio Prot	0.20	0.51			0.34							
v/s Ratio Perm						0.39			0.66			c0.66
v/c Ratio	0.77	0.51			0.56	0.63			0.66			0.66
Uniform Delay, d1	23.9	0.0			8.1	8.7			0.0			0.0
Progression Factor	0.77	1.00			0.55	0.78			1.00			1.00
Incremental Delay, d2	3.4	0.4			0.7	2.2			2.1			2.3
Delay (s)	21.9	0.4			5.2	9.0			2.1			2.3
Level of Service	C	A			A	A			A			A
Approach Delay (s)		6.2			6.5			2.1			2.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	5.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	477	779	903	298	36	290	872	21	100	1038	227
v/c Ratio	1.12	0.97	0.51	0.77	0.09	0.94	0.74	0.05	0.67	0.97	0.40
Control Delay	105.8	53.9	1.1	49.9	13.6	84.6	34.1	16.5	66.2	55.4	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.8	53.9	1.1	49.9	13.6	84.6	34.1	16.5	66.2	55.4	17.5
Queue Length 50th (ft)	~256	471	0	177	3	96	257	5	63	341	63
Queue Length 95th (ft)	#458	#732	0	#303	28	#177	330	22	#137	#481	129
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	424	800	1770	387	388	308	1179	439	152	1070	565
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	1.13	0.97	0.51	0.77	0.09	0.94	0.74	0.05	0.66	0.97	0.40

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	439	717	831	6	268	33	267	802	19	92	955	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	3.6	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1737	1476	3204	3539	1337	1652	3303	1551
Flt Permitted	0.28	1.00	1.00		0.90	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	484	1739	1770		1562	1476	3204	3539	1337	1652	3303	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	477	779	903	7	291	36	290	872	21	100	1038	227
RTOR Reduction (vph)	0	0	0	0	0	22	0	0	7	0	0	63
Lane Group Flow (vph)	477	779	903	0	298	14	290	872	14	100	1038	164
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	45.5	45.5	100.0		24.3	24.3	8.6	32.3	32.3	8.2	31.4	31.4
Effective Green, g (s)	46.0	46.0	100.0		24.8	24.8	9.6	33.3	32.3	9.1	32.4	32.4
Actuated g/C Ratio	0.46	0.46	1.00		0.25	0.25	0.10	0.33	0.32	0.09	0.32	0.32
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	424	800	1770		387	366	308	1178	432	150	1070	503
v/s Ratio Prot	c0.19	0.45					c0.09	0.25		0.06	c0.31	
v/s Ratio Perm	c0.32		c0.51		0.19	0.01			0.01			0.11
v/c Ratio	1.12	0.97	0.51		0.77	0.04	0.94	0.74	0.03	0.67	0.97	0.33
Uniform Delay, d1	22.7	26.4	0.0		34.9	28.5	44.9	29.5	23.2	44.0	33.3	25.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	82.3	25.4	1.1		9.7	0.1	36.0	4.2	0.1	11.1	21.2	1.7
Delay (s)	105.0	51.8	1.1		44.6	28.6	80.9	33.7	23.3	55.1	54.5	27.3
Level of Service	F	D	A		D	C	F	C	C	E	D	C
Approach Delay (s)		42.3			42.9			45.1			50.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	90	1925	141	1437
v/c Ratio	0.48	0.61	0.45	1.00	0.48
Control Delay	76.5	51.7	1.5	86.9	0.9
Queue Delay	0.0	0.0	0.2	0.0	0.5
Total Delay	76.5	51.7	1.7	86.9	1.4
Queue Length 50th (ft)	43	43	23	79	8
Queue Length 95th (ft)	84	99	28	m#124	m13
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	200	258	4242	141	2982
Starvation Cap Reductn	0	0	1073	0	954
Spillback Cap Reductn	0	0	1	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.35	0.61	1.00	0.71

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	44	0	83	0	1737	34	130	1321	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		1.00		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1562	1393		4937		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.10	1.00	
Satd. Flow (perm)					1245	1393		4937		163	3471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	48	0	90	0	1888	37	141	1436	1
RTOR Reduction (vph)	0	0	0	0	0	38	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	52	0	1924	0	141	1437	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					11.1	11.1		120.3		120.3	120.3	
Effective Green, g (s)					11.1	11.1		120.3		120.3	120.3	
Actuated g/C Ratio					0.08	0.08		0.86		0.86	0.86	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					99	110		4242		140	2983	
v/s Ratio Prot								0.39			0.41	
v/s Ratio Perm					c0.04	0.04				c0.86		
v/c Ratio					0.48	0.48		0.45		1.01	0.48	
Uniform Delay, d1					61.7	61.7		2.3		9.9	2.4	
Progression Factor					1.00	1.00		0.50		2.94	0.22	
Incremental Delay, d2					3.7	3.2		0.3		58.1	0.3	
Delay (s)					65.4	64.9		1.4		87.0	0.8	
Level of Service					E	E		A		F	A	
Approach Delay (s)		0.0			65.1			1.4			8.5	
Approach LOS		A			E			A			A	

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	45	826	776	274	152
v/c Ratio	0.37	0.62	0.35	0.77	0.34
Control Delay	57.2	11.5	7.3	55.3	7.5
Queue Delay	0.0	1.8	0.0	0.0	0.0
Total Delay	57.2	13.3	7.3	55.3	7.5
Queue Length 50th (ft)	31	261	52	184	0
Queue Length 95th (ft)	69	471	106	257	49
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	129	1335	2187	475	536
Starvation Cap Reductn	0	334	0	0	0
Spillback Cap Reductn	0	30	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.83	0.35	0.58	0.28

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	41	760	648	66	252	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3490		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3490		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	826	704	72	274	152
RTOR Reduction (vph)	0	0	6	0	0	121
Lane Group Flow (vph)	45	826	770	0	274	31
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	6.4	78.8	67.9		22.2	22.2
Effective Green, g (s)	6.4	78.8	67.9		22.2	22.2
Actuated g/C Ratio	0.06	0.72	0.62		0.20	0.20
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	103	1335	2154		357	319
v/s Ratio Prot	0.03	c0.44	0.22		c0.15	
v/s Ratio Perm						0.02
v/c Ratio	0.44	0.62	0.36		0.77	0.10
Uniform Delay, d1	50.1	7.9	10.3		41.5	35.7
Progression Factor	1.00	1.00	0.61		1.00	1.00
Incremental Delay, d2	2.9	2.2	0.4		9.5	0.1
Delay (s)	53.0	10.1	6.7		51.0	35.9
Level of Service	D	B	A		D	D
Approach Delay (s)		12.3	6.7		45.6	
Approach LOS		B	A		D	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	2228	489	1973	507
v/c Ratio	0.71	0.73	0.39	0.83
Control Delay	12.4	24.5	0.1	31.6
Queue Delay	0.4	2.3	0.0	0.0
Total Delay	12.8	26.8	0.1	31.6
Queue Length 50th (ft)	286	198	0	182
Queue Length 95th (ft)	m268	m227	0	285
Internal Link Dist (ft)	387		251	
Turn Bay Length (ft)				
Base Capacity (vph)	3147	771	5085	703
Starvation Cap Reductn	0	164	0	0
Spillback Cap Reductn	384	0	701	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	0.81	0.45	0.72

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2019	30	450	1815	0	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6394		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6394		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2195	33	489	1973	0	507
RTOR Reduction (vph)	3	0	0	0	0	1
Lane Group Flow (vph)	2225	0	489	1973	0	506
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	34.4		26.6	70.0		26.6
Effective Green, g (s)	34.4		26.6	70.0		26.6
Actuated g/C Ratio	0.49		0.38	1.00		0.38
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3142		673	5085		612
v/s Ratio Prot	c0.35		0.28	0.39		c0.31
v/s Ratio Perm						
v/c Ratio	0.71		0.73	0.39		0.83
Uniform Delay, d1	13.9		18.6	0.0		19.6
Progression Factor	0.79		1.16	1.00		1.00
Incremental Delay, d2	0.8		1.9	0.1		9.0
Delay (s)	11.8		23.5	0.1		28.6
Level of Service	B		C	A		C
Approach Delay (s)	11.8			4.8	28.6	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	96	221	262	205	1051	36	895	208	732	643	54
v/c Ratio	1.02	0.57	0.49	0.32	0.64	0.49	0.79	0.23	1.14	0.47	0.08
Control Delay	162.5	56.2	42.5	31.1	18.5	87.5	53.8	1.7	127.8	31.5	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	162.5	56.2	42.5	31.1	18.5	87.5	53.8	1.7	127.8	31.5	7.1
Queue Length 50th (ft)	~98	92	187	128	318	33	282	0	~417	232	0
Queue Length 95th (ft)	#218	126	308	195	396	72	336	19	#543	294	29
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	94	1057	534	700	1622	89	1213	923	644	1354	663
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	1.02	0.21	0.49	0.29	0.65	0.40	0.74	0.23	1.14	0.47	0.08

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	162	41	241	189	967	33	823	191	673	592	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3093		1678	1689	2642	1620	4655	1449	3143	3240	1513
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3093		1678	1689	2642	1620	4655	1449	3143	3240	1513
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	176	45	262	205	1051	36	895	208	732	643	54
RTOR Reduction (vph)	0	21	0	0	0	16	0	0	90	0	0	32
Lane Group Flow (vph)	96	200	0	262	205	1035	36	895	118	732	643	22
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	7.6	16.0		43.0	51.4	83.6	5.2	34.0	77.0	27.7	56.5	56.5
Effective Green, g (s)	7.6	16.0		43.0	51.4	83.6	5.2	34.0	77.0	27.7	56.5	56.5
Actuated g/C Ratio	0.06	0.12		0.32	0.38	0.61	0.04	0.25	0.57	0.20	0.42	0.42
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	94	364		531	638	1624	62	1164	820	640	1346	629
v/s Ratio Prot	c0.06	0.06		0.16	0.12	c0.39	0.02	c0.19	0.08	c0.23	0.20	
v/s Ratio Perm												0.01
v/c Ratio	1.02	0.55		0.49	0.32	0.64	0.58	0.77	0.14	1.14	0.48	0.04
Uniform Delay, d1	64.2	56.6		37.7	30.0	16.6	64.3	47.4	13.9	54.1	29.0	23.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	98.7	2.5		0.3	0.4	0.9	8.6	3.1	0.1	82.3	0.3	0.0
Delay (s)	162.9	59.1		37.9	30.4	17.5	72.9	50.5	14.0	136.4	29.3	23.6
Level of Service	F	E		D	C	B	E	D	B	F	C	C
Approach Delay (s)		90.6			22.8			44.5			83.9	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM Average Control Delay	53.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	1120	108	1645	700	53	235	564	281
v/c Ratio	0.94	0.66	0.66	1.01	0.72	0.46	0.89	0.93	0.65
Control Delay	110.8	23.3	81.4	38.8	5.2	66.4	48.6	71.2	22.7
Queue Delay	0.0	89.0	0.0	0.6	2.1	0.0	17.1	0.0	0.0
Total Delay	110.8	112.3	81.4	39.4	7.2	66.4	65.8	71.2	22.7
Queue Length 50th (ft)	121	318	87	~753	1	40	42	226	60
Queue Length 95th (ft)	#255	423	m105	m#879	m2	83	#177	#342	161
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	163	1685	203	1621	979	140	284	606	430
Starvation Cap Reductn	0	0	0	3	153	0	0	0	0
Spillback Cap Reductn	0	745	0	0	0	0	42	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.19	0.53	1.02	0.85	0.38	0.97	0.93	0.65

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	142	1016	15	99	1434	723	49	8	208	519	41	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99	0.85	1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3171		1620	3049	1318	1678	1438		3143	1424	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3171		1620	3049	1318	1678	1438		3143	1424	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	1104	16	108	1559	786	53	9	226	564	45	236
RTOR Reduction (vph)	0	1	0	0	3	279	0	167	0	0	156	0
Lane Group Flow (vph)	154	1119	0	108	1642	421	53	68	0	564	125	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	12.1	63.8		12.0	63.7	63.7	8.1	8.1		23.1	23.1	
Effective Green, g (s)	12.1	63.8		12.0	63.7	63.7	8.1	8.1		23.1	23.1	
Actuated g/C Ratio	0.10	0.53		0.10	0.53	0.53	0.07	0.07		0.19	0.19	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	163	1686		162	1619	700	113	97		605	274	
v/s Ratio Prot	c0.10	0.35		0.07	c0.54		0.03	c0.05		c0.18	0.09	
v/s Ratio Perm						0.32						
v/c Ratio	0.94	0.66		0.67	1.01	0.60	0.47	0.70		0.93	0.46	
Uniform Delay, d1	53.6	20.3		52.1	28.1	19.4	53.9	54.8		47.7	42.9	
Progression Factor	1.00	1.00		1.33	0.56	0.71	1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.5	2.1		4.8	21.0	2.3	1.1	17.1		21.4	1.2	
Delay (s)	107.1	22.4		74.0	36.6	16.1	55.0	71.8		69.0	44.1	
Level of Service	F	C		E	D	B	D	E		E	D	
Approach Delay (s)		32.7			32.4			68.7			60.8	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	2020	658	2213	314	559	70	58
v/c Ratio	0.48	1.00	0.97	0.77	0.99	0.50	0.90	0.56
Control Delay	61.9	49.8	66.7	16.6	98.9	20.4	133.4	50.2
Queue Delay	0.0	52.2	0.0	1.3	0.0	0.0	0.0	0.6
Total Delay	61.9	102.0	66.7	17.9	98.9	20.4	133.4	50.8
Queue Length 50th (ft)	44	~589	255	400	246	139	55	19
Queue Length 95th (ft)	m63	m#699	m#335	496	#433	186	#148	#75
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	135	2018	689	2865	316	1119	78	103
Starvation Cap Reductn	0	239	0	416	0	0	0	0
Spillback Cap Reductn	0	0	0	413	0	0	0	3
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.14	0.96	0.90	0.99	0.50	0.90	0.58

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	1689	169	605	1913	123	258	31	514	64	23	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4505		3143	4726			1807	2808	1562	1428	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4505		3143	4726			1807	2808	1562	1428	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	1836	184	658	2079	134	280	34	559	70	25	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	0	23	0	31	0
Lane Group Flow (vph)	57	2010	0	658	2207	0	0	314	536	70	27	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	8.0	53.5		26.0	72.0			21.0	47.0	6.0	6.0	
Effective Green, g (s)	8.0	53.5		26.0	72.0			21.0	47.0	6.0	6.0	
Actuated g/C Ratio	0.07	0.45		0.22	0.60			0.18	0.39	0.05	0.05	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	108	2008		681	2836			316	1100	78	71	
v/s Ratio Prot	0.04	c0.45		c0.21	0.47			c0.17	0.11	c0.04	0.02	
v/s Ratio Perm									0.09			
v/c Ratio	0.53	1.00		0.97	0.78			0.99	0.49	0.90	0.38	
Uniform Delay, d1	54.2	33.2		46.6	18.0			49.4	27.4	56.7	55.2	
Progression Factor	0.99	0.98		1.03	0.84			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	17.1		17.7	1.2			48.6	0.1	66.4	1.2	
Delay (s)	55.0	49.9		65.7	16.3			98.0	27.6	123.1	56.4	
Level of Service	D	D		E	B			F	C	F	E	
Approach Delay (s)		50.0			27.6			52.9			92.9	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM Average Control Delay	40.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1236	1516	2066	795	611	592
v/c Ratio	0.36	0.60	0.89	0.62	0.82	0.87
Control Delay	7.0	1.4	19.0	2.7	54.3	56.3
Queue Delay	0.0	0.0	0.7	0.0	0.0	0.1
Total Delay	7.0	1.4	19.7	2.7	54.3	56.4
Queue Length 50th (ft)	123	0	573	0	233	237
Queue Length 95th (ft)	m129	m0	720	32	#304	#343
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3429	2533	2327	1284	747	681
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	71	0	0	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.60	0.92	0.62	0.82	0.87

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1137	1395	0	1901	731	0	0	0	562	0	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1236	1516	0	2066	795	0	0	0	611	0	592
RTOR Reduction (vph)	0	0	0	0	0	225	0	0	0	0	0	31
Lane Group Flow (vph)	0	1236	1516	0	2066	570	0	0	0	611	0	561
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		
Permitted Phases			2 4			6				4		4
Actuated Green, G (s)		86.0	120.0		86.0	86.0				26.0		26.0
Effective Green, g (s)		87.0	120.0		87.0	86.0				27.0		27.0
Actuated g/C Ratio		0.72	1.00		0.72	0.72				0.22		0.22
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3429	2533		2327	1059				747		650
v/s Ratio Prot		0.26			c0.64					0.18		
v/s Ratio Perm			0.60			0.39						c0.19
v/c Ratio		0.36	0.60		0.89	0.54				0.82		0.86
Uniform Delay, d1		6.1	0.0		12.7	7.8				44.2		44.7
Progression Factor		1.10	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.2	0.3		5.5	2.0				7.3		11.8
Delay (s)		7.0	0.3		18.3	9.8				51.5		56.5
Level of Service		A	A		B	A				D		E
Approach Delay (s)		3.3			15.9			0.0			53.9	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	59	62	259	236	428
v/c Ratio	0.79	0.08	0.40	0.40	0.51	0.58
Control Delay	21.9	3.5	36.8	13.8	21.4	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	3.5	36.8	13.8	21.4	5.9
Queue Length 50th (ft)	156	0	20	58	68	0
Queue Length 95th (ft)	#348	16	#72	109	130	57
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	1077	985	155	1092	693	887
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	0.06	0.40	0.24	0.34	0.48

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	556	54	57	238	217	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1559
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	59	62	259	236	428
RTOR Reduction (vph)	0	33	0	0	0	315
Lane Group Flow (vph)	604	26	62	259	236	113
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	21.4	21.4	1.9	18.5	12.6	12.6
Effective Green, g (s)	21.4	21.4	1.9	18.5	12.6	12.6
Actuated g/C Ratio	0.45	0.45	0.04	0.39	0.26	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	750	671	64	706	448	410
v/s Ratio Prot	c0.36		c0.04	0.14	c0.14	
v/s Ratio Perm		0.02				0.07
v/c Ratio	0.81	0.04	0.97	0.37	0.53	0.27
Uniform Delay, d1	11.5	7.5	23.0	10.5	15.1	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3	0.0	100.3	0.3	1.1	0.4
Delay (s)	17.7	7.5	123.3	10.8	16.2	14.4
Level of Service	B	A	F	B	B	B
Approach Delay (s)	16.8			32.6	15.0	
Approach LOS	B			C	B	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	125	138	26	1130	71	692
v/c Ratio	0.24	0.36	0.37	0.06	0.58	0.32	0.35
Control Delay	15.0	18.5	12.6	7.4	9.5	13.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	18.5	12.6	7.4	9.5	13.7	7.2
Queue Length 50th (ft)	17	29	18	3	87	9	44
Queue Length 95th (ft)	45	68	55	17	251	56	128
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	744	734	733	454	2115	238	2121
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	0.11	0.17	0.19	0.06	0.53	0.30	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	44	10	63	52	127	24	963	76	65	607	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1531			1685	1306	1616	3039		1561	3053	
Flt Permitted		0.88			0.78	1.00	0.39	1.00		0.21	1.00	
Satd. Flow (perm)		1365			1357	1306	655	3039		344	3053	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	48	11	68	57	138	26	1047	83	71	660	32
RTOR Reduction (vph)	0	9	0	0	0	47	0	7	0	0	4	0
Lane Group Flow (vph)	0	76	0	0	125	91	26	1123	0	71	688	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		9.9			9.9	9.9	28.6	28.6		28.6	28.6	
Effective Green, g (s)		9.9			9.9	9.9	28.6	28.6		28.6	28.6	
Actuated g/C Ratio		0.21			0.21	0.21	0.60	0.60		0.60	0.60	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		283			282	271	393	1822		206	1831	
v/s Ratio Prot								c0.37			0.23	
v/s Ratio Perm		0.06			c0.09	0.07	0.04			0.21		
v/c Ratio		0.27			0.44	0.34	0.07	0.62		0.34	0.38	
Uniform Delay, d1		15.9			16.5	16.1	4.0	6.1		4.8	4.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			1.5	1.0	0.1	0.7		1.4	0.2	
Delay (s)		16.6			18.0	17.1	4.1	6.8		6.2	5.1	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		16.6			17.5			6.7			5.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	47.7	Sum of lost time (s)	9.2
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	20	210	367	178	157	34
v/c Ratio	0.07	0.24	0.49	0.15	0.36	0.08
Control Delay	19.6	6.9	12.1	0.6	15.5	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	6.9	12.1	0.6	15.5	6.8
Queue Length 50th (ft)	3	19	37	0	18	0
Queue Length 95th (ft)	25	62	179	10	95	18
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	467	1827	1645	1520	1247	1085
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	0.04	0.11	0.22	0.12	0.13	0.03

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	18	193	338	164	144	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1618	1562	1362
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1618	1562	1362
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	210	367	178	157	34
RTOR Reduction (vph)	0	0	0	59	0	25
Lane Group Flow (vph)	20	210	367	119	157	9
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	0.9	21.5	16.6	27.2	10.6	10.6
Effective Green, g (s)	0.9	21.5	16.6	27.2	10.6	10.6
Actuated g/C Ratio	0.02	0.53	0.41	0.67	0.26	0.26
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	36	965	695	1081	407	355
v/s Ratio Prot	0.01	c0.11	c0.22	0.03	c0.10	
v/s Ratio Perm				0.04		0.01
v/c Ratio	0.56	0.22	0.53	0.11	0.39	0.02
Uniform Delay, d1	19.7	5.1	9.1	2.4	12.4	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.3	0.1	0.7	0.0	0.6	0.0
Delay (s)	37.0	5.2	9.8	2.5	13.0	11.2
Level of Service	D	A	A	A	B	B
Approach Delay (s)		8.0	7.4		12.7	
Approach LOS		A	A		B	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	40.7	Sum of lost time (s)	13.2
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	217	151	341	299	306	239
v/c Ratio	0.60	0.36	0.71	0.32	0.53	0.41
Control Delay	42.9	8.8	38.7	12.0	30.2	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	8.8	38.7	12.0	30.2	13.6
Queue Length 50th (ft)	111	0	167	83	137	40
Queue Length 95th (ft)	230	54	338	163	283	122
Internal Link Dist (ft)	328			4916	905	
Turn Bay Length (ft)		350	75			100
Base Capacity (vph)	758	716	722	1470	712	716
Starvation Cap Reductn	5	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	0.29	0.21	0.47	0.20	0.43	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	199	139	314	274	1	280	2	220	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5			
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.98			
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		1758	1460	1562	1704			1682	1724			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		1756	1460	1562	1704			1682	1724			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	216	151	341	298	1	304	2	239	0	0	0
RTOR Reduction (vph)	0	0	120	0	0	0	0	0	98	0	0	0
Lane Group Flow (vph)	0	217	31	341	299	0	0	306	141	0	0	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		18.3	18.3	27.6	49.9			29.8	25.8			
Effective Green, g (s)		18.3	18.3	27.6	49.9			29.8	25.8			
Actuated g/C Ratio		0.21	0.21	0.31	0.56			0.34	0.29			
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0			
Lane Grp Cap (vph)		362	301	485	958			564	501			
v/s Ratio Prot				c0.22	0.18			c0.18	0.03			
v/s Ratio Perm		c0.12	0.02						0.06			
v/c Ratio		0.60	0.10	0.70	0.31			0.54	0.28			
Uniform Delay, d1		31.9	28.6	27.0	10.3			24.0	24.3			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Incremental Delay, d2		2.7	0.2	4.6	0.2			1.1	0.3			
Delay (s)		34.6	28.7	31.6	10.5			25.0	24.6			
Level of Service		C	C	C	B			C	C			
Approach Delay (s)		32.2			21.7			24.9			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	88.8	Sum of lost time (s)	12.6
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	166	408	64	245	386	704	24	555	143	263	688
v/c Ratio	0.75	0.79	0.14	0.83	0.64	0.95	0.29	0.81	0.43	0.90	0.60
Control Delay	76.6	54.4	24.2	74.7	41.5	41.2	72.3	58.4	28.6	86.1	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	54.4	24.2	74.7	41.5	41.2	72.3	58.4	28.6	86.1	35.6
Queue Length 50th (ft)	143	331	25	209	283	321	21	244	56	234	264
Queue Length 95th (ft)	#247	464	62	#342	401	#611	53	314	124	#414	335
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	251	572	494	337	668	779	86	804	380	298	1176
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	0.66	0.71	0.13	0.73	0.58	0.90	0.28	0.69	0.38	0.88	0.59

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	153	375	59	225	355	648	22	511	132	242	526	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1452	1620	1739	1391	1652	3240	1331	1620	2994	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1452	1620	1739	1391	1652	3240	1331	1620	2994	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	408	64	245	386	704	24	555	143	263	572	116
RTOR Reduction (vph)	0	0	18	0	0	262	0	0	52	0	12	0
Lane Group Flow (vph)	166	408	46	245	386	442	24	555	91	263	676	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	17.1	37.9	37.9	23.3	44.1	44.1	4.2	29.0	29.0	23.9	48.7	
Effective Green, g (s)	17.0	37.8	37.8	23.2	44.0	44.0	3.2	28.5	28.5	22.9	48.2	
Actuated g/C Ratio	0.13	0.29	0.29	0.18	0.34	0.34	0.02	0.22	0.22	0.18	0.38	
Clearance Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	219	512	427	293	596	477	41	719	295	289	1124	
v/s Ratio Prot	0.10	0.23		c0.15	0.22		0.01	c0.17		c0.16	0.23	
v/s Ratio Perm			0.03			c0.32			0.07			
v/c Ratio	0.76	0.80	0.11	0.84	0.65	0.93	0.59	0.77	0.31	0.91	0.60	
Uniform Delay, d1	53.7	41.8	33.0	50.8	35.7	40.7	61.9	46.9	41.7	51.7	32.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.7	8.9	0.2	19.0	2.7	24.5	22.8	5.5	0.8	31.1	1.1	
Delay (s)	68.5	50.6	33.2	69.8	38.4	65.1	84.7	52.4	42.5	82.9	33.4	
Level of Service	E	D	C	E	D	E	F	D	D	F	C	
Approach Delay (s)		53.5			58.2			51.5			47.1	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	53.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	128.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	612	96	1252	1206	197	326	577	193	239	15
v/c Ratio	0.38	0.66	0.26	0.97	0.72	1.11	0.54	0.37	0.58	0.41	0.05
Control Delay	67.0	50.4	10.2	57.7	26.1	153.2	50.1	8.3	62.4	47.5	18.1
Queue Delay	0.0	0.0	0.0	78.8	3.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	50.4	10.2	136.5	29.6	153.2	50.1	8.3	62.4	47.5	18.1
Queue Length 50th (ft)	37	169	0	521	391	~188	128	78	78	91	0
Queue Length 95th (ft)	85	230	48	#795	547	#384	183	115	129	135	19
Internal Link Dist (ft)		238			392		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	138	1129	431	1286	1742	177	863	1785	374	864	404
Starvation Cap Reductn	0	0	0	232	428	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	0.34	0.54	0.22	1.19	0.92	1.11	0.38	0.32	0.52	0.28	0.04

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	563	88	1152	848	261	181	300	531	178	220	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	3.1	4.0	4.0	3.1	4.0		4.0	4.0	3.1	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1471
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	612	96	1252	922	284	197	326	577	193	239	15
RTOR Reduction (vph)	0	0	76	0	19	0	0	0	0	0	0	12
Lane Group Flow (vph)	47	612	20	1252	1187	0	197	326	577	193	239	3
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	7.5	24.2	24.2	48.4	65.1		13.1	21.1	69.5	12.8	20.8	20.8
Effective Green, g (s)	8.4	25.7	25.7	49.3	66.6		13.1	22.6	71.3	12.8	22.3	22.3
Actuated g/C Ratio	0.07	0.20	0.20	0.39	0.53		0.10	0.18	0.57	0.10	0.18	0.18
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	105	953	302	1279	1652		175	604	1537	332	576	261
v/s Ratio Prot	0.03	0.13		c0.38	c0.38		c0.12	c0.10	0.21	c0.06	0.07	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.45	0.64	0.07	0.98	0.72		1.13	0.54	0.38	0.58	0.41	0.01
Uniform Delay, d1	56.3	45.7	40.2	37.6	22.3		56.2	46.7	14.9	53.8	45.8	42.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	1.7	0.1	20.1	1.6		105.8	1.2	0.2	3.1	0.7	0.0
Delay (s)	60.4	47.4	40.3	57.7	24.0		162.0	47.9	15.1	56.8	46.5	42.5
Level of Service	E	D	D	E	C		F	D	B	E	D	D
Approach Delay (s)		47.3			41.1			51.1			50.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	125.5	Sum of lost time (s)	11.1
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	301	2362	203	1328	224	226	122	143
v/c Ratio	0.85	0.83	0.87	0.69	0.72	0.72	0.30	0.77
Control Delay	71.2	31.2	88.7	34.6	62.0	61.4	8.8	59.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	31.2	88.7	34.6	62.0	61.4	8.8	59.0
Queue Length 50th (ft)	238	471	169	341	186	188	0	32
Queue Length 95th (ft)	#419	608	#344	450	281	282	50	#95
Internal Link Dist (ft)		660		577		351		533
Turn Bay Length (ft)	125		180		200			
Base Capacity (vph)	388	2863	234	1937	435	442	516	185
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	0.78	0.83	0.87	0.69	0.51	0.51	0.24	0.77

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	277	1808	365	187	1185	37	355	59	112	22	44	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.86		1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	5704		1678	4630		1539	1564	1514		3026	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1620	5704		1678	4630		1539	1564	1514		3026	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	1965	397	203	1288	40	386	64	122	24	48	71
RTOR Reduction (vph)	0	24	0	0	2	0	0	0	97	0	68	0
Lane Group Flow (vph)	301	2338	0	203	1326	0	224	226	25	0	75	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases									8			
Actuated Green, G (s)	27.4	63.7		17.0	53.3		25.5	25.5	25.5		4.4	
Effective Green, g (s)	28.4	64.7		18.0	54.3		26.1	26.1	26.1		5.0	
Actuated g/C Ratio	0.22	0.50		0.14	0.42		0.20	0.20	0.20		0.04	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	354	2843		233	1937		309	314	304		117	
v/s Ratio Prot	c0.19	c0.41		0.12	0.29		c0.15	0.14			c0.02	
v/s Ratio Perm									0.02			
v/c Ratio	0.85	0.82		0.87	0.68		0.72	0.72	0.08		0.64	
Uniform Delay, d1	48.7	27.7		54.8	30.8		48.5	48.4	42.1		61.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	18.0	2.4		28.6	1.5		8.7	8.2	0.2		12.2	
Delay (s)	66.7	30.1		83.4	32.3		57.2	56.6	42.3		73.7	
Level of Service	E	C		F	C		E	E	D		E	
Approach Delay (s)		34.2			39.1			53.8			73.7	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	39.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	129.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	185	1665	207	953	267	184	286	27	285
v/c Ratio	0.73	0.85	0.84	0.71	0.82	0.21	0.43	0.24	0.51
Control Delay	54.3	28.1	67.7	26.8	60.8	25.2	5.4	49.7	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	28.1	67.7	26.8	60.8	25.2	5.4	49.7	23.0
Queue Length 50th (ft)	92	262	108	215	72	38	0	7	45
Queue Length 95th (ft)	#235	#509	#290	#427	#176	70	55	24	80
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	278	1957	245	1350	326	1366	866	111	1140
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.85	0.84	0.71	0.82	0.13	0.33	0.24	0.25

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	1126	406	190	860	17	246	169	263	25	162	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4534		1652	3280		3143	3240	1660	3204	3032	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4534		1652	3280		3143	3240	1660	3204	3032	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	1224	441	207	935	18	267	184	286	27	176	109
RTOR Reduction (vph)	0	57	0	0	1	0	0	0	209	0	90	0
Lane Group Flow (vph)	185	1608	0	207	952	0	267	184	77	27	195	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	13.8	35.7		13.1	35.0		10.1	24.4	24.4	1.5	15.8	
Effective Green, g (s)	13.7	36.7		13.0	36.0		9.1	24.0	24.0	0.5	15.4	
Actuated g/C Ratio	0.15	0.41		0.15	0.40		0.10	0.27	0.27	0.01	0.17	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	249	1863		240	1322		320	871	446	18	523	
v/s Ratio Prot	0.11	c0.35		c0.13	0.29		c0.08	0.06		0.01	c0.06	
v/s Ratio Perm									0.05			
v/c Ratio	0.74	0.86		0.86	0.72		0.83	0.21	0.17	1.50	0.37	
Uniform Delay, d1	36.1	24.0		37.3	22.4		39.4	25.3	25.0	44.4	32.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.3	4.6		26.5	2.0		17.5	0.2	0.3	395.6	0.6	
Delay (s)	47.5	28.6		63.8	24.5		56.8	25.5	25.3	440.0	33.3	
Level of Service	D	C		E	C		E	C	C	F	C	
Approach Delay (s)		30.5			31.5			36.8			68.5	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	11.1
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	215	283	5	824	276	566	785
v/c Ratio	0.07	0.77	0.35	0.05	0.53	0.31	0.79	0.33
Control Delay	26.4	58.6	5.0	39.8	28.1	9.8	50.1	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	58.6	5.0	39.8	28.1	9.8	50.1	8.6
Queue Length 50th (ft)	9	143	0	3	162	0	195	98
Queue Length 95th (ft)	28	213	34	m7	330	107	248	207
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	385	368	977	93	1544	877	827	2367
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	0.05	0.58	0.29	0.05	0.53	0.31	0.68	0.33

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	0	5	196	2	260	5	758	254	521	675	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697			1775	2787	1678	3355	1583	3433	3432	
Flt Permitted		0.78			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1375			1328	2787	1678	3355	1583	3433	3432	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	0	5	213	2	283	5	824	276	566	734	51
RTOR Reduction (vph)	0	4	0	0	0	224	0	0	149	0	3	0
Lane Group Flow (vph)	0	17	0	0	215	59	5	824	127	566	782	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		23.1			23.1	23.1	1.2	50.6	50.6	22.8	72.2	
Effective Green, g (s)		23.1			23.1	23.1	1.2	50.6	50.6	22.8	72.2	
Actuated g/C Ratio		0.21			0.21	0.21	0.01	0.46	0.46	0.21	0.66	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		289			279	585	18	1543	728	712	2253	
v/s Ratio Prot							0.00	c0.25		c0.16	0.23	
v/s Ratio Perm		0.01			c0.16	0.02			0.08			
v/c Ratio		0.06			0.77	0.10	0.28	0.53	0.17	0.79	0.35	
Uniform Delay, d1		34.8			41.0	35.1	54.0	21.3	17.4	41.4	8.4	
Progression Factor		1.00			1.00	1.00	0.78	1.15	3.04	1.00	1.00	
Incremental Delay, d2		0.1			12.4	0.1	7.3	1.2	0.5	6.1	0.4	
Delay (s)		34.8			53.3	35.2	49.6	25.6	53.5	47.5	8.8	
Level of Service		C			D	D	D	C	D	D	A	
Approach Delay (s)		34.8			43.0			32.7			25.0	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	210	67	113	126	298	60	490	228	413
v/c Ratio	0.52	0.17	0.44	0.27	0.52	0.27	0.58	0.57	0.29
Control Delay	25.6	7.0	26.4	20.7	6.6	33.3	22.3	28.8	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	7.0	26.4	20.7	6.6	33.3	22.3	28.8	12.1
Queue Length 50th (ft)	60	0	31	33	0	19	68	68	47
Queue Length 95th (ft)	160	28	98	96	57	71	165	182	104
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	799	716	515	946	849	279	1494	793	2371
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.09	0.22	0.13	0.35	0.22	0.33	0.29	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	123	62	104	116	274	55	348	103	210	333	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1703	1260	1620	1739	1316	1711	2957		1620	3018	
Flt Permitted		0.85	1.00	0.56	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1472	1260	947	1739	1316	1711	2957		1620	3018	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	134	67	113	126	298	60	378	112	228	362	51
RTOR Reduction (vph)	0	0	49	0	0	218	0	28	0	0	12	0
Lane Group Flow (vph)	0	210	18	113	126	80	60	462	0	228	401	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		16.4	16.4	16.4	16.4	16.4	4.4	18.2		14.7	28.5	
Effective Green, g (s)		16.4	16.4	16.4	16.4	16.4	4.4	18.2		14.7	28.5	
Actuated g/C Ratio		0.27	0.27	0.27	0.27	0.27	0.07	0.30		0.24	0.47	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		397	340	255	469	355	124	885		392	1415	
v/s Ratio Prot					0.07		0.04	c0.16		c0.14	0.13	
v/s Ratio Perm		c0.14	0.01	0.12		0.06						
v/c Ratio		0.53	0.05	0.44	0.27	0.23	0.48	0.52		0.58	0.28	
Uniform Delay, d1		18.9	16.4	18.4	17.5	17.3	27.1	17.7		20.3	9.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.1	1.2	0.3	0.3	3.0	0.7		2.2	0.2	
Delay (s)		20.2	16.5	19.6	17.8	17.6	30.1	18.4		22.5	10.0	
Level of Service		C	B	B	B	B	C	B		C	B	
Approach Delay (s)		19.3			18.1			19.7			14.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.8	Sum of lost time (s)	11.5
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	197	117	125	441	152	836	82	872
v/c Ratio	0.48	0.66	0.38	0.60	0.63	0.67	0.54	0.48	0.60
Control Delay	50.5	53.3	10.4	59.2	29.3	59.3	23.2	48.6	30.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	53.3	10.4	59.2	29.3	59.3	23.2	48.6	30.0
Queue Length 50th (ft)	56	132	0	83	75	102	219	54	276
Queue Length 95th (ft)	87	197	48	154	153	171	320	m82	381
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	473	409	381	241	810	251	1549	187	1452
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.48	0.31	0.52	0.54	0.61	0.54	0.44	0.60

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	148	181	108	115	221	185	140	651	118	75	711	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1306	1770	3275		1652	3153		1770	3392	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1306	1770	3275		1652	3153		1770	3392	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	161	197	117	125	240	201	152	708	128	82	773	99
RTOR Reduction (vph)	0	0	98	0	143	0	0	11	0	0	8	0
Lane Group Flow (vph)	161	197	19	125	298	0	152	825	0	82	864	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	12.0	17.8	17.8	13.0	18.8		15.2	52.8		9.2	46.8	
Effective Green, g (s)	12.0	17.8	17.8	13.0	18.8		15.2	52.8		9.2	46.8	
Actuated g/C Ratio	0.11	0.16	0.16	0.12	0.17		0.14	0.48		0.08	0.43	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	334	299	211	209	560		228	1513		148	1443	
v/s Ratio Prot	0.05	c0.11		c0.07	0.09		c0.09	0.26		0.05	c0.25	
v/s Ratio Perm			0.01									
v/c Ratio	0.48	0.66	0.09	0.60	0.53		0.67	0.54		0.55	0.60	
Uniform Delay, d1	46.1	43.3	39.2	46.0	41.6		45.0	20.1		48.4	24.4	
Progression Factor	1.00	1.00	1.00	1.03	1.01		1.00	1.00		0.85	1.08	
Incremental Delay, d2	1.5	5.7	0.3	5.2	1.2		7.9	1.4		5.1	1.7	
Delay (s)	47.6	49.0	39.5	52.6	43.3		52.9	21.6		46.3	28.1	
Level of Service	D	D	D	D	D		D	C		D	C	
Approach Delay (s)		46.2			45.4			26.4			29.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	11	315	34	575	11	11	41	56	11
v/c Ratio	0.11	0.22	0.27	0.39	0.09	0.02	0.33	0.29	0.16
Control Delay	55.7	6.5	53.4	7.6	44.5	0.0	51.7	16.2	53.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	6.5	53.4	7.6	44.5	0.0	51.7	16.2	53.2
Queue Length 50th (ft)	8	47	23	68	7	0	28	1	8
Queue Length 95th (ft)	27	213	55	384	23	0	58	37	26
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	109	1417	133	1495	218	790	235	313	72
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.22	0.26	0.38	0.05	0.01	0.17	0.18	0.15

Intersection Summary

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	277	13	31	478	51	10	0	10	38	2	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.85		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1848		1770	1836		1711	1583		1770	1593	
Flt Permitted	0.95	1.00		0.95	1.00		0.72	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1848		1770	1836		1297	1583		1398	1593	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	301	14	34	520	55	11	0	11	41	2	54
RTOR Reduction (vph)	0	1	0	0	0	0	0	10	0	0	50	0
Lane Group Flow (vph)	11	314	0	34	575	0	11	1	0	41	6	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.5	76.2		5.2	79.9		8.8	8.8		8.8	8.8	
Effective Green, g (s)	1.5	76.2		5.2	79.9		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.01	0.69		0.05	0.73		0.08	0.08		0.08	0.08	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	24	1280		84	1334		104	127		112	127	
v/s Ratio Prot	0.01	0.17		c0.02	c0.31			0.00			0.00	
v/s Ratio Perm							0.01			c0.03		
v/c Ratio	0.46	0.25		0.40	0.43		0.11	0.01		0.37	0.05	
Uniform Delay, d1	53.8	6.3		50.9	6.0		46.9	46.6		48.0	46.7	
Progression Factor	1.10	0.80		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.1	0.5		3.2	1.0		0.4	0.0		2.0	0.2	
Delay (s)	72.3	5.5		54.1	7.0		47.4	46.6		50.0	46.9	
Level of Service	E	A		D	A		D	D		D	D	
Approach Delay (s)		7.7			9.6			47.0			48.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR
Lane Configurations	
Volume (vph)	10
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1096
Flt Permitted	1.00
Satd. Flow (perm)	1096
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	11
RTOR Reduction (vph)	0
Lane Group Flow (vph)	11
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	50%
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	9
Actuated Green, G (s)	1.8
Effective Green, g (s)	1.8
Actuated g/C Ratio	0.02
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	18
v/s Ratio Prot	c0.01
v/s Ratio Perm	
v/c Ratio	0.61
Uniform Delay, d1	53.8
Progression Factor	1.00
Incremental Delay, d2	48.7
Delay (s)	102.4
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	379	5	519	41	59	7	37	292
v/c Ratio	0.23	0.37	0.03	0.70	0.19	0.12	0.02	0.11	0.56
Control Delay	28.9	9.3	30.2	20.8	20.2	17.5	10.5	18.1	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	9.3	30.2	20.8	20.2	17.5	10.5	18.1	19.1
Queue Length 50th (ft)	18	52	2	145	11	16	0	10	71
Queue Length 95th (ft)	56	165	12	#337	35	42	8	31	146
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	251	1331	144	982	445	1074	767	716	1049
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.28	0.03	0.53	0.09	0.05	0.01	0.05	0.28

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	264	85	5	439	39	38	54	6	34	152	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1947		1711	1698		1652	1863	1327	1644	1776	
Flt Permitted	0.95	1.00		0.95	1.00		0.44	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1711	1947		1711	1698		771	1863	1327	1243	1776	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	287	92	5	477	42	41	59	7	37	165	127
RTOR Reduction (vph)	0	13	0	0	4	0	0	0	5	0	43	0
Lane Group Flow (vph)	57	366	0	5	515	0	41	59	2	37	249	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	3.4	27.0		0.6	24.2		14.2	14.2	14.2	14.2	14.2	
Effective Green, g (s)	3.4	27.0		0.6	24.2		14.2	14.2	14.2	14.2	14.2	
Actuated g/C Ratio	0.06	0.49		0.01	0.44		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	106	959		19	750		200	483	344	322	460	
v/s Ratio Prot	c0.03	c0.19		0.00	c0.30			0.03			c0.14	
v/s Ratio Perm							0.05		0.00	0.03		
v/c Ratio	0.54	0.38		0.26	0.69		0.20	0.12	0.01	0.11	0.54	
Uniform Delay, d1	24.9	8.7		26.9	12.3		15.9	15.5	15.1	15.5	17.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.5	0.3		9.9	2.8		0.7	0.2	0.0	0.2	1.6	
Delay (s)	31.5	9.0		36.7	15.1		16.6	15.7	15.1	15.7	19.1	
Level of Service	C	A		D	B		B	B	B	B	B	
Approach Delay (s)		12.0			15.3			16.0			18.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	54.8	Sum of lost time (s)	17.5
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	120	160	3	10	494	761	40	23	833
v/c Ratio	0.90	0.34	0.03	0.05	1.00	0.38	0.04	0.21	0.77
Control Delay	95.5	7.1	41.0	20.9	71.6	10.3	7.1	43.0	29.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.5	7.1	41.0	20.9	71.6	10.3	7.1	43.0	29.3
Queue Length 50th (ft)	55	4	1	2	219	58	2	10	160
Queue Length 95th (ft)	#201	47	11	14	#588	232	26	40	#377
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	134	788	86	706	494	2022	908	111	1107
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.20	0.03	0.01	1.00	0.38	0.04	0.21	0.75

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	9	138	3	5	5	459	700	37	21	548	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.93		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1515		1652	1592		1652	3240	1449	1711	3230	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1515		1652	1592		1652	3240	1449	1711	3230	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	10	150	3	5	5	494	761	40	23	596	237
RTOR Reduction (vph)	0	116	0	0	4	0	0	0	8	0	37	0
Lane Group Flow (vph)	120	44	0	3	6	0	494	761	32	23	796	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	6.1	18.7		0.6	13.2		23.3	48.7	48.7	1.8	27.2	
Effective Green, g (s)	6.1	18.7		0.6	13.2		23.3	48.7	48.7	1.8	27.2	
Actuated g/C Ratio	0.07	0.23		0.01	0.16		0.28	0.59	0.59	0.02	0.33	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	127	344		12	255		468	1917	857	37	1068	
v/s Ratio Prot	c0.07	c0.03		0.00	0.00		c0.30	0.23		0.01	c0.25	
v/s Ratio Perm									0.02			
v/c Ratio	0.94	0.13		0.25	0.02		1.06	0.40	0.04	0.62	0.74	
Uniform Delay, d1	37.9	25.3		40.6	29.1		29.5	9.0	7.0	39.9	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	62.9	0.2		14.4	0.0		57.0	0.2	0.0	31.6	3.0	
Delay (s)	100.9	25.5		55.0	29.2		86.5	9.1	7.0	71.5	27.5	
Level of Service	F	C		E	C		F	A	A	E	C	
Approach Delay (s)		57.8			35.1			38.6			28.7	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	82.3	Sum of lost time (s)	9.5
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	63	17	16	971	955
v/c Ratio	0.20	0.06	0.04	0.39	0.38
Control Delay	18.6	8.5	5.4	5.1	5.0
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	18.6	8.5	5.4	5.3	5.0
Queue Length 50th (ft)	20	0	1	54	52
Queue Length 95th (ft)	38	11	10	154	149
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	701	574	385	2449	2436
Starvation Cap Reductn	0	0	0	731	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.04	0.57	0.39

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	58	16	15	893	843	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3219	
Flt Permitted	0.95	1.00	0.29	1.00	1.00	
Satd. Flow (perm)	1652	1330	510	3240	3219	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	17	16	971	916	39
RTOR Reduction (vph)	0	15	0	0	3	0
Lane Group Flow (vph)	63	2	16	971	952	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	5.8	5.8	33.8	33.8	33.8	
Effective Green, g (s)	5.8	5.8	33.8	33.8	33.8	
Actuated g/C Ratio	0.12	0.12	0.70	0.70	0.70	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	197	159	355	2253	2239	
v/s Ratio Prot	c0.04			c0.30	0.30	
v/s Ratio Perm		0.00	0.03			
v/c Ratio	0.32	0.01	0.05	0.43	0.43	
Uniform Delay, d1	19.6	18.9	2.3	3.2	3.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.0	0.1	0.4	0.4	
Delay (s)	20.5	18.9	2.5	3.6	3.6	
Level of Service	C	B	A	A	A	
Approach Delay (s)	20.2			3.6	3.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	48.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1157	952	836	1995	826	1178
v/c Ratio	0.63	0.65	0.87	1.08	0.54	1.14
Control Delay	19.8	19.2	44.0	63.8	1.4	118.7
Queue Delay	65.1	30.6	0.0	0.0	0.0	0.0
Total Delay	84.9	49.8	44.0	63.8	1.4	118.7
Queue Length 50th (ft)	339	284	359	~1066	0	~549
Queue Length 95th (ft)	411	363	m312	m#973	0	#664
Internal Link Dist (ft)	247			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1823	1463	960	1849	1517	1031
Starvation Cap Reductn	805	556	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	1.14	1.05	0.87	1.08	0.54	1.14

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1064	876	769	1835	0	0	0	760	0	0	1084
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.76
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3020	2378	2828	3020				1517			3187
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			3187
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1157	952	836	1995	0	0	0	826	0	0	1178
RTOR Reduction (vph)	0	0	28	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1157	924	836	1995	0	0	0	826	0	0	1178
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		83.5	83.5	47.5	85.7				140.0			45.3
Effective Green, g (s)		83.5	83.5	47.5	85.7				140.0			45.3
Actuated g/C Ratio		0.60	0.60	0.34	0.61				1.00			0.32
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		1801	1418	960	1849				1517			1031
v/s Ratio Prot		0.38		0.30	c0.66							
v/s Ratio Perm			0.39						0.54			c0.37
v/c Ratio		0.64	0.65	0.87	1.08				0.54			1.14
Uniform Delay, d1		18.5	18.6	43.4	27.1				0.0			47.4
Progression Factor		1.00	1.00	0.89	0.82				1.00			1.00
Incremental Delay, d2		0.8	1.1	5.0	40.5				1.4			76.0
Delay (s)		19.3	19.7	43.5	62.8				1.4			123.3
Level of Service		B	B	D	E				A			F
Approach Delay (s)		19.5			57.1			1.4			123.3	
Approach LOS		B			E			A			F	

Intersection Summary			
HCM Average Control Delay	50.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	697	1286	1211	780	947	1748
v/c Ratio	0.87	0.38	0.53	0.74	0.59	1.14
Control Delay	48.9	0.3	12.8	19.9	1.6	80.0
Queue Delay	0.0	0.0	0.5	2.4	0.0	0.0
Total Delay	48.9	0.3	13.3	22.2	1.6	80.0
Queue Length 50th (ft)	311	0	276	413	0	~416
Queue Length 95th (ft)	373	0	359	645	0	#678
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	909	3355	2280	1054	1611	1528
Starvation Cap Reductn	0	0	550	158	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.38	0.70	0.87	0.59	1.14

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	641	1183	0	0	1114	718	0	0	871	0	0	1608
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	697	1286	0	0	1211	780	0	0	947	0	0	1748
RTOR Reduction (vph)	0	0	0	0	0	14	0	0	0	0	0	0
Lane Group Flow (vph)	697	1286	0	0	1211	766	0	0	947	0	0	1748
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	35.8	140.0			95.2	95.2			140.0			140.0
Effective Green, g (s)	35.8	140.0			95.2	95.2			140.0			140.0
Actuated g/C Ratio	0.26	1.00			0.68	0.68			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	804	3355			2281	1041			1611			1528
v/s Ratio Prot	0.22	0.38			0.36							
v/s Ratio Perm						0.50			0.59			c1.14
v/c Ratio	0.87	0.38			0.53	0.74			0.59			1.14
Uniform Delay, d1	49.8	0.0			11.2	14.4			0.0			70.0
Progression Factor	0.79	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	8.0	0.3			0.9	4.6			1.6			73.1
Delay (s)	47.2	0.3			12.1	19.0			1.6			143.1
Level of Service	D	A			B	B			A			F
Approach Delay (s)		16.8			14.8			1.6			143.1	
Approach LOS		B			B			A			F	

Intersection Summary			
HCM Average Control Delay	47.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	325	458	512	401	21	504	770	15	58	693	275
v/c Ratio	1.01	0.62	0.29	1.00	0.06	0.73	0.55	0.03	0.41	0.86	0.58
Control Delay	81.7	29.0	0.4	85.9	23.7	45.3	27.2	14.9	55.8	50.7	24.9
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	81.7	29.0	0.4	85.9	23.7	45.3	27.2	14.9	55.8	50.7	24.9
Queue Length 50th (ft)	~175	236	0	272	6	164	220	3	37	236	86
Queue Length 95th (ft)	#398	386	0	#515	28	220	280	17	84	#371	188
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	323	741	1770	403	350	999	1636	609	156	809	474
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	1.01	0.62	0.29	1.00	0.06	0.50	0.47	0.02	0.37	0.86	0.58

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	299	421	471	3	366	19	464	708	14	53	638	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1473	3204	3539	1337	1652	3303	1550
Flt Permitted	0.14	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	242	1739	1770		1733	1473	3204	3539	1337	1652	3303	1550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	325	458	512	3	398	21	504	770	15	58	693	275
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	5	0	0	94
Lane Group Flow (vph)	325	458	512	0	401	13	504	770	10	58	693	181
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	44.7	44.7	107.0		24.2	24.2	21.8	40.9	40.9	7.0	26.0	26.0
Effective Green, g (s)	45.2	45.2	107.0		24.7	24.7	22.8	41.9	40.9	7.9	27.0	27.0
Actuated g/C Ratio	0.42	0.42	1.00		0.23	0.23	0.21	0.39	0.38	0.07	0.25	0.25
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.9	5.0	5.0
Vehicle Extension (s)	4.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	320	735	1770		400	340	683	1386	511	122	833	391
v/s Ratio Prot	c0.16	0.26					c0.16	0.22		0.04	c0.21	
v/s Ratio Perm	c0.27		0.29		0.23	0.01			0.01			0.12
v/c Ratio	1.02	0.62	0.29		1.00	0.04	0.74	0.56	0.02	0.48	0.83	0.46
Uniform Delay, d1	30.5	24.2	0.0		41.1	31.9	39.3	25.3	20.6	47.6	37.9	33.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	54.3	1.9	0.4		45.6	0.1	4.2	1.0	0.0	3.4	8.3	2.4
Delay (s)	84.9	26.1	0.4		86.8	32.0	43.5	26.4	20.6	51.0	46.1	36.3
Level of Service	F	C	A		F	C	D	C	C	D	D	D
Approach Delay (s)		30.7			84.0			33.0			43.8	
Approach LOS		C			F			C			D	

Intersection Summary			
HCM Average Control Delay	40.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	107.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	29	90	1017	160	1323
v/c Ratio	0.12	0.26	0.27	0.45	0.49
Control Delay	17.3	6.5	3.8	13.9	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	6.5	3.8	13.9	5.6
Queue Length 50th (ft)	8	0	29	16	72
Queue Length 95th (ft)	22	25	90	#125	229
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	572	691	3760	352	2653
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.05	0.13	0.27	0.45	0.50

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	26	1	83	0	894	41	147	1215	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.99		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		0.99		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1570	1400		4916		1619	3470	
Flt Permitted					0.76	1.00		1.00		0.27	1.00	
Satd. Flow (perm)					1244	1400		4916		459	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	28	1	90	0	972	45	160	1321	2
RTOR Reduction (vph)	0	0	0	0	0	80	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	29	10	0	1011	0	160	1323	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					5.2	5.2		31.1		31.1	31.1	
Effective Green, g (s)					5.2	5.2		31.1		31.1	31.1	
Actuated g/C Ratio					0.12	0.12		0.69		0.69	0.69	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					144	162		3405		318	2403	
v/s Ratio Prot								0.21			c0.38	
v/s Ratio Perm					c0.02	0.01				0.35		
v/c Ratio					0.20	0.06		0.30		0.50	0.55	
Uniform Delay, d1					18.0	17.7		2.7		3.3	3.4	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.7	0.2		0.0		0.5	0.2	
Delay (s)					18.7	17.9		2.7		3.7	3.6	
Level of Service					B	B		A		A	A	
Approach Delay (s)		0.0			18.0			2.7			3.6	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	3.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	44.9	Sum of lost time (s)	8.6
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	11	334	646	42	26
v/c Ratio	0.11	0.21	0.22	0.32	0.18
Control Delay	70.6	0.5	2.9	54.0	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	70.6	0.5	2.9	54.0	19.8
Queue Length 50th (ft)	8	3	49	29	0
Queue Length 95th (ft)	m17	9	47	63	27
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	185	1623	2968	426	401
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.21	0.22	0.10	0.06

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	10	307	544	51	39	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3494		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3494		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	334	591	55	42	26
RTOR Reduction (vph)	0	0	3	0	0	24
Lane Group Flow (vph)	11	334	643	0	42	2
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	1.5	94.0	88.0		7.0	7.0
Effective Green, g (s)	1.5	94.0	88.0		7.0	7.0
Actuated g/C Ratio	0.01	0.85	0.80		0.06	0.06
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	24	1592	2795		113	101
v/s Ratio Prot	0.01	c0.18	c0.18		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.46	0.21	0.23		0.37	0.02
Uniform Delay, d1	53.8	1.4	2.7		49.4	48.3
Progression Factor	1.41	0.16	1.09		1.00	1.00
Incremental Delay, d2	11.8	0.3	0.2		2.1	0.1
Delay (s)	87.6	0.5	3.1		51.4	48.3
Level of Service	F	A	A		D	D
Approach Delay (s)		3.3	3.1		50.3	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1416	543	2458	563
v/c Ratio	0.55	0.69	0.48	0.79
Control Delay	16.0	17.5	0.3	22.0
Queue Delay	0.0	0.3	0.0	0.0
Total Delay	16.0	17.8	0.3	22.0
Queue Length 50th (ft)	104	139	0	152
Queue Length 95th (ft)	188	224	0	253
Internal Link Dist (ft)	392		247	
Turn Bay Length (ft)				
Base Capacity (vph)	2552	1202	5085	1095
Starvation Cap Reductn	0	202	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.54	0.48	0.51

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1272	30	500	2261	0	518
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6385		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6385		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1383	33	543	2458	0	563
RTOR Reduction (vph)	4	0	0	0	0	2
Lane Group Flow (vph)	1412	0	543	2458	0	561
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	23.3		25.6	57.9		25.6
Effective Green, g (s)	23.3		25.6	57.9		25.6
Actuated g/C Ratio	0.40		0.44	1.00		0.44
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	2569		783	5085		712
v/s Ratio Prot	0.22		0.31	c0.48		c0.35
v/s Ratio Perm						
v/c Ratio	0.55		0.69	0.48		0.79
Uniform Delay, d1	13.3		13.0	0.0		13.8
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.9		2.7	0.1		5.8
Delay (s)	14.1		15.7	0.1		19.6
Level of Service	B		B	A		B
Approach Delay (s)	14.1			2.9	19.6	
Approach LOS	B			A	B	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	4.5
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	59	173	289	166	1162	27	1471	249	1446	1138	89
v/c Ratio	0.98	0.44	0.90	0.36	0.67	0.38	1.20	0.33	1.28	0.59	0.09
Control Delay	177.5	55.2	85.8	43.6	17.2	80.0	141.6	7.2	172.5	19.5	2.8
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	177.5	55.2	85.8	43.6	17.2	80.0	141.6	7.2	172.5	19.5	2.8
Queue Length 50th (ft)	55	73	257	123	344	24	~597	37	~866	347	0
Queue Length 95th (ft)	#155	102	#555	192	426	58	#695	79	#1004	417	24
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	60	702	320	467	1732	79	1228	746	1126	1943	944
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	0.98	0.25	0.90	0.36	0.67	0.34	1.20	0.33	1.28	0.59	0.09

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	134	25	266	153	1069	25	1353	229	1330	1047	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	2.5	2.5		2.5	2.5	2.5	2.5	1.8	1.8	2.5	1.8	1.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3113		1678	1689	2642	1620	4655	1449	3143	3240	1515
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3113		1678	1689	2642	1620	4655	1449	3143	3240	1515
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	146	27	289	166	1162	27	1471	249	1446	1138	89
RTOR Reduction (vph)	0	12	0	0	0	8	0	0	78	0	0	36
Lane Group Flow (vph)	59	161	0	289	166	1154	27	1471	171	1446	1138	53
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	4.0	15.1		25.9	37.0	91.0	3.5	36.6	62.5	49.5	82.6	82.6
Effective Green, g (s)	5.0	17.1		26.9	39.0	93.0	4.5	38.6	66.5	50.5	84.6	84.6
Actuated g/C Ratio	0.04	0.12		0.19	0.27	0.65	0.03	0.27	0.47	0.35	0.59	0.59
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	3.0	3.0
Lane Grp Cap (vph)	59	374		317	463	1725	51	1262	677	1115	1925	900
v/s Ratio Prot	c0.04	0.05		c0.17	0.10	c0.44	0.02	c0.32	0.12	c0.46	0.35	
v/s Ratio Perm												0.03
v/c Ratio	1.00	0.43		0.91	0.36	0.67	0.53	1.17	0.25	1.30	0.59	0.06
Uniform Delay, d1	68.7	58.1		56.6	41.6	15.2	67.9	51.9	22.9	46.0	18.1	12.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	117.2	1.4		28.6	0.7	1.1	4.5	83.5	0.3	140.3	0.5	0.0
Delay (s)	185.9	59.5		85.2	42.3	16.3	72.4	135.4	23.2	186.3	18.6	12.2
Level of Service	F	E		F	D	B	E	F	C	F	B	B
Approach Delay (s)		91.6			31.3			118.4			109.1	
Approach LOS		F			C			F			F	

Intersection Summary			
HCM Average Control Delay	91.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	11.8
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	145	1726	25	1517	160	28	148	187	124
v/c Ratio	0.59	0.78	0.15	0.86	0.20	0.25	0.64	0.49	0.52
Control Delay	52.1	17.6	51.8	17.5	0.5	50.9	21.2	46.7	28.5
Queue Delay	0.0	2.8	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	52.1	20.4	51.8	17.5	0.5	50.9	21.4	46.7	28.5
Queue Length 50th (ft)	92	249	17	390	0	18	1	62	36
Queue Length 95th (ft)	159	#767	m25	#719	m1	45	60	94	92
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	247	2210	170	1761	820	224	318	462	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	362	0	0	0	0	16	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.93	0.15	0.86	0.20	0.13	0.49	0.40	0.45

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	133	1572	16	23	1379	164	26	2	134	172	42	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	2.0	3.0		2.0	3.0	3.0	2.0	2.0		2.0	2.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.98		1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3174		1620	3068	1319	1678	1431		3143	1474	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3174		1620	3068	1319	1678	1431		3143	1474	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	145	1709	17	25	1499	178	28	2	146	187	46	78
RTOR Reduction (vph)	0	0	0	0	0	65	0	136	0	0	59	0
Lane Group Flow (vph)	145	1726	0	25	1517	95	28	12	0	187	65	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	16.8	70.3		4.0	57.5	57.5	5.9	5.9		11.8	11.8	
Effective Green, g (s)	17.8	71.3		5.0	58.5	58.5	6.9	6.9		12.8	12.8	
Actuated g/C Ratio	0.17	0.68		0.05	0.56	0.56	0.07	0.07		0.12	0.12	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	275	2155		77	1709	735	110	94		383	180	
v/s Ratio Prot	0.09	c0.54		0.02	c0.49		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.07						
v/c Ratio	0.53	0.80		0.32	0.89	0.13	0.25	0.12		0.49	0.36	
Uniform Delay, d1	39.8	11.9		48.4	20.4	11.1	46.6	46.2		43.0	42.3	
Progression Factor	1.00	1.00		1.16	0.53	0.03	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	3.2		0.8	6.3	0.3	0.4	0.2		1.0	1.2	
Delay (s)	40.6	15.1		56.9	17.2	0.6	47.1	46.4		44.0	43.6	
Level of Service	D	B		E	B	A	D	D		D	D	
Approach Delay (s)		17.1			16.2			46.5			43.9	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	1942	278	1584	185	209	147	89
v/c Ratio	0.38	0.80	0.72	0.52	0.77	0.27	0.82	0.45
Control Delay	51.1	19.0	56.8	8.9	65.2	11.4	78.2	39.4
Queue Delay	0.0	1.7	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	51.1	20.7	56.8	9.0	65.2	11.4	78.2	39.4
Queue Length 50th (ft)	22	414	91	169	120	25	96	40
Queue Length 95th (ft)	m29	289	m127	190	#205	48	#198	91
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	93	2442	434	3038	275	815	195	212
Starvation Cap Reductn	0	319	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	263	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.91	0.64	0.57	0.67	0.26	0.75	0.42

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1646	141	256	1403	54	152	18	192	135	51	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	2.0	3.0		2.5	3.0			2.0	2.5	2.0	2.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4514		3143	4745			1807	2805	1562	1523	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4514		3143	4745			1807	2805	1562	1523	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1789	153	278	1525	59	165	20	209	147	55	34
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	69	0	21	0
Lane Group Flow (vph)	33	1933	0	278	1581	0	0	185	140	147	68	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	3.0	55.6		11.9	65.0			12.9	24.8	11.1	11.1	
Effective Green, g (s)	4.0	56.6		12.9	66.0			13.9	26.8	12.1	12.1	
Actuated g/C Ratio	0.04	0.54		0.12	0.63			0.13	0.26	0.12	0.12	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	62	2433		386	2983			239	716	180	176	
v/s Ratio Prot	0.02	c0.43		c0.09	0.33			c0.10	0.02	c0.09	0.04	
v/s Ratio Perm									0.03			
v/c Ratio	0.53	0.79		0.72	0.53			0.77	0.20	0.82	0.39	
Uniform Delay, d1	49.6	19.5		44.3	10.9			44.0	30.6	45.4	43.0	
Progression Factor	0.89	0.82		1.09	0.74			1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.9	1.9		4.3	0.5			13.2	0.0	22.9	0.5	
Delay (s)	47.1	17.9		52.4	8.6			57.3	30.7	68.3	43.5	
Level of Service	D	B		D	A			E	C	E	D	
Approach Delay (s)		18.4			15.1			43.2			59.0	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	671	2150	1355	424	175	543
v/c Ratio	0.19	0.85	0.55	0.35	0.29	0.81
Control Delay	2.0	12.5	6.2	1.2	38.7	37.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	12.5	6.2	1.2	38.7	37.7
Queue Length 50th (ft)	20	347	162	0	53	135
Queue Length 95th (ft)	25	364	205	21	85	#221
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3604	2533	2445	1217	601	672
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	0.19	0.85	0.55	0.35	0.29	0.81

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	617	1978	0	1247	390	0	0	0	161	0	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	671	2150	0	1355	424	0	0	0	175	0	543
RTOR Reduction (vph)	0	0	0	0	0	105	0	0	0	0	0	149
Lane Group Flow (vph)	0	671	2150	0	1355	319	0	0	0	175	0	394
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		4
Permitted Phases			2 4			6				4		
Actuated Green, G (s)		79.0	105.0		79.0	79.0				18.0		18.0
Effective Green, g (s)		80.0	105.0		80.0	79.0				19.0		19.0
Actuated g/C Ratio		0.76	1.00		0.76	0.75				0.18		0.18
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3604	2533		2445	1112				601		523
v/s Ratio Prot		0.14			0.42					0.05		0.14
v/s Ratio Perm			c0.85			0.22						
v/c Ratio		0.19	0.85		0.55	0.29				0.29		0.75
Uniform Delay, d1		3.5	0.0		5.2	4.1				37.2		40.8
Progression Factor		0.53	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.1	2.5		0.9	0.6				0.4		6.5
Delay (s)		1.9	2.5		6.1	4.8				37.5		47.2
Level of Service		A	A		A	A				D		D
Approach Delay (s)		2.4			5.8			0.0			44.9	
Approach LOS		A			A			A			D	

Intersection Summary			
HCM Average Control Delay	9.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	196	26	39	124	226	122
v/c Ratio	0.53	0.07	0.19	0.10	0.22	0.12
Control Delay	25.2	7.7	25.8	4.4	8.7	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	7.7	25.8	4.4	8.7	2.9
Queue Length 50th (ft)	63	0	13	12	24	0
Queue Length 95th (ft)	105	15	37	34	97	25
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	587	542	216	1242	1034	994
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	0.33	0.05	0.18	0.10	0.22	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	180	24	36	114	208	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1562
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	26	39	124	226	122
RTOR Reduction (vph)	0	20	0	0	0	53
Lane Group Flow (vph)	196	6	39	124	226	69
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	12.2	12.2	2.8	39.8	33.0	33.0
Effective Green, g (s)	13.2	13.2	3.8	40.8	34.0	34.0
Actuated g/C Ratio	0.22	0.22	0.06	0.68	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	369	330	103	1242	966	885
v/s Ratio Prot	c0.12		c0.02	0.07	c0.13	
v/s Ratio Perm		0.00				0.04
v/c Ratio	0.53	0.02	0.38	0.10	0.23	0.08
Uniform Delay, d1	20.7	18.3	27.0	3.3	6.5	5.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0	2.3	0.2	0.6	0.2
Delay (s)	22.1	18.3	29.3	3.5	7.1	6.1
Level of Service	C	B	C	A	A	A
Approach Delay (s)	21.7			9.6	6.7	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	36.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	214	224	296	30	1502	72	1170
v/c Ratio	0.51	0.58	0.71	0.20	0.92	0.64	0.72
Control Delay	19.9	22.9	26.2	13.5	26.7	45.6	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	22.9	26.2	13.5	26.7	45.6	14.8
Queue Length 50th (ft)	57	64	83	5	238	17	153
Queue Length 95th (ft)	110	123	157	24	#461	#90	266
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	554	519	552	151	1625	112	1626
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	0.39	0.43	0.54	0.20	0.92	0.64	0.72

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	116	22	113	93	272	28	1299	83	66	1027	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1536			1684	1306	1618	3046		1562	3052	
Flt Permitted		0.85			0.72	1.00	0.17	1.00		0.13	1.00	
Satd. Flow (perm)		1322			1252	1306	285	3046		211	3052	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	126	24	123	101	296	30	1412	90	72	1116	54
RTOR Reduction (vph)	0	8	0	0	0	14	0	7	0	0	5	0
Lane Group Flow (vph)	0	206	0	0	224	282	30	1495	0	72	1165	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		18.1			18.1	18.1	31.1	31.1		31.1	31.1	
Effective Green, g (s)		18.1			18.1	18.1	31.1	31.1		31.1	31.1	
Actuated g/C Ratio		0.31			0.31	0.31	0.53	0.53		0.53	0.53	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		410			388	405	152	1622		112	1625	
v/s Ratio Prot								c0.49			0.38	
v/s Ratio Perm		0.16			0.18	c0.22	0.11			0.34		
v/c Ratio		0.50			0.58	0.70	0.20	0.92		0.64	0.72	
Uniform Delay, d1		16.5			16.9	17.7	7.1	12.5		9.7	10.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			2.5	5.6	0.9	9.2		13.3	1.6	
Delay (s)		17.8			19.4	23.3	8.0	21.8		23.0	12.0	
Level of Service		B			B	C	A	C		C	B	
Approach Delay (s)		17.8			21.6			21.5			12.6	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	9.2
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	28	299	620	185	216	27
v/c Ratio	0.27	0.22	0.53	0.13	0.81	0.11
Control Delay	55.2	4.8	7.5	0.2	66.9	16.0
Queue Delay	0.0	0.0	0.8	0.0	0.5	0.0
Total Delay	55.2	4.8	8.4	0.2	67.4	16.0
Queue Length 50th (ft)	19	58	79	0	145	1
Queue Length 95th (ft)	49	89	m228	m0	#250	26
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	118	1372	1171	1402	298	278
Starvation Cap Reductn	0	0	276	0	0	0
Spillback Cap Reductn	0	3	0	0	7	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.22	0.69	0.13	0.74	0.10

Intersection Summary

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.

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	26	275	570	170	199	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1572	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1572	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	299	620	185	216	27
RTOR Reduction (vph)	0	0	0	29	0	21
Lane Group Flow (vph)	28	299	620	156	216	6
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	4.7	82.6	73.9	92.7	18.8	18.8
Effective Green, g (s)	4.7	82.6	73.9	92.7	18.8	18.8
Actuated g/C Ratio	0.04	0.75	0.67	0.84	0.17	0.17
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	69	1372	1145	1325	267	231
v/s Ratio Prot	c0.02	0.16	c0.36	0.02	c0.14	
v/s Ratio Perm				0.08		0.00
v/c Ratio	0.41	0.22	0.54	0.12	0.81	0.03
Uniform Delay, d1	51.3	4.1	9.3	1.5	43.9	38.0
Progression Factor	1.00	1.00	0.60	0.18	1.00	1.00
Incremental Delay, d2	3.9	0.4	1.4	0.0	16.3	0.0
Delay (s)	55.2	4.4	7.0	0.3	60.2	38.0
Level of Service	E	A	A	A	E	D
Approach Delay (s)		8.8	5.4		57.7	
Approach LOS		A	A		E	

Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	363	235	303	346	475	274	3
v/c Ratio	0.75	0.41	0.77	0.36	0.83	0.45	0.04
Control Delay	36.6	3.3	53.6	15.1	47.2	16.6	51.3
Queue Delay	1.5	0.0	0.0	0.0	0.7	0.0	0.0
Total Delay	38.1	3.3	53.6	15.1	47.9	16.6	51.3
Queue Length 50th (ft)	197	0	193	121	306	71	2
Queue Length 95th (ft)	#344	m0	#399	221	#479	144	12
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	487	575	392	962	574	604	80
Starvation Cap Reductn	36	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	14	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.41	0.77	0.36	0.85	0.45	0.04

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	333	216	279	317	1	434	3	252	2	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.98		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (prot)		1759	1462	1562	1704			1682	1725		1754	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (perm)		1758	1462	1562	1704			1682	1725		1754	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	362	235	303	345	1	472	3	274	2	1	0
RTOR Reduction (vph)	0	0	177	0	0	0	0	0	94	0	0	0
Lane Group Flow (vph)	0	363	58	303	346	0	0	475	180	0	3	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		27.3	27.3	27.6	58.9			37.0	33.0		1.0	
Effective Green, g (s)		27.3	27.3	27.6	58.9			37.0	33.0		1.0	
Actuated g/C Ratio		0.25	0.25	0.25	0.54			0.34	0.30		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		436	363	392	912			566	518		16	
v/s Ratio Prot				c0.19	0.20			c0.28	0.04		c0.00	
v/s Ratio Perm		c0.21	0.04						0.07			
v/c Ratio		0.83	0.16	0.77	0.38			0.84	0.35		0.19	
Uniform Delay, d1		39.2	32.4	38.3	14.9			33.7	30.1		54.1	
Progression Factor		0.72	0.31	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		16.0	0.9	9.2	1.2			10.5	0.4		5.6	
Delay (s)		44.2	10.9	47.4	16.1			44.3	30.5		59.7	
Level of Service		D	B	D	B			D	C		E	
Approach Delay (s)		31.1			30.7			39.2			59.7	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	78	160	27	142	121	676	15	770	139	229	805
v/c Ratio	0.59	0.34	0.07	0.68	0.20	0.94	0.16	0.81	0.32	0.82	0.57
Control Delay	78.2	40.5	14.8	71.5	32.7	40.2	65.1	49.0	25.2	75.7	27.9
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	78.2	40.5	14.8	71.5	32.7	40.2	65.1	49.0	25.2	75.7	27.9
Queue Length 50th (ft)	67	109	1	120	75	311	13	328	58	195	246
Queue Length 95th (ft)	#131	184	27	194	130	#601	38	407	117	#342	368
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	155	555	480	276	667	762	155	1159	510	318	1510
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	0.50	0.29	0.06	0.51	0.18	0.89	0.10	0.66	0.27	0.72	0.53

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	147	25	131	111	622	14	708	128	211	692	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1452	1620	1739	1392	1652	3240	1331	1620	3045	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1452	1620	1739	1392	1652	3240	1331	1620	3045	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	78	160	27	142	121	676	15	770	139	229	752	53
RTOR Reduction (vph)	0	0	18	0	0	247	0	0	36	0	3	0
Lane Group Flow (vph)	78	160	9	142	121	429	15	770	103	229	802	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	8.5	34.4	34.4	16.8	42.7	42.7	3.3	38.8	38.8	22.1	57.6	
Effective Green, g (s)	7.5	33.9	33.9	15.8	42.2	42.2	2.3	38.3	38.3	21.1	57.1	
Actuated g/C Ratio	0.06	0.27	0.27	0.13	0.34	0.34	0.02	0.31	0.31	0.17	0.46	
Clearance Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	99	471	393	205	587	470	30	992	407	273	1390	
v/s Ratio Prot	0.05	0.09		c0.09	0.07		0.01	c0.24		c0.14	0.26	
v/s Ratio Perm			0.01			c0.31			0.08			
v/c Ratio	0.79	0.34	0.02	0.69	0.21	0.91	0.50	0.78	0.25	0.84	0.58	
Uniform Delay, d1	58.0	36.6	33.4	52.3	29.5	39.7	60.8	39.5	32.6	50.4	25.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	34.4	0.6	0.0	10.4	0.2	22.3	16.8	4.1	0.4	20.4	0.7	
Delay (s)	92.4	37.2	33.5	62.7	29.8	62.0	77.6	43.6	33.1	70.8	25.8	
Level of Service	F	D	C	E	C	E	E	D	C	E	C	
Approach Delay (s)		53.1			57.9			42.6			35.7	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	45.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	125.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	39	609	37	1247	1397	107	498	685	220	384	40
v/c Ratio	0.53	0.75	0.13	0.92	0.79	0.77	0.74	0.39	0.79	0.59	0.12
Control Delay	86.1	57.3	14.9	43.1	22.4	109.2	41.9	7.9	78.9	51.1	17.0
Queue Delay	0.0	0.0	0.0	14.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.1	57.3	14.9	57.6	23.0	109.2	41.9	7.9	78.9	51.1	17.0
Queue Length 50th (ft)	33	180	0	485	273	87	187	240	95	155	4
Queue Length 95th (ft)	#84	227	32	#650	337	#192	157	21	#158	210	37
Internal Link Dist (ft)		238			388		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	73	817	290	1356	1778	142	684	1745	278	660	327
Starvation Cap Reductn	0	0	0	130	115	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	0.53	0.75	0.13	1.02	0.84	0.75	0.73	0.39	0.79	0.58	0.12

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	560	34	1147	1052	234	98	458	630	202	353	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3142		1678	3355	2706	3255	3240	1472
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3142		1678	3355	2706	3255	3240	1472
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	609	37	1247	1143	254	107	498	685	220	384	40
RTOR Reduction (vph)	0	0	30	0	14	0	0	0	0	0	0	27
Lane Group Flow (vph)	39	609	7	1247	1383	0	107	498	685	220	384	13
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	4.8	21.4	21.4	54.1	70.7		10.8	24.4	84.0	11.1	24.7	24.7
Effective Green, g (s)	4.8	22.9	22.9	54.1	72.2		10.8	25.9	78.5	11.1	26.2	26.2
Actuated g/C Ratio	0.04	0.18	0.18	0.42	0.56		0.08	0.20	0.60	0.09	0.20	0.20
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	58	820	260	1355	1745		139	668	1634	278	653	297
v/s Ratio Prot	0.02	0.13		c0.38	c0.44		0.06	c0.15	0.25	c0.07	0.12	
v/s Ratio Perm			0.00									0.01
v/c Ratio	0.67	0.74	0.03	0.92	0.79		0.77	0.75	0.42	0.79	0.59	0.04
Uniform Delay, d1	61.8	50.8	44.3	35.9	22.9		58.4	49.0	13.7	58.3	47.0	41.8
Progression Factor	1.00	1.00	1.00	0.90	0.84		1.34	0.71	0.66	1.00	1.00	1.00
Incremental Delay, d2	28.7	6.0	0.2	9.3	3.3		23.1	4.7	0.2	15.0	1.6	0.1
Delay (s)	90.5	56.8	44.5	41.7	22.5		101.2	39.3	9.3	73.3	48.6	41.9
Level of Service	F	E	D	D	C		F	D	A	E	D	D
Approach Delay (s)		58.0			31.6			28.5			56.6	
Approach LOS		E			C			C			E	

Intersection Summary			
HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	146	1107	379	230	1902	149	153	85	347
v/c Ratio	0.97	0.52	0.42	0.76	0.76	0.58	0.59	0.26	0.87
Control Delay	115.9	20.1	3.1	59.8	11.3	57.7	57.7	9.8	49.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	115.9	20.1	3.1	59.8	11.3	57.7	57.7	9.8	49.3
Queue Length 50th (ft)	125	198	28	162	108	126	129	0	72
Queue Length 95th (ft)	#269	325	67	m177	m552	172	175	41	#156
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	150	2117	903	317	2514	433	442	488	402
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.52	0.42	0.73	0.76	0.34	0.35	0.17	0.86

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	1018	349	212	1706	44	225	52	78	29	116	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (prot)	1620	4655	1530	1678	4634		1539	1571	1513		3028	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (perm)	1620	4655	1530	1678	4634		1539	1571	1513		3028	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	1107	379	230	1854	48	245	57	85	32	126	189
RTOR Reduction (vph)	0	0	207	0	2	0	0	0	71	0	169	0
Lane Group Flow (vph)	146	1107	172	230	1900	0	149	153	14	0	178	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	11.0	58.0	58.0	22.4	69.4		21.0	21.0	21.0		9.4	
Effective Green, g (s)	12.0	59.0	59.0	23.4	70.4		21.6	21.6	21.6		10.0	
Actuated g/C Ratio	0.09	0.45	0.45	0.18	0.54		0.17	0.17	0.17		0.08	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	150	2113	694	302	2509		256	261	251		233	
v/s Ratio Prot	c0.09	0.24		0.14	c0.41		0.10	c0.10			c0.06	
v/s Ratio Perm			0.11						0.01			
v/c Ratio	0.97	0.52	0.25	0.76	0.76		0.58	0.59	0.06		0.76	
Uniform Delay, d1	58.8	25.4	21.8	50.6	23.2		50.0	50.1	45.6		58.8	
Progression Factor	0.84	0.70	0.59	1.06	0.39		1.00	1.00	1.00		1.00	
Incremental Delay, d2	63.8	0.9	0.8	4.2	0.8		4.0	3.9	0.1		14.6	
Delay (s)	113.1	18.7	13.7	57.9	9.8		54.0	54.0	45.7		73.5	
Level of Service	F	B	B	E	A		D	D	D		E	
Approach Delay (s)		26.0			15.0			52.2			73.5	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	165	1140	334	1551	270	251	186	54	608
v/c Ratio	0.87	0.74	0.82	1.03	0.93	0.28	0.31	0.44	0.86
Control Delay	74.0	24.4	63.7	65.8	96.2	37.9	6.3	72.5	54.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.0	24.4	63.7	65.8	96.2	37.9	6.3	72.5	54.4
Queue Length 50th (ft)	140	330	268	~753	118	87	0	23	220
Queue Length 95th (ft)	m#263	396	#420	#895	#204	124	56	46	291
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	189	1544	407	1508	290	915	602	123	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.74	0.82	1.03	0.93	0.27	0.31	0.44	0.80

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	152	728	321	307	1401	26	248	231	171	50	346	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4501		1652	3280		3143	3240	1659	3204	3033	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4501		1652	3280		3143	3240	1659	3204	3033	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	791	349	334	1523	28	270	251	186	54	376	232
RTOR Reduction (vph)	0	60	0	0	1	0	0	0	135	0	75	0
Lane Group Flow (vph)	165	1080	0	334	1550	0	270	251	51	54	533	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	15.2	41.3		32.1	58.2		13.0	36.3	36.3	4.8	28.1	
Effective Green, g (s)	15.1	42.3		32.0	59.2		12.0	35.9	35.9	3.8	27.7	
Actuated g/C Ratio	0.12	0.33		0.25	0.46		0.09	0.28	0.28	0.03	0.21	
Clearance Time (s)	3.9	5.0		3.9	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	188	1465		407	1494		290	895	458	94	646	
v/s Ratio Prot	c0.10	0.24		0.20	c0.47		c0.09	0.08		0.02	c0.18	
v/s Ratio Perm									0.03			
v/c Ratio	0.88	0.74		0.82	1.04		0.93	0.28	0.11	0.57	0.83	
Uniform Delay, d1	56.5	38.9		46.3	35.4		58.6	36.9	35.1	62.3	48.8	
Progression Factor	0.62	0.60		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	31.1	3.0		13.0	33.6		35.3	0.2	0.1	9.8	8.9	
Delay (s)	66.0	26.2		59.3	69.0		93.9	37.2	35.3	72.1	57.7	
Level of Service	E	C		E	E		F	D	D	E	E	
Approach Delay (s)		31.2			67.3			58.3			58.9	
Approach LOS		C			E			E			E	

Intersection Summary			
HCM Average Control Delay	54.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	45	67	174	17	977	72	570	1081
v/c Ratio	0.36	0.53	0.42	0.19	0.49	0.07	0.80	0.39
Control Delay	53.4	70.6	10.6	76.9	19.4	3.9	44.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	70.6	10.6	76.9	19.4	3.9	44.5	6.4
Queue Length 50th (ft)	29	55	0	15	331	6	202	17
Queue Length 95th (ft)	67	101	36	m26	452	m28	238	457
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	200	210	566	101	2006	975	964	2746
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	0.23	0.32	0.31	0.17	0.49	0.07	0.59	0.39

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	0	9	60	2	160	16	899	66	524	912	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697			1777	2787	1678	3355	1583	3433	3420	
Flt Permitted		0.72			0.75	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1278			1399	2787	1678	3355	1583	3433	3420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	0	10	65	2	174	17	977	72	570	991	90
RTOR Reduction (vph)	0	8	0	0	0	158	0	0	29	0	4	0
Lane Group Flow (vph)	0	37	0	0	67	16	17	977	43	570	1077	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		11.7			11.7	11.7	3.3	77.8	77.8	27.0	101.5	
Effective Green, g (s)		11.7			11.7	11.7	3.3	77.8	77.8	27.0	101.5	
Actuated g/C Ratio		0.09			0.09	0.09	0.03	0.60	0.60	0.21	0.78	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		115			126	251	43	2008	947	713	2670	
v/s Ratio Prot							0.01	c0.29		c0.17	0.31	
v/s Ratio Perm		0.03			c0.05	0.01			0.03			
v/c Ratio		0.32			0.53	0.06	0.40	0.49	0.05	0.80	0.40	
Uniform Delay, d1		55.4			56.5	54.1	62.4	14.8	10.8	48.9	4.6	
Progression Factor		1.00			1.00	1.00	1.25	1.15	1.12	0.76	1.27	
Incremental Delay, d2		1.6			4.3	0.1	4.9	0.7	0.1	5.4	0.4	
Delay (s)		57.0			60.8	54.2	83.0	17.7	12.1	42.4	6.2	
Level of Service		E			E	D	F	B	B	D	A	
Approach Delay (s)		57.0			56.1			18.4			18.7	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	186	26	68	92	463	32	524	317	590
v/c Ratio	0.52	0.08	0.28	0.21	0.69	0.19	0.62	0.69	0.34
Control Delay	29.4	10.1	26.0	23.3	8.7	39.0	25.6	31.8	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	10.1	26.0	23.3	8.7	39.0	25.6	31.8	9.8
Queue Length 50th (ft)	61	0	21	28	0	12	87	107	48
Queue Length 95th (ft)	156	19	67	80	84	49	194	259	143
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	686	621	467	837	870	170	1329	780	2377
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.04	0.15	0.11	0.53	0.19	0.39	0.41	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	94	24	63	85	426	29	404	78	292	513	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1693	1259	1620	1739	1314	1711	2992		1620	3051	
Flt Permitted		0.83	1.00	0.57	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1428	1259	970	1739	1314	1711	2992		1620	3051	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	102	26	68	92	463	32	439	85	317	558	32
RTOR Reduction (vph)	0	0	20	0	0	350	0	16	0	0	4	0
Lane Group Flow (vph)	0	186	6	68	92	113	32	508	0	317	586	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		16.4	16.4	16.4	16.4	16.4	1.9	20.4		18.7	37.2	
Effective Green, g (s)		16.4	16.4	16.4	16.4	16.4	1.9	20.4		18.7	37.2	
Actuated g/C Ratio		0.24	0.24	0.24	0.24	0.24	0.03	0.30		0.28	0.56	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		350	308	237	426	322	49	911		452	1694	
v/s Ratio Prot					0.05		0.02	c0.17		c0.20	0.19	
v/s Ratio Perm		c0.13	0.01	0.07		0.09						
v/c Ratio		0.53	0.02	0.29	0.22	0.35	0.65	0.56		0.70	0.35	
Uniform Delay, d1		22.0	19.2	20.6	20.2	20.9	32.2	19.5		21.6	8.2	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6	0.0	0.7	0.3	0.7	27.1	0.9		4.9	0.2	
Delay (s)		23.5	19.2	21.2	20.4	21.6	59.3	20.4		26.5	8.4	
Level of Service		C	B	C	C	C	E	C		C	A	
Approach Delay (s)		23.0			21.4			22.7			14.7	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	67.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	203	255	178	562	203	982	43	992
v/c Ratio	0.56	0.71	0.61	0.75	0.79	0.79	0.58	0.39	0.68
Control Delay	65.8	66.3	12.3	74.2	55.1	74.6	22.8	73.2	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	66.3	12.3	74.2	55.1	74.6	22.8	73.2	14.6
Queue Length 50th (ft)	60	164	0	144	227	163	301	33	267
Queue Length 95th (ft)	99	246	81	#236	280	#268	377	77	221
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	265	318	436	259	843	281	1681	114	1451
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.64	0.58	0.69	0.67	0.72	0.58	0.38	0.68

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	187	235	164	401	116	187	707	197	40	828	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1306	1770	3408		1652	3114		1770	3402	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1306	1770	3408		1652	3114		1770	3402	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	203	255	178	436	126	203	768	214	43	900	92
RTOR Reduction (vph)	0	0	216	0	22	0	0	18	0	0	6	0
Lane Group Flow (vph)	146	203	39	178	540	0	203	964	0	43	986	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	11.1	20.1	20.1	17.3	26.3		20.1	68.7		6.7	55.3	
Effective Green, g (s)	11.1	20.1	20.1	17.3	26.3		20.1	68.7		6.7	55.3	
Actuated g/C Ratio	0.09	0.15	0.15	0.13	0.20		0.15	0.53		0.05	0.43	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	261	285	202	236	689		255	1646		91	1447	
v/s Ratio Prot	0.05	c0.11		0.10	c0.16		c0.12	0.31		0.02	c0.29	
v/s Ratio Perm			0.03									
v/c Ratio	0.56	0.71	0.20	0.75	0.78		0.80	0.59		0.47	0.68	
Uniform Delay, d1	57.1	52.2	47.9	54.3	49.2		53.0	20.9		59.9	30.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.08	0.38	
Incremental Delay, d2	3.2	8.7	0.6	13.6	6.2		16.5	1.5		4.9	2.5	
Delay (s)	60.3	60.9	48.5	67.9	55.3		69.5	22.5		69.4	14.0	
Level of Service	E	E	D	E	E		E	C		E	B	
Approach Delay (s)		55.5			58.4			30.5			16.3	
Approach LOS		E			E			C			B	

Intersection Summary			
HCM Average Control Delay	36.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	42	344	101	1003	16	14	34	36	22
v/c Ratio	0.35	0.28	0.55	0.74	0.16	0.10	0.32	0.24	0.28
Control Delay	59.8	10.2	58.2	18.3	49.9	24.0	55.4	20.2	56.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	10.2	58.2	18.3	49.9	24.0	55.4	20.2	56.2
Queue Length 50th (ft)	29	70	69	366	11	1	23	1	15
Queue Length 95th (ft)	65	122	121	#967	33	20	55	33	40
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	250		60		100				
Base Capacity (vph)	121	1220	213	1364	216	273	228	290	79
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.28	0.47	0.74	0.07	0.05	0.15	0.12	0.28

Intersection Summary

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

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	285	31	93	801	121	15	1	12	31	2	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1830		1770	1826		1711	1603		1770	1599	
Flt Permitted	0.95	1.00		0.95	1.00		0.73	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1830		1770	1826		1321	1603		1394	1599	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	310	34	101	871	132	16	1	13	34	2	34
RTOR Reduction (vph)	0	3	0	0	0	0	0	12	0	0	32	0
Lane Group Flow (vph)	42	341	0	101	1003	0	16	2	0	34	4	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.0	69.6		11.3	75.9		7.1	7.1		7.1	7.1	
Effective Green, g (s)	5.0	69.6		11.3	75.9		7.1	7.1		7.1	7.1	
Actuated g/C Ratio	0.05	0.63		0.10	0.69		0.06	0.06		0.06	0.06	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80	1158		182	1260		85	103		90	103	
v/s Ratio Prot	0.02	0.19		c0.06	c0.55			0.00			0.00	
v/s Ratio Perm							0.01			c0.02		
v/c Ratio	0.53	0.29		0.55	0.80		0.19	0.02		0.38	0.04	
Uniform Delay, d1	51.3	9.1		47.0	11.7		48.7	48.2		49.3	48.3	
Progression Factor	1.06	0.92		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.0	0.6		3.6	5.3		1.1	0.1		2.6	0.2	
Delay (s)	60.7	9.0		50.6	17.0		49.8	48.3		52.0	48.4	
Level of Service	E	A		D	B		D	D		D	D	
Approach Delay (s)		14.6			20.1			49.1			50.1	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1096
Flt Permitted	1.00
Satd. Flow (perm)	1096
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	22
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	50%
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	9
Actuated Green, G (s)	4.0
Effective Green, g (s)	4.0
Actuated g/C Ratio	0.04
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	40
v/s Ratio Prot	c0.02
v/s Ratio Perm	
v/c Ratio	0.55
Uniform Delay, d1	52.1
Progression Factor	1.00
Incremental Delay, d2	15.3
Delay (s)	67.5
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	89	311	12	961	66	126	14	78	429
v/c Ratio	0.96	0.25	0.19	1.00	1.05	0.26	0.04	0.27	0.87
Control Delay	135.4	8.4	58.7	53.1	170.5	33.8	14.2	35.4	54.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.4	8.4	58.7	53.1	170.5	33.8	14.2	35.4	54.4
Queue Length 50th (ft)	64	71	8	638	~51	71	0	44	265
Queue Length 95th (ft)	#167	139	29	#955	#142	123	16	87	#443
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	93	1246	62	964	63	489	357	287	493
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.25	0.19	1.00	1.05	0.26	0.04	0.27	0.87

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	82	198	88	11	830	54	61	116	13	72	206	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1924		1711	1702		1652	1863	1320	1638	1764	
Flt Permitted	0.95	1.00		0.95	1.00		0.14	1.00	1.00	0.63	1.00	
Satd. Flow (perm)	1711	1924		1711	1702		241	1863	1320	1091	1764	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	89	215	96	12	902	59	66	126	14	78	224	205
RTOR Reduction (vph)	0	13	0	0	2	0	0	0	10	0	31	0
Lane Group Flow (vph)	89	298	0	12	959	0	66	126	4	78	398	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.0	70.5		0.8	65.3		28.9	28.9	28.9	28.9	28.9	
Effective Green, g (s)	6.0	70.5		0.8	65.3		28.9	28.9	28.9	28.9	28.9	
Actuated g/C Ratio	0.05	0.62		0.01	0.58		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	91	1198		12	982		62	476	337	279	450	
v/s Ratio Prot	c0.05	0.15		0.01	c0.56			0.07			0.23	
v/s Ratio Perm							c0.27		0.00	0.07		
v/c Ratio	0.98	0.25		1.00	0.98		1.06	0.26	0.01	0.28	0.89	
Uniform Delay, d1	53.5	9.5		56.2	23.2		42.2	33.7	31.5	33.8	40.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	86.5	0.1		259.8	23.0		133.3	0.4	0.0	0.7	18.8	
Delay (s)	140.0	9.7		316.0	46.2		175.5	34.1	31.5	34.6	59.4	
Level of Service	F	A		F	D		F	C	C	C	E	
Approach Delay (s)		38.7			49.5			79.2			55.6	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	51.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	113.2	Sum of lost time (s)	13.0
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	174	97	57	218	560	589	13	27	872
v/c Ratio	1.08	0.24	0.40	0.66	1.01	0.31	0.02	0.25	0.97
Control Delay	137.5	10.1	52.1	39.6	75.6	12.7	9.5	51.7	55.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	137.5	10.1	52.1	39.6	75.6	12.7	9.5	51.7	55.6
Queue Length 50th (ft)	~116	6	33	105	~333	77	1	16	236
Queue Length 95th (ft)	#288	45	81	178	#671	183	13	48	#446
Internal Link Dist (ft)		1442		1508		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	161	577	155	571	553	1886	842	108	898
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.17	0.37	0.38	1.01	0.31	0.02	0.25	0.97

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	10	79	52	118	83	521	542	12	25	481	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.87		1.00	0.94		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1529		1652	1616		1652	3240	1444	1711	3178	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1529		1652	1616		1652	3240	1444	1711	3178	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	11	86	57	128	90	560	589	13	27	523	349
RTOR Reduction (vph)	0	68	0	0	27	0	0	0	3	0	98	0
Lane Group Flow (vph)	174	29	0	57	191	0	560	589	10	27	774	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	9.0	20.9		6.9	18.8		32.2	55.9	55.9	2.2	25.9	
Effective Green, g (s)	9.0	20.9		6.9	18.8		32.2	55.9	55.9	2.2	25.9	
Actuated g/C Ratio	0.09	0.21		0.07	0.19		0.33	0.57	0.57	0.02	0.26	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	156	325		116	309		541	1841	820	38	836	
v/s Ratio Prot	c0.10	0.02		0.03	c0.12		c0.34	0.18		0.02	c0.24	
v/s Ratio Perm									0.01			
v/c Ratio	1.12	0.09		0.49	0.62		1.04	0.32	0.01	0.71	0.93	
Uniform Delay, d1	44.7	31.1		44.1	36.5		33.1	11.2	9.2	47.8	35.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	106.4	0.2		4.4	4.2		48.1	0.1	0.0	49.9	16.1	
Delay (s)	151.1	31.3		48.5	40.7		81.2	11.4	9.2	97.7	51.4	
Level of Service	F	C		D	D		F	B	A	F	D	
Approach Delay (s)		108.2			42.3			45.0			52.8	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM Average Control Delay	54.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	98.4	Sum of lost time (s)	12.5
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	38	7	17	1207	1292
v/c Ratio	0.27	0.06	0.05	0.42	0.45
Control Delay	49.5	24.2	2.9	2.9	3.0
Queue Delay	0.0	0.0	0.0	0.9	0.0
Total Delay	49.5	24.2	2.9	3.8	3.0
Queue Length 50th (ft)	26	0	1	76	84
Queue Length 95th (ft)	54	13	9	185	204
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	300	248	313	2874	2845
Starvation Cap Reductn	0	0	0	1279	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.03	0.05	0.76	0.45

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	6	16	1110	1106	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3204	
Flt Permitted	0.95	1.00	0.20	1.00	1.00	
Satd. Flow (perm)	1652	1330	353	3240	3204	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	7	17	1207	1202	90
RTOR Reduction (vph)	0	7	0	0	3	0
Lane Group Flow (vph)	38	0	17	1207	1289	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	7.0	7.0	94.0	94.0	94.0	
Effective Green, g (s)	7.0	7.0	94.0	94.0	94.0	
Actuated g/C Ratio	0.06	0.06	0.85	0.85	0.85	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	105	85	302	2769	2738	
v/s Ratio Prot	c0.02			0.37	c0.40	
v/s Ratio Perm		0.00	0.05			
v/c Ratio	0.36	0.01	0.06	0.44	0.47	
Uniform Delay, d1	49.4	48.2	1.2	1.9	1.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	0.0	0.4	0.5	0.6	
Delay (s)	51.5	48.3	1.6	2.4	2.5	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.3	2.5	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	3.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1022	661	975	2023	701	868
v/c Ratio	0.51	0.41	0.91	0.97	0.42	1.02
Control Delay	13.3	11.1	51.0	32.5	0.8	80.1
Queue Delay	0.5	0.3	0.0	0.1	0.0	0.0
Total Delay	13.8	11.4	51.0	32.6	0.8	80.1
Queue Length 50th (ft)	202	131	410	861	0	~439
Queue Length 95th (ft)	244	164	m#492	#1037	0	#582
Internal Link Dist (ft)	255			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	2011	1601	1110	2078	1686	851
Starvation Cap Reductn	494	364	0	1	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	0.53	0.88	0.97	0.42	1.02

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	940	608	897	1861	0	0	0	645	0	0	799
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2733
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2733
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1022	661	975	2023	0	0	0	701	0	0	868
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1022	643	975	2023	0	0	0	701	0	0	868
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		76.9	76.9	44.1	80.5				130.0			40.5
Effective Green, g (s)		76.9	76.9	44.1	80.5				130.0			40.5
Actuated g/C Ratio		0.59	0.59	0.34	0.62				1.00			0.31
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		1985	1563	1066	2078				1686			851
v/s Ratio Prot		0.30		0.31	c0.60							
v/s Ratio Perm			0.24						0.42			c0.32
v/c Ratio		0.51	0.41	0.91	0.97				0.42			1.02
Uniform Delay, d1		15.6	14.3	41.1	23.7				0.0			44.8
Progression Factor		0.81	0.78	1.04	0.93				1.00			1.00
Incremental Delay, d2		0.9	0.7	7.4	9.9				0.8			36.0
Delay (s)		13.4	12.0	50.0	32.0				0.8			80.7
Level of Service		B	B	D	C				A			F
Approach Delay (s)		12.9			37.8			0.8			80.7	
Approach LOS		B			D			A			F	

Intersection Summary			
HCM Average Control Delay	32.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	548	1124	1615	628	512	1341
v/c Ratio	0.75	0.34	0.77	0.64	0.32	0.88
Control Delay	24.3	0.2	14.1	9.9	0.5	8.9
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.7
Total Delay	24.3	0.2	14.3	9.9	0.5	9.6
Queue Length 50th (ft)	132	0	451	231	0	0
Queue Length 95th (ft)	175	0	287	m213	0	#70
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	798	3355	2109	985	1611	1528
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	93	0	0	42
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.34	0.80	0.64	0.32	0.90

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	504	1034	0	0	1486	578	0	0	471	0	0	1234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	548	1124	0	0	1615	628	0	0	512	0	0	1341
RTOR Reduction (vph)	0	0	0	0	0	23	0	0	0	0	0	0
Lane Group Flow (vph)	548	1124	0	0	1615	605	0	0	512	0	0	1341
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	15.1	65.0			40.9	40.9			65.0			65.0
Effective Green, g (s)	15.1	65.0			40.9	40.9			65.0			65.0
Actuated g/C Ratio	0.23	1.00			0.63	0.63			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	730	3355			2111	963			1611			1528
v/s Ratio Prot	0.17	0.33			0.48							
v/s Ratio Perm						0.40			0.32			c0.88
v/c Ratio	0.75	0.34			0.77	0.63			0.32			0.88
Uniform Delay, d1	23.2	0.0			8.6	7.4			0.0			0.0
Progression Factor	0.79	1.00			1.34	1.08			1.00			1.00
Incremental Delay, d2	3.9	0.2			1.8	2.1			0.5			7.4
Delay (s)	22.1	0.2			13.4	10.1			0.5			7.4
Level of Service	C	A			B	B			A			A
Approach Delay (s)		7.4			12.5			0.5			7.4	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	8.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	367	387	458	619	18	842	1074	11	72	913	520
v/c Ratio	1.49	0.54	0.26	1.35	0.05	1.19	0.73	0.02	0.64	1.14	0.95
Control Delay	261.7	24.8	0.4	204.1	20.3	134.2	22.9	11.7	68.6	111.2	47.0
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	261.7	24.8	0.4	204.1	20.3	134.2	22.9	11.7	68.6	111.2	47.0
Queue Length 50th (ft)	~263	173	0	~494	5	~321	243	2	41	~346	198
Queue Length 95th (ft)	#441	263	0	#702	22	#428	336	m7	m#101	#471	#403
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	247	714	1770	457	394	708	1475	546	113	800	548
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	1.49	0.54	0.26	1.35	0.05	1.19	0.73	0.02	0.64	1.14	0.95

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	338	356	421	2	568	17	775	988	10	66	840	478
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1477	3204	3539	1338	1652	3303	1552
Flt Permitted	0.14	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	240	1739	1770		1737	1477	3204	3539	1338	1652	3303	1552
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	367	387	458	2	617	18	842	1074	11	72	913	520
RTOR Reduction (vph)	0	0	0	0	0	5	0	0	3	0	0	172
Lane Group Flow (vph)	367	387	458	0	619	13	842	1074	8	72	913	348
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	38.5	38.5	95.0		24.5	24.5	20.0	37.7	37.7	4.8	22.0	22.0
Effective Green, g (s)	39.0	39.0	95.0		25.0	25.0	21.0	38.7	37.7	5.3	23.0	23.0
Actuated g/C Ratio	0.41	0.41	1.00		0.26	0.26	0.22	0.41	0.40	0.06	0.24	0.24
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	247	714	1770		457	389	708	1442	531	92	800	376
v/s Ratio Prot	c0.16	0.22					c0.26	0.30		0.04	c0.28	
v/s Ratio Perm	c0.45		0.26		0.36	0.01			0.01			0.22
v/c Ratio	1.49	0.54	0.26		1.35	0.03	1.19	0.74	0.02	0.78	1.14	0.93
Uniform Delay, d1	23.8	21.2	0.0		35.0	26.0	37.0	23.9	17.4	44.3	36.0	35.2
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.04	0.82	0.80	0.99	0.94	0.88
Incremental Delay, d2	239.0	1.1	0.4		173.4	0.0	98.8	3.5	0.1	34.7	78.2	30.8
Delay (s)	262.8	22.3	0.4		208.4	26.1	137.3	23.0	14.0	78.6	112.1	61.8
Level of Service	F	C	A		F	C	F	C	B	E	F	E
Approach Delay (s)		86.8			203.2			72.9			93.1	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	97.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	14	1	1211	83	1728
v/c Ratio	0.20	0.12	0.01	0.27	0.25	0.55
Control Delay	57.8	23.2	1.0	1.8	1.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	57.8	23.2	1.0	1.8	1.4	0.8
Queue Length 50th (ft)	15	0	0	58	1	6
Queue Length 95th (ft)	37	20	m0	134	m3	25
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		150	
Base Capacity (vph)	215	259	193	4458	337	3134
Starvation Cap Reductn	0	0	0	0	0	285
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.01	0.27	0.25	0.61

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	16	1	13	1	1089	25	76	1586	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00	1.00	0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00	1.00	1.00		1.00	1.00	
Frt					1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1572	1396	1651	4935		1618	3470	
Flt Permitted					0.74	1.00	0.12	1.00		0.22	1.00	
Satd. Flow (perm)					1214	1396	214	4935		373	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	17	1	14	1	1184	27	83	1724	4
RTOR Reduction (vph)	0	0	0	0	0	13	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	18	1	1	1210	0	83	1728	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					7.5	7.5	113.9	113.9		113.9	113.9	
Effective Green, g (s)					7.5	7.5	113.9	113.9		113.9	113.9	
Actuated g/C Ratio					0.06	0.06	0.88	0.88		0.88	0.88	
Clearance Time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)					70	81	187	4324		327	3040	
v/s Ratio Prot								0.25			c0.50	
v/s Ratio Perm					c0.01	0.00	0.00			0.22		
v/c Ratio					0.26	0.01	0.01	0.28		0.25	0.57	
Uniform Delay, d1					58.6	57.7	1.0	1.3		1.3	2.0	
Progression Factor					1.00	1.00	0.43	0.95		0.10	0.10	
Incremental Delay, d2					1.9	0.0	0.0	0.1		1.2	0.5	
Delay (s)					60.5	57.8	0.5	1.4		1.3	0.7	
Level of Service					E	E	A	A		A	A	
Approach Delay (s)		0.0			59.3			1.4			0.7	
Approach LOS		A			E			A			A	

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	42	399	922	37	40
v/c Ratio	0.32	0.25	0.33	0.29	0.26
Control Delay	54.1	2.0	1.4	53.6	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.1	2.0	1.4	53.6	19.0
Queue Length 50th (ft)	29	38	90	25	0
Queue Length 95th (ft)	63	69	10	58	34
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	185	1628	2771	394	384
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	0.25	0.33	0.09	0.10

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	39	367	727	121	34	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3463		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3463		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	399	790	132	37	40
RTOR Reduction (vph)	0	0	6	0	0	38
Lane Group Flow (vph)	42	399	916	0	37	2
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	5.6	94.3	84.2		6.7	6.7
Effective Green, g (s)	5.6	94.3	84.2		6.7	6.7
Actuated g/C Ratio	0.05	0.86	0.77		0.06	0.06
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	90	1597	2651		108	96
v/s Ratio Prot	c0.02	0.21	c0.26		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.47	0.25	0.35		0.34	0.03
Uniform Delay, d1	50.7	1.4	4.1		49.5	48.6
Progression Factor	1.00	1.00	0.25		1.00	1.00
Incremental Delay, d2	3.8	0.4	0.3		1.9	0.1
Delay (s)	54.5	1.8	1.3		51.4	48.7
Level of Service	D	A	A		D	D
Approach Delay (s)		6.8	1.3		50.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	5.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1524	217	2645	165
v/c Ratio	0.46	0.35	0.52	0.29
Control Delay	8.4	16.8	0.1	15.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.4	16.8	0.1	15.2
Queue Length 50th (ft)	139	74	0	40
Queue Length 95th (ft)	127	m73	m0	82
Internal Link Dist (ft)	388		255	
Turn Bay Length (ft)				
Base Capacity (vph)	3300	613	5085	571
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	288	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.46	0.35	0.55	0.29

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1392	10	200	2433	0	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6401		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6401		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1513	11	217	2645	0	165
RTOR Reduction (vph)	1	0	0	0	0	13
Lane Group Flow (vph)	1523	0	217	2645	0	152
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	33.5		22.5	65.0		22.5
Effective Green, g (s)	33.5		22.5	65.0		22.5
Actuated g/C Ratio	0.52		0.35	1.00		0.35
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3299		613	5085		558
v/s Ratio Prot	0.24		0.12	c0.52		0.09
v/s Ratio Perm						
v/c Ratio	0.46		0.35	0.52		0.27
Uniform Delay, d1	10.0		15.8	0.0		15.3
Progression Factor	0.80		1.02	1.00		1.00
Incremental Delay, d2	0.4		0.1	0.1		0.3
Delay (s)	8.4		16.3	0.1		15.6
Level of Service	A		B	A		B
Approach Delay (s)	8.4			1.3	15.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	113	183	315	58	1499	46	1180	424	1003	1064	68
v/c Ratio	1.47	0.51	0.49	0.08	0.91	0.72	1.02	0.41	2.00	0.87	0.11
Control Delay	311.9	47.7	38.1	23.6	32.7	117.5	83.7	2.9	486.0	49.6	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
Total Delay	311.9	47.7	38.1	23.6	32.7	117.5	83.7	2.9	486.0	49.6	10.5
Queue Length 50th (ft)	~142	63	213	31	640	42	~419	17	~738	483	8
Queue Length 95th (ft)	#271	93	358	59	798	#111	#516	48	#871	#595	42
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	77	1077	638	739	1648	68	1155	1030	502	1229	606
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	1.47	0.17	0.49	0.08	0.91	0.68	1.02	0.41	2.00	0.87	0.11

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	104	120	49	290	53	1379	42	1086	390	923	979	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3057		1678	1689	2642	1620	4655	1449	3143	3240	1512
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3057		1678	1689	2642	1620	4655	1449	3143	3240	1512
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	113	130	53	315	58	1499	46	1180	424	1003	1064	68
RTOR Reduction (vph)	0	43	0	0	0	5	0	0	121	0	0	34
Lane Group Flow (vph)	113	140	0	315	58	1494	46	1180	303	1003	1064	34
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	6.5	14.6		53.6	61.7	88.7	4.7	35.7	89.3	22.5	53.5	53.5
Effective Green, g (s)	6.5	14.6		53.6	61.7	88.7	4.7	35.7	89.3	22.5	53.5	53.5
Actuated g/C Ratio	0.05	0.10		0.38	0.44	0.63	0.03	0.25	0.63	0.16	0.38	0.38
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	4.5	4.5
Lane Grp Cap (vph)	77	315		635	735	1654	54	1173	913	499	1223	571
v/s Ratio Prot	c0.07	0.05		0.19	0.03	c0.57	0.03	c0.25	0.21	c0.32	0.33	
v/s Ratio Perm												0.02
v/c Ratio	1.47	0.44		0.50	0.08	0.90	0.85	1.01	0.33	2.01	0.87	0.06
Uniform Delay, d1	67.6	59.7		33.7	23.4	22.8	68.2	53.0	12.2	59.6	40.9	28.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	268.0	1.7		0.2	0.1	7.5	68.8	27.7	0.3	461.6	7.3	0.1
Delay (s)	335.6	61.5		33.9	23.4	30.3	137.0	80.7	12.5	521.2	48.2	28.2
Level of Service	F	E		C	C	C	F	F	B	F	D	C
Approach Delay (s)		166.1			30.7			64.8			269.7	
Approach LOS		F			C			E			F	

Intersection Summary			
HCM Average Control Delay	132.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	141.7	Sum of lost time (s)	15.3
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	1364	157	1553	571	74	289	892	555
v/c Ratio	1.05	1.04	0.80	1.18	0.67	0.58	0.98	1.06	1.01
Control Delay	130.3	68.0	72.8	108.5	3.1	65.5	65.9	87.5	66.0
Queue Delay	0.0	230.1	0.0	0.0	1.5	0.0	51.3	4.0	0.0
Total Delay	130.3	298.2	72.8	108.5	4.6	65.5	117.2	91.5	66.0
Queue Length 50th (ft)	~132	~539	90	~691	0	49	60	~342	~258
Queue Length 95th (ft)	#270	#677	m127	m#791	m20	#108	#235	#464	#486
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	170	1309	216	1312	850	128	294	838	547
Starvation Cap Reductn	0	0	0	0	132	0	0	0	0
Spillback Cap Reductn	0	438	0	0	0	0	40	8	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	1.57	0.73	1.18	0.80	0.58	1.14	1.07	1.01

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	165	1245	10	144	1371	583	68	3	263	821	57	454
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99	0.85	1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3174		1620	3054	1319	1678	1431		3143	1420	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3174		1620	3054	1319	1678	1431		3143	1420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	1353	11	157	1490	634	74	3	286	892	62	493
RTOR Reduction (vph)	0	1	0	0	3	273	0	185	0	0	168	0
Lane Group Flow (vph)	179	1363	0	157	1550	298	74	104	0	892	387	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	11.0	43.3		12.7	45.0	45.0	8.0	8.0		28.0	28.0	
Effective Green, g (s)	11.0	43.3		12.7	45.0	46.0	8.0	8.0		28.0	28.0	
Actuated g/C Ratio	0.10	0.41		0.12	0.43	0.44	0.08	0.08		0.27	0.27	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	170	1309		196	1309	578	128	109		838	379	
v/s Ratio Prot	0.11	c0.43		0.10	c0.51		0.04	c0.07		c0.28	0.27	
v/s Ratio Perm						0.23						
v/c Ratio	1.05	1.04		0.80	1.18	0.52	0.58	0.96		1.06	1.02	
Uniform Delay, d1	47.0	30.9		44.9	30.0	21.4	46.9	48.3		38.5	38.5	
Progression Factor	1.00	1.00		1.19	0.59	0.09	1.00	1.00		1.00	1.00	
Incremental Delay, d2	83.7	36.4		13.1	88.2	2.1	3.9	71.2		49.7	51.8	
Delay (s)	130.7	67.3		66.7	105.8	4.1	50.8	119.5		88.2	90.3	
Level of Service	F	E		E	F	A	D	F		F	F	
Approach Delay (s)		74.6			77.6			105.5			89.0	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM Average Control Delay	81.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	106.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	86	2562	322	1960	366	804	80	54
v/c Ratio	0.57	1.10	0.92	0.75	1.06	0.94	0.90	0.48
Control Delay	42.6	69.7	71.8	16.6	108.3	46.4	121.7	39.4
Queue Delay	0.0	69.6	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	42.6	139.3	71.8	16.9	108.3	46.4	121.7	39.4
Queue Length 50th (ft)	52	~710	108	303	~272	232	54	14
Queue Length 95th (ft)	m52	m#662	m#155	401	#453	#289	#147	#55
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	170	2321	353	2604	344	860	89	112
Starvation Cap Reductn	0	289	0	186	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	0.51	1.26	0.91	0.81	1.06	0.93	0.90	0.48

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	2168	189	296	1665	138	299	38	740	74	19	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4513		3143	4713			1808	2801	1562	1422	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4513		3143	4713			1808	2801	1562	1422	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	2357	205	322	1810	150	325	41	804	80	21	33
RTOR Reduction (vph)	0	10	0	0	9	0	0	0	24	0	31	0
Lane Group Flow (vph)	86	2552	0	322	1951	0	0	366	780	80	23	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	8.8	53.8		11.7	57.2			20.0	31.7	6.0	6.0	
Effective Green, g (s)	8.8	53.8		11.7	57.2			20.0	31.7	6.0	6.0	
Actuated g/C Ratio	0.08	0.51		0.11	0.54			0.19	0.30	0.06	0.06	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	136	2312		350	2567			344	846	89	81	
v/s Ratio Prot	0.05	c0.57		0.10	0.41			c0.20	c0.10	c0.05	0.02	
v/s Ratio Perm									0.18			
v/c Ratio	0.63	1.10		0.92	0.76			1.06	0.92	0.90	0.28	
Uniform Delay, d1	46.5	25.6		46.2	18.6			42.5	35.4	49.2	47.4	
Progression Factor	0.86	0.76		1.11	0.82			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	48.6		18.1	1.2			66.5	15.0	61.4	0.7	
Delay (s)	41.6	68.2		69.4	16.3			109.0	50.4	110.6	48.1	
Level of Service	D	E		E	B			F	D	F	D	
Approach Delay (s)		67.3			23.8			68.8			85.4	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM Average Control Delay	52.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1674	657	2071	537	448	397
v/c Ratio	0.46	0.26	0.85	0.43	0.75	0.71
Control Delay	3.9	0.0	12.8	1.4	49.3	43.1
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	0.0	12.8	1.4	49.3	43.1
Queue Length 50th (ft)	104	0	406	0	148	126
Queue Length 95th (ft)	m91	m0	530	23	204	185
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3604	2533	2445	1245	601	562
Starvation Cap Reductn	832	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	0.60	0.26	0.85	0.43	0.75	0.71

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1540	604	0	1905	494	0	0	0	412	0	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1674	657	0	2071	537	0	0	0	448	0	397
RTOR Reduction (vph)	0	0	0	0	0	133	0	0	0	0	0	39
Lane Group Flow (vph)	0	1674	657	0	2071	404	0	0	0	448	0	358
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		4
Permitted Phases			2 4			6				4		
Actuated Green, G (s)		79.0	105.0		79.0	79.0				18.0		18.0
Effective Green, g (s)		80.0	105.0		80.0	79.0				19.0		19.0
Actuated g/C Ratio		0.76	1.00		0.76	0.75				0.18		0.18
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3604	2533		2445	1112				601		523
v/s Ratio Prot		0.35			c0.65					c0.13		0.12
v/s Ratio Perm			0.26			0.27						
v/c Ratio		0.46	0.26		0.85	0.36				0.75		0.68
Uniform Delay, d1		4.6	0.0		8.4	4.4				40.7		40.2
Progression Factor		0.82	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.0	0.0		3.9	0.9				5.3		4.0
Delay (s)		3.8	0.0		12.3	5.4				46.0		44.2
Level of Service		A	A		B	A				D		D
Approach Delay (s)		2.8			10.8			0.0			45.2	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	612	45	35	235	189	428
v/c Ratio	0.86	0.07	0.35	0.29	0.28	0.49
Control Delay	29.6	3.6	39.2	13.7	17.4	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	3.6	39.2	13.7	17.4	4.5
Queue Length 50th (ft)	196	0	14	60	47	0
Queue Length 95th (ft)	#334	14	39	110	113	60
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	800	739	100	823	684	881
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	0.77	0.06	0.35	0.29	0.28	0.49

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	563	41	32	216	174	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1560
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	612	45	35	235	189	428
RTOR Reduction (vph)	0	26	0	0	0	272
Lane Group Flow (vph)	612	19	35	235	189	156
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	27.7	27.7	1.6	29.3	23.7	23.7
Effective Green, g (s)	27.7	27.7	1.6	29.3	23.7	23.7
Actuated g/C Ratio	0.43	0.43	0.02	0.45	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	715	640	40	824	622	569
v/s Ratio Prot	c0.36		c0.02	0.13	c0.11	
v/s Ratio Perm		0.01				0.10
v/c Ratio	0.86	0.03	0.88	0.29	0.30	0.27
Uniform Delay, d1	16.8	10.8	31.6	11.3	14.8	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.9	0.0	93.6	0.9	1.3	1.2
Delay (s)	26.7	10.9	125.2	12.1	16.0	15.8
Level of Service	C	B	F	B	B	B
Approach Delay (s)	25.6			26.8	15.8	
Approach LOS	C			C	B	

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	183	143	14	1243	199	1301
v/c Ratio	0.41	0.53	0.39	0.10	0.70	1.27	0.73
Control Delay	17.6	22.9	14.0	9.9	12.9	184.6	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	22.9	14.0	9.9	12.9	184.6	13.8
Queue Length 50th (ft)	34	50	25	2	123	~83	134
Queue Length 95th (ft)	73	97	61	13	#313	#181	#365
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	594	574	583	146	1768	157	1780
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	0.25	0.32	0.25	0.10	0.70	1.27	0.73

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	80	21	93	75	132	13	1031	112	183	1154	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1529			1684	1305	1618	3026		1561	3058	
Flt Permitted		0.89			0.78	1.00	0.15	1.00		0.16	1.00	
Satd. Flow (perm)		1372			1347	1305	252	3026		269	3058	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	87	23	101	82	143	14	1121	122	199	1254	47
RTOR Reduction (vph)	0	13	0	0	0	35	0	10	0	0	3	0
Lane Group Flow (vph)	0	135	0	0	183	108	14	1233	0	199	1298	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		14.5			14.5	14.5	32.9	32.9		32.9	32.9	
Effective Green, g (s)		14.5			14.5	14.5	32.9	32.9		32.9	32.9	
Actuated g/C Ratio		0.26			0.26	0.26	0.58	0.58		0.58	0.58	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		351			345	334	146	1759		156	1778	
v/s Ratio Prot								0.41			0.42	
v/s Ratio Perm		0.10			c0.14	0.08	0.06			c0.74		
v/c Ratio		0.39			0.53	0.32	0.10	0.70		1.28	0.73	
Uniform Delay, d1		17.4			18.1	17.1	5.3	8.4		11.9	8.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			2.0	0.8	0.4	1.4		164.3	1.6	
Delay (s)		18.3			20.1	17.8	5.6	9.7		176.2	10.3	
Level of Service		B			C	B	A	A		F	B	
Approach Delay (s)		18.3			19.1			9.7			32.3	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	56.6	Sum of lost time (s)	9.2
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	46	486	347	209	164	26
v/c Ratio	0.36	0.35	0.30	0.16	0.68	0.11
Control Delay	55.2	5.4	11.1	1.0	57.8	14.2
Queue Delay	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	55.2	5.4	11.5	1.0	57.8	14.2
Queue Length 50th (ft)	31	90	86	0	111	0
Queue Length 95th (ft)	68	172	192	22	172	24
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	152	1403	1145	1488	454	411
Starvation Cap Reductn	0	0	395	0	0	0
Spillback Cap Reductn	0	2	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.35	0.46	0.14	0.36	0.06

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	42	447	319	192	151	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1570	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1570	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	486	347	209	164	26
RTOR Reduction (vph)	0	0	0	38	0	22
Lane Group Flow (vph)	46	486	347	171	164	4
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	7.5	84.5	73.0	89.9	16.9	16.9
Effective Green, g (s)	7.5	84.5	73.0	89.9	16.9	16.9
Actuated g/C Ratio	0.07	0.77	0.66	0.82	0.15	0.15
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	110	1403	1132	1283	240	207
v/s Ratio Prot	c0.03	c0.27	0.20	0.02	c0.10	
v/s Ratio Perm				0.09		0.00
v/c Ratio	0.42	0.35	0.31	0.13	0.68	0.02
Uniform Delay, d1	49.2	4.0	7.8	2.1	44.0	39.5
Progression Factor	1.00	1.00	1.11	2.80	1.00	1.00
Incremental Delay, d2	2.6	0.7	0.6	0.0	7.8	0.0
Delay (s)	51.7	4.7	9.4	5.8	51.8	39.6
Level of Service	D	A	A	A	D	D
Approach Delay (s)		8.8	8.0		50.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	371	273	175	196	342	460	3
v/c Ratio	0.49	0.35	0.73	0.18	0.72	0.72	0.04
Control Delay	20.7	2.1	62.6	11.0	44.5	17.3	45.3
Queue Delay	0.8	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	2.3	62.6	11.0	44.5	17.3	45.3
Queue Length 50th (ft)	120	0	119	53	216	86	1
Queue Length 95th (ft)	266	13	#218	121	298	184	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	764	790	241	1065	566	643	84
Starvation Cap Reductn	161	104	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	0.62	0.40	0.73	0.18	0.60	0.72	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	341	251	161	179	1	313	2	423	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		0.90	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1759	1466	1562	1704			1682	1728		1538	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)		1759	1466	1562	1704			1682	1728		1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	371	273	175	195	1	340	2	460	1	1	1
RTOR Reduction (vph)	0	0	162	0	0	0	0	0	236	0	1	0
Lane Group Flow (vph)	0	371	111	175	196	0	0	342	224	0	2	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		44.6	44.6	17.0	65.6			30.8	26.3		1.0	
Effective Green, g (s)		44.6	44.6	17.0	65.6			26.3	26.3		1.0	
Actuated g/C Ratio		0.41	0.41	0.15	0.60			0.24	0.24		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		713	594	241	1016			402	484		14	
v/s Ratio Prot		c0.21		c0.11	0.12			c0.20	0.05		c0.00	
v/s Ratio Perm			0.08						0.08			
v/c Ratio		0.52	0.19	0.73	0.19			0.85	0.46		0.14	
Uniform Delay, d1		24.6	21.0	44.3	10.1			40.0	35.8		54.1	
Progression Factor		0.74	0.30	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		2.6	0.7	10.4	0.4			15.7	0.7		4.7	
Delay (s)		20.8	7.0	54.7	10.5			55.7	36.5		58.8	
Level of Service		C	A	D	B			E	D		E	
Approach Delay (s)		15.0			31.4			44.7			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	61	140	25	196	249	305	26	753	116	357	969
v/c Ratio	0.43	0.58	0.11	0.73	0.57	0.53	0.28	0.81	0.28	0.83	0.59
Control Delay	64.6	58.4	17.5	64.7	46.2	7.9	65.8	47.4	24.9	58.8	21.3
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	64.6	58.4	17.5	64.7	46.2	7.9	65.8	47.4	24.9	58.8	21.3
Queue Length 50th (ft)	46	105	0	147	179	0	20	285	43	265	276
Queue Length 95th (ft)	99	179	26	#276	277	77	54	#405	104	#438	384
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	164	442	387	310	616	689	99	1066	466	531	1819
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	0.37	0.32	0.06	0.63	0.40	0.44	0.26	0.71	0.25	0.67	0.53

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	129	23	180	229	281	24	693	107	328	823	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	3.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1444	1620	1739	1393	1652	3240	1332	1620	3040	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1444	1620	1739	1393	1652	3240	1332	1620	3040	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	140	25	196	249	305	26	753	116	357	895	74
RTOR Reduction (vph)	0	0	21	0	0	229	0	0	30	0	4	0
Lane Group Flow (vph)	61	140	4	196	249	76	26	753	86	357	965	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	7.9	16.8	16.8	18.9	28.7	28.7	4.1	34.4	34.4	31.0	61.3	
Effective Green, g (s)	7.8	16.7	16.7	18.8	28.6	28.6	3.1	33.9	33.9	30.0	60.8	
Actuated g/C Ratio	0.07	0.14	0.14	0.16	0.25	0.25	0.03	0.29	0.29	0.26	0.53	
Clearance Time (s)	3.0	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	112	252	209	264	431	345	44	952	391	421	1602	
v/s Ratio Prot	0.04	0.08		c0.12	c0.14		0.02	c0.23		c0.22	0.32	
v/s Ratio Perm			0.00			0.05			0.06			
v/c Ratio	0.54	0.56	0.02	0.74	0.58	0.22	0.59	0.79	0.22	0.85	0.60	
Uniform Delay, d1	52.1	45.9	42.3	46.0	38.1	34.5	55.5	37.5	30.8	40.5	18.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.6	3.3	0.0	11.4	2.2	0.4	22.4	4.8	0.4	15.2	0.7	
Delay (s)	58.7	49.1	42.4	57.4	40.3	35.0	78.0	42.3	31.2	55.7	19.7	
Level of Service	E	D	D	E	D	C	E	D	C	E	B	
Approach Delay (s)		51.0			42.6			41.9			29.4	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	37.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	115.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	723	85	1102	826	316	640	1140	414	243	20
v/c Ratio	0.57	0.89	0.26	0.99	0.58	0.98	0.80	0.72	0.99	0.43	0.07
Control Delay	79.0	70.1	11.8	65.3	32.3	91.4	46.9	10.5	101.4	54.2	18.7
Queue Delay	0.0	0.0	0.0	35.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	70.1	11.8	100.3	32.8	91.4	46.9	10.5	101.4	54.2	18.7
Queue Length 50th (ft)	65	238	0	536	337	265	240	223	196	105	0
Queue Length 95th (ft)	120	#307	48	#663	401	#479	338	57	#308	150	24
Internal Link Dist (ft)		238			389		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	145	815	329	1116	1426	324	803	1575	419	567	274
Starvation Cap Reductn	0	0	0	107	251	0	0	2	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	0.51	0.89	0.26	1.09	0.70	0.98	0.80	0.72	0.99	0.43	0.07

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	665	78	1014	575	185	291	589	1049	381	224	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3108		1678	3355	2706	3255	3240	1470
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3108		1678	3355	2706	3255	3240	1470
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	723	85	1102	625	201	316	640	1140	414	243	20
RTOR Reduction (vph)	0	0	70	0	21	0	0	0	0	0	0	17
Lane Group Flow (vph)	74	723	15	1102	805	0	316	640	1140	414	243	4
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	10.0	23.0	23.0	48.0	61.0		27.0	32.0	80.0	18.0	23.0	23.0
Effective Green, g (s)	10.0	24.5	24.5	48.0	62.5		27.0	33.5	80.0	18.0	24.5	24.5
Actuated g/C Ratio	0.07	0.18	0.18	0.34	0.45		0.19	0.24	0.57	0.13	0.18	0.18
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	112	815	258	1116	1388		324	803	1546	419	567	257
v/s Ratio Prot	0.05	c0.16		c0.34	0.26		c0.19	c0.19	0.42	c0.13	0.08	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.66	0.89	0.06	0.99	0.58		0.98	0.80	0.74	0.99	0.43	0.01
Uniform Delay, d1	63.3	56.4	48.1	45.7	28.9		56.2	50.1	22.2	60.9	51.5	47.8
Progression Factor	1.00	1.00	1.00	0.92	1.09		0.88	0.78	0.72	1.00	1.00	1.00
Incremental Delay, d2	14.9	13.7	0.4	23.0	1.7		40.8	5.3	1.8	40.5	0.7	0.0
Delay (s)	78.3	70.1	48.6	64.9	33.2		90.1	44.5	17.7	101.4	52.2	47.8
Level of Service	E	E	D	E	C		F	D	B	F	D	D
Approach Delay (s)		68.7			51.3			36.8			82.2	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM Average Control Delay	52.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	400	1968	211	293	1380	207	209	150	260
v/c Ratio	0.99	1.01	0.28	0.78	0.75	0.71	0.70	0.37	0.92
Control Delay	83.5	54.2	3.2	57.2	41.6	65.4	64.9	8.8	67.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.5	54.2	3.2	57.2	41.6	65.4	64.9	8.8	67.1
Queue Length 50th (ft)	366	~702	19	192	430	188	189	0	58
Queue Length 95th (ft)	#578	#790	46	m#418	m#523	258	261	55	#147
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	405	1956	765	378	1833	402	408	507	282
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	1.01	0.28	0.78	0.75	0.51	0.51	0.30	0.92

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	368	1811	194	270	1228	41	334	49	138	59	52	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1620	4655	1530	1678	4628		1539	1562	1513		3000	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1620	4655	1530	1678	4628		1539	1562	1513		3000	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	400	1968	211	293	1335	45	363	53	150	64	57	139
RTOR Reduction (vph)	0	0	122	0	2	0	0	0	122	0	132	0
Lane Group Flow (vph)	400	1968	89	293	1378	0	207	209	29	0	128	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	34.0	57.8	57.8	30.6	54.4		26.0	26.0	26.0		6.4	
Effective Green, g (s)	35.0	58.8	58.8	31.6	55.4		26.6	26.6	26.6		7.0	
Actuated g/C Ratio	0.25	0.42	0.42	0.23	0.40		0.19	0.19	0.19		0.05	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	405	1955	643	379	1831		292	297	287		150	
v/s Ratio Prot	0.25	c0.42		0.17	c0.30		c0.13	0.13			c0.04	
v/s Ratio Perm			0.06						0.02			
v/c Ratio	0.99	1.01	0.14	0.77	0.75		0.71	0.70	0.10		0.85	
Uniform Delay, d1	52.3	40.6	25.0	50.8	36.4		53.1	53.0	46.8		66.0	
Progression Factor	0.87	0.83	0.77	0.87	1.05		1.00	1.00	1.00		1.00	
Incremental Delay, d2	37.0	20.1	0.4	7.9	2.3		8.2	7.9	0.2		35.7	
Delay (s)	82.6	54.0	19.5	52.1	40.4		61.3	60.9	47.0		101.7	
Level of Service	F	D	B	D	D		E	E	D		F	
Approach Delay (s)		55.6			42.4			57.4			101.7	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM Average Control Delay	53.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	208	1766	122	712	503	258	536	95	665
v/c Ratio	0.78	0.94	0.82	0.66	0.94	0.23	0.74	0.69	0.92
Control Delay	30.8	8.8	99.8	43.4	83.8	32.4	29.6	91.2	70.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	8.8	99.8	43.4	83.8	32.4	29.6	91.2	70.8
Queue Length 50th (ft)	155	20	111	292	236	86	260	44	304
Queue Length 95th (ft)	m162	m27	#221	364	#342	121	407	#87	#416
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	268	1888	152	1086	539	1157	733	137	731
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.94	0.80	0.66	0.93	0.22	0.73	0.69	0.91

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	1149	476	112	633	22	463	237	493	87	487	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4512		1652	3271		3143	3240	1659	3204	3128	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4512		1652	3271		3143	3240	1659	3204	3128	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	208	1249	517	122	688	24	503	258	536	95	529	136
RTOR Reduction (vph)	0	53	0	0	2	0	0	0	142	0	16	0
Lane Group Flow (vph)	208	1713	0	122	710	0	503	258	394	95	649	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	23.3	56.0		12.7	45.4		24.8	49.7	49.7	7.0	31.9	
Effective Green, g (s)	23.2	57.0		12.6	46.4		23.8	49.3	49.3	6.0	31.5	
Actuated g/C Ratio	0.17	0.41		0.09	0.33		0.17	0.35	0.35	0.04	0.22	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	268	1837		149	1084		534	1141	584	137	704	
v/s Ratio Prot	0.13	c0.38		c0.07	0.22		c0.16	0.08		0.03	c0.21	
v/s Ratio Perm									0.24			
v/c Ratio	0.78	0.93		0.82	0.65		0.94	0.23	0.67	0.69	0.92	
Uniform Delay, d1	55.9	39.7		62.6	40.0		57.4	31.9	38.5	66.1	53.0	
Progression Factor	0.40	0.10		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.5	3.8		29.4	3.1		25.4	0.1	3.4	15.2	17.7	
Delay (s)	27.1	7.7		92.0	43.1		82.8	32.1	41.9	81.2	70.8	
Level of Service	C	A		F	D		F	C	D	F	E	
Approach Delay (s)		9.8			50.2			55.8			72.1	
Approach LOS		A			D			E			E	

Intersection Summary			
HCM Average Control Delay	38.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	91	296	637	3	1266	216	543	872
v/c Ratio	0.43	0.89	0.57	0.04	0.81	0.26	0.88	0.38
Control Delay	41.6	77.2	9.5	63.0	26.3	4.3	69.1	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	77.2	9.5	63.0	26.3	4.3	69.1	7.3
Queue Length 50th (ft)	56	254	40	3	606	22	206	101
Queue Length 95th (ft)	113	#409	101	m3	m683	m29	#300	315
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	227	359	1154	72	1568	827	650	2288
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	0.40	0.82	0.55	0.04	0.81	0.26	0.84	0.38

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	2	26	272	0	586	3	1165	199	500	758	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.96			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1687			1770	2787	1678	3355	1583	3433	3437	
Flt Permitted		0.45			0.70	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		785			1305	2787	1678	3355	1583	3433	3437	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	2	28	296	0	637	3	1266	216	543	824	48
RTOR Reduction (vph)	0	12	0	0	0	397	0	0	87	0	3	0
Lane Group Flow (vph)	0	79	0	0	296	240	3	1266	129	543	869	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		35.8			35.8	35.8	1.2	65.5	65.5	25.2	89.5	
Effective Green, g (s)		35.8			35.8	35.8	1.2	65.5	65.5	25.2	89.5	
Actuated g/C Ratio		0.26			0.26	0.26	0.01	0.47	0.47	0.18	0.64	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		201			334	713	14	1570	741	618	2197	
v/s Ratio Prot							0.00	c0.38		c0.16	0.25	
v/s Ratio Perm		0.10			c0.23	0.09			0.08			
v/c Ratio		0.39			0.89	0.34	0.21	0.81	0.17	0.88	0.40	
Uniform Delay, d1		43.1			50.1	42.4	68.9	31.8	21.6	55.9	12.2	
Progression Factor		1.00			1.00	1.00	0.97	0.72	0.59	0.97	0.60	
Incremental Delay, d2		1.3			23.3	0.3	3.6	2.2	0.2	12.3	0.5	
Delay (s)		44.4			73.4	42.7	70.5	25.2	13.0	66.7	7.8	
Level of Service		D			E	D	E	C	B	E	A	
Approach Delay (s)		44.4			52.5			23.5			30.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	38	178	145	457	50	597	503	646
v/c Ratio	0.31	0.12	0.66	0.36	0.70	0.34	0.76	0.85	0.36
Control Delay	29.8	9.8	42.5	30.2	9.3	47.7	33.8	41.1	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	9.8	42.5	30.2	9.3	47.7	33.8	41.1	10.6
Queue Length 50th (ft)	53	0	91	68	0	27	144	249	95
Queue Length 95th (ft)	102	24	165	123	87	67	224	#461	150
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	544	455	393	594	748	157	946	744	2045
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.08	0.45	0.24	0.61	0.32	0.63	0.68	0.32

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	81	35	164	133	420	46	381	168	463	519	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715	1258	1620	1739	1311	1711	2915		1620	3015	
Flt Permitted		0.92	1.00	0.67	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1593	1258	1151	1739	1311	1711	2915		1620	3015	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	88	38	178	145	457	50	414	183	503	564	82
RTOR Reduction (vph)	0	0	29	0	0	351	0	50	0	0	11	0
Lane Group Flow (vph)	0	114	9	178	145	106	50	547	0	503	635	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		18.9	18.9	18.9	18.9	18.9	3.6	21.9		29.3	47.6	
Effective Green, g (s)		18.9	18.9	18.9	18.9	18.9	3.6	21.9		29.3	47.6	
Actuated g/C Ratio		0.23	0.23	0.23	0.23	0.23	0.04	0.27		0.36	0.58	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		369	291	267	403	304	75	782		582	1759	
v/s Ratio Prot					0.08		0.03	c0.19		c0.31	0.21	
v/s Ratio Perm		0.07	0.01	c0.15		0.08						
v/c Ratio		0.31	0.03	0.67	0.36	0.35	0.67	0.70		0.86	0.36	
Uniform Delay, d1		25.9	24.3	28.5	26.3	26.2	38.4	26.9		24.3	9.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5	0.0	6.2	0.6	0.7	20.1	3.0		12.7	0.2	
Delay (s)		26.4	24.3	34.7	26.8	26.9	58.6	29.8		37.0	9.1	
Level of Service		C	C	C	C	C	E	C		D	A	
Approach Delay (s)		25.9			28.7			32.1			21.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	11.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	351	505	167	111	639	233	1290	92	925
v/c Ratio	0.78	0.94	0.36	0.88	0.84	0.87	0.91	0.83	0.77
Control Delay	70.3	73.8	16.1	116.8	61.8	86.0	45.4	118.3	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Total Delay	70.3	73.8	16.1	116.8	62.0	86.0	45.4	118.3	22.7
Queue Length 50th (ft)	160	442	38	102	285	207	562	84	191
Queue Length 95th (ft)	#241	#649	103	#219	352	#345	#715	m#178	171
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	451	559	472	126	833	283	1424	111	1195
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	14	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.90	0.35	0.88	0.78	0.82	0.91	0.83	0.77

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	323	465	154	102	477	111	214	967	220	85	758	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1305	1770	3428		1652	3131		1770	3394	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1305	1770	3428		1652	3131		1770	3394	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	351	505	167	111	518	121	233	1051	239	92	824	101
RTOR Reduction (vph)	0	0	78	0	15	0	0	14	0	0	7	0
Lane Group Flow (vph)	351	505	89	111	624	0	233	1276	0	92	919	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	20.7	41.0	41.0	10.0	30.3		22.8	63.0		8.8	49.0	
Effective Green, g (s)	20.7	41.0	41.0	10.0	30.3		22.8	63.0		8.8	49.0	
Actuated g/C Ratio	0.15	0.29	0.29	0.07	0.22		0.16	0.45		0.06	0.35	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	452	540	382	126	742		269	1409		111	1188	
v/s Ratio Prot	0.11	c0.27		0.06	c0.18		c0.14	c0.41		0.05	0.27	
v/s Ratio Perm			0.07									
v/c Ratio	0.78	0.94	0.23	0.88	0.84		0.87	0.91		0.83	0.77	
Uniform Delay, d1	57.4	48.2	37.6	64.4	52.5		57.1	35.7		64.9	40.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.17	0.45	
Incremental Delay, d2	8.6	23.9	0.4	46.9	8.9		24.7	9.9		35.5	4.4	
Delay (s)	66.1	72.1	38.0	111.3	61.4		81.8	45.7		111.6	22.4	
Level of Service	E	E	D	F	E		F	D		F	C	
Approach Delay (s)		64.4			68.8			51.2			30.5	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM Average Control Delay	52.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	41	792	22	674	87	72	220	85	48
v/c Ratio	0.39	0.71	0.22	0.64	0.35	0.20	0.85	0.23	0.53
Control Delay	66.9	19.3	55.2	22.2	41.8	10.3	71.2	9.6	67.7
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.9	20.0	55.2	22.2	41.8	10.3	71.2	9.6	67.7
Queue Length 50th (ft)	30	402	15	396	52	1	146	1	30
Queue Length 95th (ft)	m52	#510	42	503	101	39	#269	42	#87
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	250		60		100				
Base Capacity (vph)	106	1110	99	1070	272	397	285	407	92
Starvation Cap Reductn	0	97	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.78	0.22	0.63	0.32	0.18	0.77	0.21	0.52

Intersection Summary

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.

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	38	715	14	20	548	72	80	2	64	202	1	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1857		1770	1830		1711	1591		1770	1587	
Flt Permitted	0.95	1.00		0.95	1.00		0.70	1.00		0.71	1.00	
Satd. Flow (perm)	1770	1857		1770	1830		1264	1591		1323	1587	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	777	15	22	596	78	87	2	70	220	1	84
RTOR Reduction (vph)	0	0	0	0	0	0	0	56	0	0	68	0
Lane Group Flow (vph)	41	792	0	22	674	0	87	16	0	220	17	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	4.0	62.1		2.4	60.5		21.5	21.5		21.5	21.5	
Effective Green, g (s)	4.0	62.1		2.4	60.5		21.5	21.5		21.5	21.5	
Actuated g/C Ratio	0.04	0.56		0.02	0.55		0.20	0.20		0.20	0.20	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	64	1048		39	1007		247	311		259	310	
v/s Ratio Prot	c0.02	c0.43		0.01	0.37			0.01			0.01	
v/s Ratio Perm							0.07			c0.17		
v/c Ratio	0.64	0.76		0.56	0.67		0.35	0.05		0.85	0.06	
Uniform Delay, d1	52.3	18.2		53.3	17.6		38.2	36.0		42.7	36.0	
Progression Factor	1.16	0.84		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.2	4.1		17.3	3.5		0.9	0.1		22.0	0.1	
Delay (s)	76.9	19.3		70.6	21.2		39.1	36.0		64.7	36.1	
Level of Service	E	B		E	C		D	D		E	D	
Approach Delay (s)		22.2			22.7			37.7			56.7	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	29.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR	SWR2
Lane Configurations		
Volume (vph)	40	5
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.5	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1340	
Flt Permitted	1.00	
Satd. Flow (perm)	1340	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	43	5
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	44	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	25%	2%
Parking (#/hr)		
Turn Type	custom	
Protected Phases	9	
Permitted Phases	9	
Actuated Green, G (s)	6.0	
Effective Green, g (s)	6.0	
Actuated g/C Ratio	0.05	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	73	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.61	
Uniform Delay, d1	50.8	
Progression Factor	1.00	
Incremental Delay, d2	13.4	
Delay (s)	64.2	
Level of Service	E	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	127	1064	7	581	59	110	13	41	362
v/c Ratio	0.51	0.96	0.06	0.82	0.42	0.22	0.03	0.13	0.69
Control Delay	35.6	37.4	33.5	32.5	28.9	18.9	8.8	18.2	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.6	37.4	33.5	32.5	28.9	18.9	8.8	18.2	25.3
Queue Length 50th (ft)	47	324	3	209	19	34	0	12	112
Queue Length 95th (ft)	#110	#875	15	#482	52	68	11	33	191
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	271	1105	108	711	221	800	577	509	796
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.96	0.06	0.82	0.27	0.14	0.02	0.08	0.45

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	117	745	234	6	476	59	54	101	12	38	203	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1948		1711	1688		1652	1863	1326	1643	1789	
Flt Permitted	0.95	1.00		0.95	1.00		0.30	1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1711	1948		1711	1688		515	1863	1326	1186	1789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	810	254	7	517	64	59	110	13	41	221	141
RTOR Reduction (vph)	0	12	0	0	5	0	0	0	10	0	35	0
Lane Group Flow (vph)	127	1052	0	7	576	0	59	110	3	41	327	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	7.5	36.1		0.7	29.3		17.6	17.6	17.6	17.6	17.6	
Effective Green, g (s)	7.5	36.1		0.7	29.3		17.6	17.6	17.6	17.6	17.6	
Actuated g/C Ratio	0.11	0.54		0.01	0.43		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	190	1043		18	734		134	486	346	310	467	
v/s Ratio Prot	c0.07	c0.54		0.00	0.34			0.06			c0.18	
v/s Ratio Perm							0.11		0.00	0.03		
v/c Ratio	0.67	1.01		0.39	0.78		0.44	0.23	0.01	0.13	0.70	
Uniform Delay, d1	28.8	15.7		33.1	16.3		20.8	19.6	18.4	19.1	22.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.4	30.0		17.9	5.8		3.1	0.3	0.0	0.3	4.9	
Delay (s)	38.2	45.6		51.1	22.2		23.9	19.9	18.5	19.3	27.4	
Level of Service	D	D		D	C		C	B	B	B	C	
Approach Delay (s)		44.8			22.5			21.1			26.6	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	34.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	67.4	Sum of lost time (s)	13.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	336	435	11	62	305	721	210	41	846
v/c Ratio	1.09	0.55	0.13	0.24	0.96	0.45	0.28	0.37	0.78
Control Delay	113.7	6.2	44.1	19.7	77.3	16.4	9.9	49.4	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.7	6.2	44.1	19.7	77.3	16.4	9.9	49.4	29.9
Queue Length 50th (ft)	~179	14	5	15	143	113	30	19	167
Queue Length 95th (ft)	#456	82	25	44	#402	252	109	#68	#380
Internal Link Dist (ft)		1442		914		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	307	1017	85	694	318	1608	762	110	1136
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.43	0.13	0.09	0.96	0.45	0.28	0.37	0.74

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	309	40	361	10	30	27	284	663	193	38	551	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.93		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1526		1652	1601		1652	3240	1449	1711	3227	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1526		1652	1601		1652	3240	1449	1711	3227	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	336	43	392	11	33	29	305	721	210	41	599	247
RTOR Reduction (vph)	0	261	0	0	24	0	0	0	49	0	40	0
Lane Group Flow (vph)	336	174	0	11	38	0	305	721	161	41	806	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.2	27.6		0.6	14.0		15.2	39.3	39.3	2.9	27.0	
Effective Green, g (s)	14.2	27.6		0.6	14.0		15.2	39.3	39.3	2.9	27.0	
Actuated g/C Ratio	0.17	0.33		0.01	0.17		0.18	0.47	0.47	0.03	0.33	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	293	508		12	270		303	1536	687	60	1051	
v/s Ratio Prot	c0.20	c0.11		0.01	0.02		c0.18	0.22		0.02	c0.25	
v/s Ratio Perm									0.11			
v/c Ratio	1.15	0.34		0.92	0.14		1.01	0.47	0.23	0.68	0.77	
Uniform Delay, d1	34.4	20.8		41.1	29.3		33.9	14.7	12.9	39.5	25.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	98.3	0.6		214.6	0.3		53.4	0.3	0.2	29.6	3.6	
Delay (s)	132.6	21.4		255.7	29.7		87.2	15.1	13.1	69.1	28.7	
Level of Service	F	C		F	C		F	B	B	E	C	
Approach Delay (s)		69.9			63.7			32.5			30.6	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM Average Control Delay	42.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	82.9	Sum of lost time (s)	9.5
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	73	24	5	1317	1286
v/c Ratio	0.48	0.17	0.02	0.48	0.47
Control Delay	56.7	19.1	2.4	3.5	3.4
Queue Delay	0.0	0.0	0.0	1.6	0.0
Total Delay	56.7	19.1	2.4	5.1	3.4
Queue Length 50th (ft)	50	0	0	107	102
Queue Length 95th (ft)	94	25	3	175	167
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	360	309	299	2763	2755
Starvation Cap Reductn	0	0	0	1196	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.08	0.02	0.84	0.47

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	67	22	5	1212	1157	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3229	
Flt Permitted	0.95	1.00	0.20	1.00	1.00	
Satd. Flow (perm)	1652	1330	350	3240	3229	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	24	5	1317	1258	28
RTOR Reduction (vph)	0	22	0	0	1	0
Lane Group Flow (vph)	73	2	5	1317	1285	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	9.0	9.0	92.0	92.0	92.0	
Effective Green, g (s)	9.0	9.0	92.0	92.0	92.0	
Actuated g/C Ratio	0.08	0.08	0.84	0.84	0.84	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	135	109	293	2710	2701	
v/s Ratio Prot	c0.04			c0.41	0.40	
v/s Ratio Perm		0.00	0.01			
v/c Ratio	0.54	0.02	0.02	0.49	0.48	
Uniform Delay, d1	48.5	46.4	1.5	2.5	2.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.4	0.1	0.1	0.6	0.6	
Delay (s)	52.9	46.5	1.6	3.1	3.0	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.3			3.1	3.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	4.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1532	1211	625	1518	826	892
v/c Ratio	0.64	0.64	0.87	0.80	0.49	0.89
Control Delay	9.0	8.5	56.6	29.8	1.0	53.4
Queue Delay	5.4	4.2	0.0	0.1	0.0	0.0
Total Delay	14.4	12.7	56.6	29.9	1.0	53.4
Queue Length 50th (ft)	424	53	300	612	0	431
Queue Length 95th (ft)	422	60	365	620	0	#563
Internal Link Dist (ft)	252			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	2397	1907	797	1905	1686	1005
Starvation Cap Reductn	796	603	0	0	0	0
Spillback Cap Reductn	0	0	0	24	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.93	0.78	0.81	0.49	0.89

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1409	1114	575	1397	0	0	0	760	0	0	821
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2733
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2733
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1532	1211	625	1518	0	0	0	826	0	0	892
RTOR Reduction (vph)	0	0	20	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1532	1191	625	1518	0	0	0	826	0	0	892
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		99.0	99.0	32.0	79.5				140.0			51.5
Effective Green, g (s)		99.0	99.0	32.0	79.5				140.0			51.5
Actuated g/C Ratio		0.71	0.71	0.23	0.57				1.00			0.37
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		2372	1868	718	1905				1686			1005
v/s Ratio Prot		0.46		c0.20	c0.45							
v/s Ratio Perm			0.45						0.49			c0.33
v/c Ratio		0.65	0.64	0.87	0.80				0.49			0.89
Uniform Delay, d1		11.1	10.9	52.0	23.9				0.0			41.5
Progression Factor		0.73	0.71	0.87	1.11				1.00			1.00
Incremental Delay, d2		0.9	1.1	9.2	2.9				1.0			11.5
Delay (s)		8.9	8.9	54.6	29.3				1.0			53.0
Level of Service		A	A	D	C				A			D
Approach Delay (s)		8.9			36.7			1.0			53.0	
Approach LOS		A			D			A			D	

Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	646	1712	1142	615	1098	992
v/c Ratio	0.78	0.51	0.56	0.65	0.68	0.65
Control Delay	24.6	0.5	11.5	16.4	2.4	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	0.5	11.5	16.4	2.4	2.2
Queue Length 50th (ft)	141	0	422	433	0	0
Queue Length 95th (ft)	186	0	m417	m45	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	920	3355	2034	951	1611	1528
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	0.70	0.51	0.56	0.65	0.68	0.65

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	594	1575	0	0	1051	566	0	0	1010	0	0	913
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	646	1712	0	0	1142	615	0	0	1098	0	0	992
RTOR Reduction (vph)	0	0	0	0	0	22	0	0	0	0	0	0
Lane Group Flow (vph)	646	1712	0	0	1142	593	0	0	1098	0	0	992
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	18.6	70.0			42.4	42.4			70.0			70.0
Effective Green, g (s)	18.6	70.0			42.4	42.4			70.0			70.0
Actuated g/C Ratio	0.27	1.00			0.61	0.61			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	835	3355			2032	927			1611			1528
v/s Ratio Prot	0.21	0.51			0.34							
v/s Ratio Perm						0.39			c0.68			0.65
v/c Ratio	0.77	0.51			0.56	0.64			0.68			0.65
Uniform Delay, d1	23.8	0.0			8.2	8.9			0.0			0.0
Progression Factor	0.80	1.00			1.24	1.62			1.00			1.00
Incremental Delay, d2	3.7	0.5			0.8	2.3			2.4			2.2
Delay (s)	22.7	0.5			11.0	16.7			2.4			2.2
Level of Service	C	A			B	B			A			A
Approach Delay (s)		6.5			13.0			2.4			2.2	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	523	758	914	296	55	289	876	16	100	1035	228
v/c Ratio	1.24	0.96	0.52	0.74	0.15	0.89	0.73	0.04	0.67	0.96	0.40
Control Delay	149.6	51.1	1.1	48.1	13.1	75.4	33.6	16.9	66.2	54.2	17.4
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	149.6	51.1	1.1	48.1	13.1	75.4	33.6	16.9	66.2	54.2	17.4
Queue Length 50th (ft)	~331	449	0	175	5	95	258	3	63	338	63
Queue Length 95th (ft)	#537	#704	0	#288	36	#176	331	19	#137	#478	129
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	422	798	1770	407	383	323	1199	445	152	1073	568
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	1.24	0.95	0.52	0.73	0.14	0.89	0.73	0.04	0.66	0.96	0.40

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	481	697	841	5	268	51	266	806	15	92	952	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	3.6	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1737	1475	3204	3539	1337	1652	3303	1551
Flt Permitted	0.26	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	447	1739	1770		1716	1475	3204	3539	1337	1652	3303	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	523	758	914	5	291	55	289	876	16	100	1035	228
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	5	0	0	63
Lane Group Flow (vph)	523	758	914	0	296	21	289	876	11	100	1035	165
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	44.9	44.9	100.0		22.7	22.7	9.1	32.9	32.9	8.2	31.5	31.5
Effective Green, g (s)	45.4	45.4	100.0		23.2	23.2	10.1	33.9	32.9	9.1	32.5	32.5
Actuated g/C Ratio	0.45	0.45	1.00		0.23	0.23	0.10	0.34	0.33	0.09	0.32	0.32
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	422	790	1770		398	342	324	1200	440	150	1073	504
v/s Ratio Prot	c0.23	0.44					c0.09	0.25		0.06	c0.31	
v/s Ratio Perm	c0.34		c0.52		0.17	0.01			0.01			0.11
v/c Ratio	1.24	0.96	0.52		0.74	0.06	0.89	0.73	0.02	0.67	0.96	0.33
Uniform Delay, d1	22.4	26.4	0.0		35.6	29.9	44.4	29.0	22.7	44.0	33.2	25.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	126.5	22.5	1.1		7.8	0.1	25.0	3.9	0.1	11.1	20.2	1.7
Delay (s)	148.9	48.9	1.1		43.5	30.0	69.4	33.0	22.8	55.1	53.4	27.2
Level of Service	F	D	A		D	C	E	C	C	E	D	C
Approach Delay (s)		52.8			41.4			41.7			49.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	48.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	90	1989	141	1417
v/c Ratio	0.48	0.62	0.47	1.08	0.48
Control Delay	76.0	54.8	4.6	108.3	1.4
Queue Delay	0.0	0.0	0.2	0.0	0.8
Total Delay	76.0	54.8	4.8	108.3	2.2
Queue Length 50th (ft)	43	47	157	~142	10
Queue Length 95th (ft)	84	103	317	m#196	m126
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	200	255	4239	130	2980
Starvation Cap Reductn	0	0	1010	0	1120
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.35	0.62	1.08	0.76

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	44	0	83	0	1796	34	130	1303	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		1.00		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1562	1393		4938		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.09	1.00	
Satd. Flow (perm)					1245	1393		4938		151	3471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	48	0	90	0	1952	37	141	1416	1
RTOR Reduction (vph)	0	0	0	0	0	34	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	56	0	1988	0	141	1417	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					11.2	11.2		120.2		120.2	120.2	
Effective Green, g (s)					11.2	11.2		120.2		120.2	120.2	
Actuated g/C Ratio					0.08	0.08		0.86		0.86	0.86	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					100	111		4240		130	2980	
v/s Ratio Prot								0.40			0.41	
v/s Ratio Perm					0.04	c0.04				c0.93		
v/c Ratio					0.48	0.50		0.47		1.08	0.48	
Uniform Delay, d1					61.6	61.7		2.3		9.9	2.4	
Progression Factor					1.00	1.00		1.68		1.93	0.42	
Incremental Delay, d2					3.6	3.6		0.3		85.6	0.3	
Delay (s)					65.2	65.3		4.2		104.7	1.3	
Level of Service					E	E		A		F	A	
Approach Delay (s)		0.0			65.3			4.2			10.7	
Approach LOS		A			E			A			B	

Intersection Summary			
HCM Average Control Delay	9.2	HCM Level of Service	A
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	41	864	856	215	78
v/c Ratio	0.34	0.62	0.36	0.72	0.23
Control Delay	56.2	9.7	5.3	56.6	9.9
Queue Delay	0.0	1.8	0.0	0.0	0.0
Total Delay	56.2	11.5	5.3	56.6	9.9
Queue Length 50th (ft)	28	242	53	145	0
Queue Length 95th (ft)	64	445	103	213	38
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	129	1397	2377	410	427
Starvation Cap Reductn	0	354	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.83	0.36	0.52	0.18

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	38	795	716	72	198	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3491		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3491		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	864	778	78	215	78
RTOR Reduction (vph)	0	0	5	0	0	65
Lane Group Flow (vph)	41	864	851	0	215	13
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	5.0	82.5	73.0		18.5	18.5
Effective Green, g (s)	5.0	82.5	73.0		18.5	18.5
Actuated g/C Ratio	0.05	0.75	0.66		0.17	0.17
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	80	1397	2317		298	266
v/s Ratio Prot	0.02	c0.46	0.24		c0.12	
v/s Ratio Perm						0.01
v/c Ratio	0.51	0.62	0.37		0.72	0.05
Uniform Delay, d1	51.3	6.4	8.2		43.3	38.4
Progression Factor	1.00	1.00	0.55		1.00	1.00
Incremental Delay, d2	5.4	2.1	0.4		8.3	0.1
Delay (s)	56.8	8.5	4.9		51.6	38.5
Level of Service	E	A	A		D	D
Approach Delay (s)		10.7	4.9		48.1	
Approach LOS		B	A		D	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	2310	489	1928	518
v/c Ratio	0.74	0.72	0.38	0.84
Control Delay	13.8	25.1	0.1	32.2
Queue Delay	0.3	2.4	0.0	0.0
Total Delay	14.1	27.4	0.1	32.2
Queue Length 50th (ft)	259	189	0	185
Queue Length 95th (ft)	m297	m252	0	#297
Internal Link Dist (ft)	389		252	
Turn Bay Length (ft)				
Base Capacity (vph)	3120	771	5085	703
Starvation Cap Reductn	0	165	0	0
Spillback Cap Reductn	278	0	648	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	0.81	0.43	0.74

Intersection Summary

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.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2095	30	450	1774	0	477
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6394		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6394		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2277	33	489	1928	0	518
RTOR Reduction (vph)	3	0	0	0	0	1
Lane Group Flow (vph)	2307	0	489	1928	0	517
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	34.1		26.9	70.0		26.9
Effective Green, g (s)	34.1		26.9	70.0		26.9
Actuated g/C Ratio	0.49		0.38	1.00		0.38
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3115		680	5085		619
v/s Ratio Prot	c0.36		0.28	0.38		c0.32
v/s Ratio Perm						
v/c Ratio	0.74		0.72	0.38		0.84
Uniform Delay, d1	14.4		18.3	0.0		19.5
Progression Factor	0.85		1.20	1.00		1.00
Incremental Delay, d2	0.9		2.0	0.1		9.5
Delay (s)	13.2		24.0	0.1		29.1
Level of Service	B		C	A		C
Approach Delay (s)	13.2			4.9	29.1	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	96	221	262	205	1051	36	895	208	732	643	54
v/c Ratio	1.02	0.57	0.49	0.32	0.64	0.49	0.79	0.23	1.14	0.47	0.08
Control Delay	162.5	56.2	42.5	31.1	18.5	87.5	53.8	1.7	127.8	31.5	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	162.5	56.2	42.5	31.1	18.5	87.5	53.8	1.7	127.8	31.5	7.1
Queue Length 50th (ft)	~98	92	187	128	318	33	282	0	~417	232	0
Queue Length 95th (ft)	#218	126	308	195	396	72	336	19	#543	294	29
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	94	1057	534	700	1622	89	1213	923	644	1354	663
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	1.02	0.21	0.49	0.29	0.65	0.40	0.74	0.23	1.14	0.47	0.08

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	162	41	241	189	967	33	823	191	673	592	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3093		1678	1689	2642	1620	4655	1449	3143	3240	1513
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3093		1678	1689	2642	1620	4655	1449	3143	3240	1513
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	176	45	262	205	1051	36	895	208	732	643	54
RTOR Reduction (vph)	0	21	0	0	0	16	0	0	90	0	0	32
Lane Group Flow (vph)	96	200	0	262	205	1035	36	895	118	732	643	22
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	7.6	16.0		43.0	51.4	83.6	5.2	34.0	77.0	27.7	56.5	56.5
Effective Green, g (s)	7.6	16.0		43.0	51.4	83.6	5.2	34.0	77.0	27.7	56.5	56.5
Actuated g/C Ratio	0.06	0.12		0.32	0.38	0.61	0.04	0.25	0.57	0.20	0.42	0.42
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	94	364		531	638	1624	62	1164	820	640	1346	629
v/s Ratio Prot	c0.06	0.06		0.16	0.12	c0.39	0.02	c0.19	0.08	c0.23	0.20	
v/s Ratio Perm												0.01
v/c Ratio	1.02	0.55		0.49	0.32	0.64	0.58	0.77	0.14	1.14	0.48	0.04
Uniform Delay, d1	64.2	56.6		37.7	30.0	16.6	64.3	47.4	13.9	54.1	29.0	23.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	98.7	2.5		0.3	0.4	0.9	8.6	3.1	0.1	82.3	0.3	0.0
Delay (s)	162.9	59.1		37.9	30.4	17.5	72.9	50.5	14.0	136.4	29.3	23.6
Level of Service	F	E		D	C	B	E	D	B	F	C	C
Approach Delay (s)		90.6			22.8			44.5			83.9	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM Average Control Delay	53.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	1120	108	1645	700	53	235	564	281
v/c Ratio	0.94	0.66	0.66	1.01	0.72	0.46	0.89	0.93	0.65
Control Delay	110.8	23.3	81.4	38.8	5.2	66.4	48.6	71.2	22.7
Queue Delay	0.0	89.0	0.0	0.6	2.1	0.0	17.1	0.0	0.0
Total Delay	110.8	112.3	81.4	39.4	7.2	66.4	65.8	71.2	22.7
Queue Length 50th (ft)	121	318	87	~753	1	40	42	226	60
Queue Length 95th (ft)	#255	423	m105	m#879	m2	83	#177	#342	161
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	163	1685	203	1621	979	140	284	606	430
Starvation Cap Reductn	0	0	0	3	153	0	0	0	0
Spillback Cap Reductn	0	745	0	0	0	0	42	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.19	0.53	1.02	0.85	0.38	0.97	0.93	0.65

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	142	1016	15	99	1434	723	49	8	208	519	41	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99	0.85	1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3171		1620	3049	1318	1678	1438		3143	1424	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3171		1620	3049	1318	1678	1438		3143	1424	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	1104	16	108	1559	786	53	9	226	564	45	236
RTOR Reduction (vph)	0	1	0	0	3	279	0	167	0	0	156	0
Lane Group Flow (vph)	154	1119	0	108	1642	421	53	68	0	564	125	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	12.1	63.8		12.0	63.7	63.7	8.1	8.1		23.1	23.1	
Effective Green, g (s)	12.1	63.8		12.0	63.7	63.7	8.1	8.1		23.1	23.1	
Actuated g/C Ratio	0.10	0.53		0.10	0.53	0.53	0.07	0.07		0.19	0.19	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	163	1686		162	1619	700	113	97		605	274	
v/s Ratio Prot	c0.10	0.35		0.07	c0.54		0.03	c0.05		c0.18	0.09	
v/s Ratio Perm						0.32						
v/c Ratio	0.94	0.66		0.67	1.01	0.60	0.47	0.70		0.93	0.46	
Uniform Delay, d1	53.6	20.3		52.1	28.1	19.4	53.9	54.8		47.7	42.9	
Progression Factor	1.00	1.00		1.33	0.56	0.71	1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.5	2.1		4.8	21.0	2.3	1.1	17.1		21.4	1.2	
Delay (s)	107.1	22.4		74.0	36.6	16.1	55.0	71.8		69.0	44.1	
Level of Service	F	C		E	D	B	D	E		E	D	
Approach Delay (s)		32.7			32.4			68.7			60.8	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	2020	658	2213	314	559	70	58
v/c Ratio	0.48	1.00	0.97	0.77	0.99	0.50	0.90	0.56
Control Delay	61.9	49.8	66.7	16.6	98.9	20.4	133.4	50.2
Queue Delay	0.0	52.2	0.0	1.3	0.0	0.0	0.0	0.6
Total Delay	61.9	102.0	66.7	17.9	98.9	20.4	133.4	50.8
Queue Length 50th (ft)	44	~589	255	400	246	139	55	19
Queue Length 95th (ft)	m63	m#699	m#335	496	#433	186	#148	#75
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	135	2018	689	2865	316	1119	78	103
Starvation Cap Reductn	0	239	0	416	0	0	0	0
Spillback Cap Reductn	0	0	0	413	0	0	0	3
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.14	0.96	0.90	0.99	0.50	0.90	0.58

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	1689	169	605	1913	123	258	31	514	64	23	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4505		3143	4726			1807	2808	1562	1428	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4505		3143	4726			1807	2808	1562	1428	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	1836	184	658	2079	134	280	34	559	70	25	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	0	23	0	31	0
Lane Group Flow (vph)	57	2010	0	658	2207	0	0	314	536	70	27	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	8.0	53.5		26.0	72.0			21.0	47.0	6.0	6.0	
Effective Green, g (s)	8.0	53.5		26.0	72.0			21.0	47.0	6.0	6.0	
Actuated g/C Ratio	0.07	0.45		0.22	0.60			0.18	0.39	0.05	0.05	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	108	2008		681	2836			316	1100	78	71	
v/s Ratio Prot	0.04	c0.45		c0.21	0.47			c0.17	0.11	c0.04	0.02	
v/s Ratio Perm									0.09			
v/c Ratio	0.53	1.00		0.97	0.78			0.99	0.49	0.90	0.38	
Uniform Delay, d1	54.2	33.2		46.6	18.0			49.4	27.4	56.7	55.2	
Progression Factor	0.99	0.98		1.03	0.84			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	17.1		17.7	1.2			48.6	0.1	66.4	1.2	
Delay (s)	55.0	49.9		65.7	16.3			98.0	27.6	123.1	56.4	
Level of Service	D	D		E	B			F	C	F	E	
Approach Delay (s)		50.0			27.6			52.9			92.9	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM Average Control Delay	40.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1236	1516	2066	795	611	592
v/c Ratio	0.36	0.60	0.89	0.62	0.82	0.87
Control Delay	7.0	1.4	19.0	2.7	54.3	56.3
Queue Delay	0.0	0.0	0.7	0.0	0.0	0.1
Total Delay	7.0	1.4	19.7	2.7	54.3	56.4
Queue Length 50th (ft)	123	0	573	0	233	237
Queue Length 95th (ft)	m129	m0	720	32	#304	#343
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3429	2533	2327	1284	747	681
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	71	0	0	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.60	0.92	0.62	0.82	0.87

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1137	1395	0	1901	731	0	0	0	562	0	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1236	1516	0	2066	795	0	0	0	611	0	592
RTOR Reduction (vph)	0	0	0	0	0	225	0	0	0	0	0	31
Lane Group Flow (vph)	0	1236	1516	0	2066	570	0	0	0	611	0	561
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		
Permitted Phases			2 4			6				4		4
Actuated Green, G (s)		86.0	120.0		86.0	86.0				26.0		26.0
Effective Green, g (s)		87.0	120.0		87.0	86.0				27.0		27.0
Actuated g/C Ratio		0.72	1.00		0.72	0.72				0.22		0.22
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3429	2533		2327	1059				747		650
v/s Ratio Prot		0.26			c0.64					0.18		
v/s Ratio Perm			0.60			0.39						c0.19
v/c Ratio		0.36	0.60		0.89	0.54				0.82		0.86
Uniform Delay, d1		6.1	0.0		12.7	7.8				44.2		44.7
Progression Factor		1.10	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.2	0.3		5.5	2.0				7.3		11.8
Delay (s)		7.0	0.3		18.3	9.8				51.5		56.5
Level of Service		A	A		B	A				D		E
Approach Delay (s)		3.3			15.9			0.0			53.9	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	59	62	259	236	428
v/c Ratio	0.79	0.08	0.40	0.40	0.51	0.58
Control Delay	21.9	3.5	36.8	13.8	21.4	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	3.5	36.8	13.8	21.4	5.9
Queue Length 50th (ft)	156	0	20	58	68	0
Queue Length 95th (ft)	#348	16	#72	109	130	57
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	1077	985	155	1092	693	887
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	0.06	0.40	0.24	0.34	0.48

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	556	54	57	238	217	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1559
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	59	62	259	236	428
RTOR Reduction (vph)	0	33	0	0	0	315
Lane Group Flow (vph)	604	26	62	259	236	113
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	21.4	21.4	1.9	18.5	12.6	12.6
Effective Green, g (s)	21.4	21.4	1.9	18.5	12.6	12.6
Actuated g/C Ratio	0.45	0.45	0.04	0.39	0.26	0.26
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	750	671	64	706	448	410
v/s Ratio Prot	c0.36		c0.04	0.14	c0.14	
v/s Ratio Perm		0.02				0.07
v/c Ratio	0.81	0.04	0.97	0.37	0.53	0.27
Uniform Delay, d1	11.5	7.5	23.0	10.5	15.1	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3	0.0	100.3	0.3	1.1	0.4
Delay (s)	17.7	7.5	123.3	10.8	16.2	14.4
Level of Service	B	A	F	B	B	B
Approach Delay (s)	16.8			32.6	15.0	
Approach LOS	B			C	B	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	125	138	26	1130	71	692
v/c Ratio	0.24	0.36	0.37	0.06	0.58	0.32	0.35
Control Delay	15.0	18.5	12.6	7.4	9.5	13.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	18.5	12.6	7.4	9.5	13.7	7.2
Queue Length 50th (ft)	17	29	18	3	87	9	44
Queue Length 95th (ft)	45	68	55	17	251	56	128
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	744	734	733	454	2115	238	2121
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	0.11	0.17	0.19	0.06	0.53	0.30	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	44	10	63	52	127	24	963	76	65	607	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1531			1685	1306	1616	3039		1561	3053	
Flt Permitted		0.88			0.78	1.00	0.39	1.00		0.21	1.00	
Satd. Flow (perm)		1365			1357	1306	655	3039		344	3053	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	48	11	68	57	138	26	1047	83	71	660	32
RTOR Reduction (vph)	0	9	0	0	0	47	0	7	0	0	4	0
Lane Group Flow (vph)	0	76	0	0	125	91	26	1123	0	71	688	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		9.9			9.9	9.9	28.6	28.6		28.6	28.6	
Effective Green, g (s)		9.9			9.9	9.9	28.6	28.6		28.6	28.6	
Actuated g/C Ratio		0.21			0.21	0.21	0.60	0.60		0.60	0.60	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		283			282	271	393	1822		206	1831	
v/s Ratio Prot								c0.37			0.23	
v/s Ratio Perm		0.06			c0.09	0.07	0.04			0.21		
v/c Ratio		0.27			0.44	0.34	0.07	0.62		0.34	0.38	
Uniform Delay, d1		15.9			16.5	16.1	4.0	6.1		4.8	4.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			1.5	1.0	0.1	0.7		1.4	0.2	
Delay (s)		16.6			18.0	17.1	4.1	6.8		6.2	5.1	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		16.6			17.5			6.7			5.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	47.7	Sum of lost time (s)	9.2
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	20	210	367	178	157	34
v/c Ratio	0.07	0.24	0.49	0.15	0.36	0.08
Control Delay	19.6	6.9	12.1	0.6	15.5	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	6.9	12.1	0.6	15.5	6.8
Queue Length 50th (ft)	3	19	37	0	18	0
Queue Length 95th (ft)	25	62	179	10	95	18
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	467	1827	1645	1520	1247	1085
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	0.04	0.11	0.22	0.12	0.13	0.03

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	18	193	338	164	144	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1618	1562	1362
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1618	1562	1362
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	210	367	178	157	34
RTOR Reduction (vph)	0	0	0	59	0	25
Lane Group Flow (vph)	20	210	367	119	157	9
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	0.9	21.5	16.6	27.2	10.6	10.6
Effective Green, g (s)	0.9	21.5	16.6	27.2	10.6	10.6
Actuated g/C Ratio	0.02	0.53	0.41	0.67	0.26	0.26
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	36	965	695	1081	407	355
v/s Ratio Prot	0.01	c0.11	c0.22	0.03	c0.10	
v/s Ratio Perm				0.04		0.01
v/c Ratio	0.56	0.22	0.53	0.11	0.39	0.02
Uniform Delay, d1	19.7	5.1	9.1	2.4	12.4	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.3	0.1	0.7	0.0	0.6	0.0
Delay (s)	37.0	5.2	9.8	2.5	13.0	11.2
Level of Service	D	A	A	A	B	B
Approach Delay (s)		8.0	7.4		12.7	
Approach LOS		A	A		B	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	40.7	Sum of lost time (s)	13.2
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	217	151	341	299	306	239
v/c Ratio	0.60	0.36	0.71	0.32	0.53	0.41
Control Delay	42.9	8.8	38.7	12.0	30.2	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	8.8	38.7	12.0	30.2	13.6
Queue Length 50th (ft)	111	0	167	83	137	40
Queue Length 95th (ft)	230	54	338	163	283	122
Internal Link Dist (ft)	328			4916	905	
Turn Bay Length (ft)		350	75			100
Base Capacity (vph)	758	716	722	1470	712	716
Starvation Cap Reductn	5	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	0.29	0.21	0.47	0.20	0.43	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	199	139	314	274	1	280	2	220	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5			
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.98			
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		1758	1460	1562	1704			1682	1724			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		1756	1460	1562	1704			1682	1724			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	216	151	341	298	1	304	2	239	0	0	0
RTOR Reduction (vph)	0	0	120	0	0	0	0	0	98	0	0	0
Lane Group Flow (vph)	0	217	31	341	299	0	0	306	141	0	0	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		18.3	18.3	27.6	49.9			29.8	25.8			
Effective Green, g (s)		18.3	18.3	27.6	49.9			29.8	25.8			
Actuated g/C Ratio		0.21	0.21	0.31	0.56			0.34	0.29			
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0			
Lane Grp Cap (vph)		362	301	485	958			564	501			
v/s Ratio Prot				c0.22	0.18			c0.18	0.03			
v/s Ratio Perm		c0.12	0.02						0.06			
v/c Ratio		0.60	0.10	0.70	0.31			0.54	0.28			
Uniform Delay, d1		31.9	28.6	27.0	10.3			24.0	24.3			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Incremental Delay, d2		2.7	0.2	4.6	0.2			1.1	0.3			
Delay (s)		34.6	28.7	31.6	10.5			25.0	24.6			
Level of Service		C	C	C	B			C	C			
Approach Delay (s)		32.2			21.7			24.9			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	88.8	Sum of lost time (s)	12.6
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	166	408	64	245	386	704	24	555	143	263	688
v/c Ratio	0.75	0.79	0.14	0.83	0.64	0.95	0.29	0.81	0.43	0.90	0.60
Control Delay	76.6	54.4	24.2	74.7	41.5	41.2	72.3	58.4	28.6	86.1	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	54.4	24.2	74.7	41.5	41.2	72.3	58.4	28.6	86.1	35.6
Queue Length 50th (ft)	143	331	25	209	283	321	21	244	56	234	264
Queue Length 95th (ft)	#247	464	62	#342	401	#611	53	314	124	#414	335
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	251	572	494	337	668	779	86	804	380	298	1176
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	0.66	0.71	0.13	0.73	0.58	0.90	0.28	0.69	0.38	0.88	0.59

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	153	375	59	225	355	648	22	511	132	242	526	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1452	1620	1739	1391	1652	3240	1331	1620	2994	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1452	1620	1739	1391	1652	3240	1331	1620	2994	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	408	64	245	386	704	24	555	143	263	572	116
RTOR Reduction (vph)	0	0	18	0	0	262	0	0	52	0	12	0
Lane Group Flow (vph)	166	408	46	245	386	442	24	555	91	263	676	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	17.1	37.9	37.9	23.3	44.1	44.1	4.2	29.0	29.0	23.9	48.7	
Effective Green, g (s)	17.0	37.8	37.8	23.2	44.0	44.0	3.2	28.5	28.5	22.9	48.2	
Actuated g/C Ratio	0.13	0.29	0.29	0.18	0.34	0.34	0.02	0.22	0.22	0.18	0.38	
Clearance Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	219	512	427	293	596	477	41	719	295	289	1124	
v/s Ratio Prot	0.10	0.23		c0.15	0.22		0.01	c0.17		c0.16	0.23	
v/s Ratio Perm			0.03			c0.32			0.07			
v/c Ratio	0.76	0.80	0.11	0.84	0.65	0.93	0.59	0.77	0.31	0.91	0.60	
Uniform Delay, d1	53.7	41.8	33.0	50.8	35.7	40.7	61.9	46.9	41.7	51.7	32.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.7	8.9	0.2	19.0	2.7	24.5	22.8	5.5	0.8	31.1	1.1	
Delay (s)	68.5	50.6	33.2	69.8	38.4	65.1	84.7	52.4	42.5	82.9	33.4	
Level of Service	E	D	C	E	D	E	F	D	D	F	C	
Approach Delay (s)		53.5			58.2			51.5			47.1	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	53.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	128.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	612	96	1252	1206	197	326	577	193	239	15
v/c Ratio	0.38	0.66	0.26	0.97	0.72	1.11	0.54	0.37	0.58	0.41	0.05
Control Delay	67.0	50.4	10.2	57.7	26.1	153.2	50.1	8.3	62.4	47.5	18.1
Queue Delay	0.0	0.0	0.0	78.8	3.4	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	50.4	10.2	136.5	29.6	153.2	50.1	8.3	62.4	47.5	18.1
Queue Length 50th (ft)	37	169	0	521	391	~188	128	78	78	91	0
Queue Length 95th (ft)	85	230	48	#795	547	#384	183	115	129	135	19
Internal Link Dist (ft)		238			387		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	138	1129	431	1286	1742	177	863	1785	374	864	404
Starvation Cap Reductn	0	0	0	232	428	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	0.34	0.54	0.22	1.19	0.92	1.11	0.38	0.32	0.52	0.28	0.04

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	563	88	1152	848	261	181	300	531	178	220	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	3.1	4.0	4.0	3.1	4.0		4.0	4.0	3.1	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1471
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	612	96	1252	922	284	197	326	577	193	239	15
RTOR Reduction (vph)	0	0	76	0	19	0	0	0	0	0	0	12
Lane Group Flow (vph)	47	612	20	1252	1187	0	197	326	577	193	239	3
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	7.5	24.2	24.2	48.4	65.1		13.1	21.1	69.5	12.8	20.8	20.8
Effective Green, g (s)	8.4	25.7	25.7	49.3	66.6		13.1	22.6	71.3	12.8	22.3	22.3
Actuated g/C Ratio	0.07	0.20	0.20	0.39	0.53		0.10	0.18	0.57	0.10	0.18	0.18
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	105	953	302	1279	1652		175	604	1537	332	576	261
v/s Ratio Prot	0.03	0.13		c0.38	c0.38		c0.12	c0.10	0.21	c0.06	0.07	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.45	0.64	0.07	0.98	0.72		1.13	0.54	0.38	0.58	0.41	0.01
Uniform Delay, d1	56.3	45.7	40.2	37.6	22.3		56.2	46.7	14.9	53.8	45.8	42.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	1.7	0.1	20.1	1.6		105.8	1.2	0.2	3.1	0.7	0.0
Delay (s)	60.4	47.4	40.3	57.7	24.0		162.0	47.9	15.1	56.8	46.5	42.5
Level of Service	E	D	D	E	C		F	D	B	E	D	D
Approach Delay (s)		47.3			41.1			51.1			50.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	125.5	Sum of lost time (s)	11.1
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	301	1965	397	203	1328	224	226	122	143
v/c Ratio	0.85	0.85	0.41	0.87	0.69	0.72	0.72	0.30	0.77
Control Delay	71.2	33.7	3.4	88.7	34.6	62.0	61.4	8.8	59.0
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	34.1	3.4	88.7	34.6	62.0	61.4	8.8	59.0
Queue Length 50th (ft)	238	512	0	169	341	186	188	0	32
Queue Length 95th (ft)	#419	678	57	#344	450	281	282	50	#95
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	388	2316	961	234	1937	435	442	516	185
Starvation Cap Reductn	0	80	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.88	0.41	0.87	0.69	0.51	0.51	0.24	0.77

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	277	1808	365	187	1185	37	355	59	112	22	44	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	4655	1530	1678	4630		1539	1564	1514		3026	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1620	4655	1530	1678	4630		1539	1564	1514		3026	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	1965	397	203	1288	40	386	64	122	24	48	71
RTOR Reduction (vph)	0	0	199	0	2	0	0	0	97	0	68	0
Lane Group Flow (vph)	301	1965	198	203	1326	0	224	226	25	0	75	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	27.4	63.7	63.7	17.0	53.3		25.5	25.5	25.5		4.4	
Effective Green, g (s)	28.4	64.7	64.7	18.0	54.3		26.1	26.1	26.1		5.0	
Actuated g/C Ratio	0.22	0.50	0.50	0.14	0.42		0.20	0.20	0.20		0.04	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	354	2320	763	233	1937		309	314	304		117	
v/s Ratio Prot	c0.19	c0.42		0.12	0.29		c0.15	0.14			c0.02	
v/s Ratio Perm			0.13						0.02			
v/c Ratio	0.85	0.85	0.26	0.87	0.68		0.72	0.72	0.08		0.64	
Uniform Delay, d1	48.7	28.3	18.7	54.8	30.8		48.5	48.4	42.1		61.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	18.0	3.5	0.5	28.6	1.5		8.7	8.2	0.2		12.2	
Delay (s)	66.7	31.8	19.3	83.4	32.3		57.2	56.6	42.3		73.7	
Level of Service	E	C	B	F	C		E	E	D		E	
Approach Delay (s)		33.9			39.1			53.8			73.7	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	39.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	129.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	185	1665	207	953	267	184	286	27	285
v/c Ratio	0.73	0.85	0.84	0.71	0.82	0.21	0.43	0.24	0.51
Control Delay	54.3	28.1	67.7	26.8	60.8	25.2	5.4	49.7	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	28.1	67.7	26.8	60.8	25.2	5.4	49.7	23.0
Queue Length 50th (ft)	92	262	108	215	72	38	0	7	45
Queue Length 95th (ft)	#235	#509	#290	#427	#176	70	55	24	80
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	278	1957	245	1350	326	1366	866	111	1140
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.85	0.84	0.71	0.82	0.13	0.33	0.24	0.25

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	1126	406	190	860	17	246	169	263	25	162	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4534		1652	3280		3143	3240	1660	3204	3032	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4534		1652	3280		3143	3240	1660	3204	3032	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	1224	441	207	935	18	267	184	286	27	176	109
RTOR Reduction (vph)	0	57	0	0	1	0	0	0	209	0	90	0
Lane Group Flow (vph)	185	1608	0	207	952	0	267	184	77	27	195	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	13.8	35.7		13.1	35.0		10.1	24.4	24.4	1.5	15.8	
Effective Green, g (s)	13.7	36.7		13.0	36.0		9.1	24.0	24.0	0.5	15.4	
Actuated g/C Ratio	0.15	0.41		0.15	0.40		0.10	0.27	0.27	0.01	0.17	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	249	1863		240	1322		320	871	446	18	523	
v/s Ratio Prot	0.11	c0.35		c0.13	0.29		c0.08	0.06		0.01	c0.06	
v/s Ratio Perm									0.05			
v/c Ratio	0.74	0.86		0.86	0.72		0.83	0.21	0.17	1.50	0.37	
Uniform Delay, d1	36.1	24.0		37.3	22.4		39.4	25.3	25.0	44.4	32.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.3	4.6		26.5	2.0		17.5	0.2	0.3	395.6	0.6	
Delay (s)	47.5	28.6		63.8	24.5		56.8	25.5	25.3	440.0	33.3	
Level of Service	D	C		E	C		E	C	C	F	C	
Approach Delay (s)		30.5			31.5			36.8			68.5	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	11.1
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	215	283	5	824	276	566	785
v/c Ratio	0.07	0.77	0.35	0.05	0.53	0.31	0.79	0.33
Control Delay	26.4	58.6	5.0	39.8	28.2	9.9	50.1	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	58.6	5.0	39.8	28.2	9.9	50.1	8.6
Queue Length 50th (ft)	9	143	0	3	162	2	195	98
Queue Length 95th (ft)	28	213	34	m7	328	107	248	207
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	385	368	977	93	1544	877	827	2367
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	0.05	0.58	0.29	0.05	0.53	0.31	0.68	0.33

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	0	5	196	2	260	5	758	254	521	675	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697			1775	2787	1678	3355	1583	3433	3432	
Flt Permitted		0.78			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1375			1328	2787	1678	3355	1583	3433	3432	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	0	5	213	2	283	5	824	276	566	734	51
RTOR Reduction (vph)	0	4	0	0	0	224	0	0	149	0	3	0
Lane Group Flow (vph)	0	17	0	0	215	59	5	824	127	566	782	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		23.1			23.1	23.1	1.2	50.6	50.6	22.8	72.2	
Effective Green, g (s)		23.1			23.1	23.1	1.2	50.6	50.6	22.8	72.2	
Actuated g/C Ratio		0.21			0.21	0.21	0.01	0.46	0.46	0.21	0.66	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		289			279	585	18	1543	728	712	2253	
v/s Ratio Prot							0.00	c0.25		c0.16	0.23	
v/s Ratio Perm		0.01			c0.16	0.02			0.08			
v/c Ratio		0.06			0.77	0.10	0.28	0.53	0.17	0.79	0.35	
Uniform Delay, d1		34.8			41.0	35.1	54.0	21.3	17.4	41.4	8.4	
Progression Factor		1.00			1.00	1.00	0.79	1.15	3.07	1.00	1.00	
Incremental Delay, d2		0.1			12.4	0.1	7.3	1.2	0.5	6.1	0.4	
Delay (s)		34.8			53.3	35.2	49.7	25.7	53.9	47.5	8.8	
Level of Service		C			D	D	D	C	D	D	A	
Approach Delay (s)		34.8			43.0			32.9			25.0	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	31.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	210	67	113	126	298	60	490	228	413
v/c Ratio	0.52	0.17	0.44	0.27	0.52	0.27	0.58	0.57	0.29
Control Delay	25.6	7.0	26.4	20.7	6.6	33.3	22.3	28.8	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	7.0	26.4	20.7	6.6	33.3	22.3	28.8	12.1
Queue Length 50th (ft)	60	0	31	33	0	19	68	68	47
Queue Length 95th (ft)	160	28	98	96	57	71	165	182	104
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	799	716	515	946	849	279	1494	793	2371
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.09	0.22	0.13	0.35	0.22	0.33	0.29	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	123	62	104	116	274	55	348	103	210	333	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1703	1260	1620	1739	1316	1711	2957		1620	3018	
Flt Permitted		0.85	1.00	0.56	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1472	1260	947	1739	1316	1711	2957		1620	3018	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	134	67	113	126	298	60	378	112	228	362	51
RTOR Reduction (vph)	0	0	49	0	0	218	0	28	0	0	12	0
Lane Group Flow (vph)	0	210	18	113	126	80	60	462	0	228	401	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		16.4	16.4	16.4	16.4	16.4	4.4	18.2		14.7	28.5	
Effective Green, g (s)		16.4	16.4	16.4	16.4	16.4	4.4	18.2		14.7	28.5	
Actuated g/C Ratio		0.27	0.27	0.27	0.27	0.27	0.07	0.30		0.24	0.47	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		397	340	255	469	355	124	885		392	1415	
v/s Ratio Prot					0.07		0.04	c0.16		c0.14	0.13	
v/s Ratio Perm		c0.14	0.01	0.12		0.06						
v/c Ratio		0.53	0.05	0.44	0.27	0.23	0.48	0.52		0.58	0.28	
Uniform Delay, d1		18.9	16.4	18.4	17.5	17.3	27.1	17.7		20.3	9.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.1	1.2	0.3	0.3	3.0	0.7		2.2	0.2	
Delay (s)		20.2	16.5	19.6	17.8	17.6	30.1	18.4		22.5	10.0	
Level of Service		C	B	B	B	B	C	B		C	B	
Approach Delay (s)		19.3			18.1			19.7			14.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.8	Sum of lost time (s)	11.5
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	197	117	125	441	152	836	82	872
v/c Ratio	0.48	0.66	0.38	0.60	0.63	0.67	0.54	0.48	0.60
Control Delay	50.5	53.3	10.4	55.5	32.4	59.3	23.2	48.6	30.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	53.3	10.4	55.5	32.4	59.3	23.2	48.6	30.0
Queue Length 50th (ft)	56	132	0	80	86	102	219	54	276
Queue Length 95th (ft)	87	197	48	154	159	171	320	m82	381
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	473	409	381	241	810	251	1549	187	1452
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.48	0.31	0.52	0.54	0.61	0.54	0.44	0.60

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	148	181	108	115	221	185	140	651	118	75	711	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1306	1770	3275		1652	3153		1770	3392	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1306	1770	3275		1652	3153		1770	3392	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	161	197	117	125	240	201	152	708	128	82	773	99
RTOR Reduction (vph)	0	0	98	0	143	0	0	11	0	0	8	0
Lane Group Flow (vph)	161	197	19	125	298	0	152	825	0	82	864	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	12.0	17.8	17.8	13.0	18.8		15.2	52.8		9.2	46.8	
Effective Green, g (s)	12.0	17.8	17.8	13.0	18.8		15.2	52.8		9.2	46.8	
Actuated g/C Ratio	0.11	0.16	0.16	0.12	0.17		0.14	0.48		0.08	0.43	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	334	299	211	209	560		228	1513		148	1443	
v/s Ratio Prot	0.05	c0.11		c0.07	0.09		c0.09	0.26		0.05	c0.25	
v/s Ratio Perm			0.01									
v/c Ratio	0.48	0.66	0.09	0.60	0.53		0.67	0.54		0.55	0.60	
Uniform Delay, d1	46.1	43.3	39.2	46.0	41.6		45.0	20.1		48.4	24.4	
Progression Factor	1.00	1.00	1.00	0.95	1.14		1.00	1.00		0.85	1.08	
Incremental Delay, d2	1.5	5.7	0.3	5.2	1.2		7.9	1.4		5.1	1.7	
Delay (s)	47.6	49.0	39.5	48.9	48.6		52.9	21.6		46.3	28.1	
Level of Service	D	D	D	D	D		D	C		D	C	
Approach Delay (s)		46.2			48.7			26.4			29.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	11	315	34	575	11	11	41	56	11
v/c Ratio	0.11	0.22	0.27	0.39	0.09	0.02	0.33	0.29	0.16
Control Delay	52.5	6.6	53.4	7.6	44.5	0.0	51.7	16.2	53.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	6.6	53.4	7.6	44.5	0.0	51.7	16.2	53.2
Queue Length 50th (ft)	8	43	23	68	7	0	28	1	8
Queue Length 95th (ft)	28	97	55	384	23	0	58	37	26
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	250		60		100				
Base Capacity (vph)	109	1417	133	1495	218	790	235	313	72
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.22	0.26	0.38	0.05	0.01	0.17	0.18	0.15

Intersection Summary

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	277	13	31	478	51	10	0	10	38	2	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.85		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1848		1770	1836		1711	1583		1770	1593	
Flt Permitted	0.95	1.00		0.95	1.00		0.72	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1848		1770	1836		1297	1583		1398	1593	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	301	14	34	520	55	11	0	11	41	2	54
RTOR Reduction (vph)	0	1	0	0	0	0	0	10	0	0	50	0
Lane Group Flow (vph)	11	314	0	34	575	0	11	1	0	41	6	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.5	76.2		5.2	79.9		8.8	8.8		8.8	8.8	
Effective Green, g (s)	1.5	76.2		5.2	79.9		8.8	8.8		8.8	8.8	
Actuated g/C Ratio	0.01	0.69		0.05	0.73		0.08	0.08		0.08	0.08	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	24	1280		84	1334		104	127		112	127	
v/s Ratio Prot	0.01	0.17		c0.02	c0.31			0.00			0.00	
v/s Ratio Perm							0.01			c0.03		
v/c Ratio	0.46	0.25		0.40	0.43		0.11	0.01		0.37	0.05	
Uniform Delay, d1	53.8	6.3		50.9	6.0		46.9	46.6		48.0	46.7	
Progression Factor	1.03	0.82		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.1	0.5		3.2	1.0		0.4	0.0		2.0	0.2	
Delay (s)	68.8	5.6		54.1	7.0		47.4	46.6		50.0	46.9	
Level of Service	E	A		D	A		D	D		D	D	
Approach Delay (s)		7.7			9.6			47.0			48.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR
Lane Configurations	
Volume (vph)	10
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1096
Flt Permitted	1.00
Satd. Flow (perm)	1096
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	11
RTOR Reduction (vph)	0
Lane Group Flow (vph)	11
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	50%
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	9
Actuated Green, G (s)	1.8
Effective Green, g (s)	1.8
Actuated g/C Ratio	0.02
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	18
v/s Ratio Prot	c0.01
v/s Ratio Perm	
v/c Ratio	0.61
Uniform Delay, d1	53.8
Progression Factor	1.00
Incremental Delay, d2	48.7
Delay (s)	102.4
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	379	5	519	41	59	7	37	292
v/c Ratio	0.23	0.37	0.03	0.70	0.19	0.12	0.02	0.11	0.56
Control Delay	28.9	9.3	30.2	20.8	20.2	17.5	10.5	18.1	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	9.3	30.2	20.8	20.2	17.5	10.5	18.1	19.1
Queue Length 50th (ft)	18	52	2	145	11	16	0	10	71
Queue Length 95th (ft)	56	165	12	#337	35	42	8	31	146
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	251	1331	144	982	445	1074	767	716	1049
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.28	0.03	0.53	0.09	0.05	0.01	0.05	0.28

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	264	85	5	439	39	38	54	6	34	152	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1947		1711	1698		1652	1863	1327	1644	1776	
Flt Permitted	0.95	1.00		0.95	1.00		0.44	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1711	1947		1711	1698		771	1863	1327	1243	1776	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	287	92	5	477	42	41	59	7	37	165	127
RTOR Reduction (vph)	0	13	0	0	4	0	0	0	5	0	43	0
Lane Group Flow (vph)	57	366	0	5	515	0	41	59	2	37	249	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	3.4	27.0		0.6	24.2		14.2	14.2	14.2	14.2	14.2	
Effective Green, g (s)	3.4	27.0		0.6	24.2		14.2	14.2	14.2	14.2	14.2	
Actuated g/C Ratio	0.06	0.49		0.01	0.44		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	106	959		19	750		200	483	344	322	460	
v/s Ratio Prot	c0.03	c0.19		0.00	c0.30			0.03			c0.14	
v/s Ratio Perm							0.05		0.00	0.03		
v/c Ratio	0.54	0.38		0.26	0.69		0.20	0.12	0.01	0.11	0.54	
Uniform Delay, d1	24.9	8.7		26.9	12.3		15.9	15.5	15.1	15.5	17.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.5	0.3		9.9	2.8		0.7	0.2	0.0	0.2	1.6	
Delay (s)	31.5	9.0		36.7	15.1		16.6	15.7	15.1	15.7	19.1	
Level of Service	C	A		D	B		B	B	B	B	B	
Approach Delay (s)		12.0			15.3			16.0			18.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	54.8	Sum of lost time (s)	17.5
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	120	121	3	96	409	761	40	23	833
v/c Ratio	0.93	0.25	0.04	0.34	0.86	0.39	0.05	0.21	0.79
Control Delay	104.5	9.1	42.0	30.9	48.0	11.2	7.6	44.4	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.5	9.1	42.0	30.9	48.0	11.2	7.6	44.4	31.5
Queue Length 50th (ft)	59	10	1	42	182	72	3	11	174
Queue Length 95th (ft)	#201	50	11	81	#465	232	26	40	#377
Internal Link Dist (ft)		1442		1025		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	129	757	83	736	478	1958	879	107	1073
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.16	0.04	0.13	0.86	0.39	0.05	0.21	0.78

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	24	87	3	84	5	380	700	37	21	548	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.99		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1559		1652	1718		1652	3240	1448	1711	3230	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1559		1652	1718		1652	3240	1448	1711	3230	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	26	95	3	91	5	409	761	40	23	596	237
RTOR Reduction (vph)	0	71	0	0	2	0	0	0	8	0	38	0
Lane Group Flow (vph)	120	50	0	3	94	0	409	761	32	23	795	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	6.1	21.2		0.7	15.8		23.3	48.6	48.6	1.8	27.1	
Effective Green, g (s)	6.1	21.2		0.7	15.8		23.3	48.6	48.6	1.8	27.1	
Actuated g/C Ratio	0.07	0.25		0.01	0.19		0.27	0.57	0.57	0.02	0.32	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	123	390		14	320		454	1857	830	36	1032	
v/s Ratio Prot	c0.07	0.03		0.00	c0.05		c0.25	0.23		0.01	c0.25	
v/s Ratio Perm									0.02			
v/c Ratio	0.98	0.13		0.21	0.29		0.90	0.41	0.04	0.64	0.77	
Uniform Delay, d1	39.3	24.6		41.8	29.7		29.6	10.1	7.9	41.2	26.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	73.2	0.2		10.2	0.7		21.1	0.2	0.0	35.1	3.8	
Delay (s)	112.4	24.8		52.0	30.4		50.7	10.3	7.9	76.2	29.9	
Level of Service	F	C		D	C		D	B	A	E	C	
Approach Delay (s)		68.5			31.0			23.9			31.1	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	84.8	Sum of lost time (s)	12.5
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	63	17	16	971	955
v/c Ratio	0.20	0.06	0.04	0.39	0.38
Control Delay	18.6	8.5	5.4	5.1	5.0
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	18.6	8.5	5.4	5.3	5.0
Queue Length 50th (ft)	20	0	1	54	52
Queue Length 95th (ft)	38	11	10	154	149
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	701	574	385	2449	2436
Starvation Cap Reductn	0	0	0	731	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.04	0.57	0.39

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	58	16	15	893	843	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3219	
Flt Permitted	0.95	1.00	0.29	1.00	1.00	
Satd. Flow (perm)	1652	1330	510	3240	3219	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	17	16	971	916	39
RTOR Reduction (vph)	0	15	0	0	3	0
Lane Group Flow (vph)	63	2	16	971	952	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	5.8	5.8	33.8	33.8	33.8	
Effective Green, g (s)	5.8	5.8	33.8	33.8	33.8	
Actuated g/C Ratio	0.12	0.12	0.70	0.70	0.70	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	197	159	355	2253	2239	
v/s Ratio Prot	c0.04			c0.30	0.30	
v/s Ratio Perm		0.00	0.03			
v/c Ratio	0.32	0.01	0.05	0.43	0.43	
Uniform Delay, d1	19.6	18.9	2.3	3.2	3.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.0	0.1	0.4	0.4	
Delay (s)	20.5	18.9	2.5	3.6	3.6	
Level of Service	C	B	A	A	A	
Approach Delay (s)	20.2			3.6	3.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	48.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1157	952	836	1995	826	1178
v/c Ratio	0.53	0.55	0.91	1.07	0.49	1.13
Control Delay	14.4	14.2	57.4	66.0	1.0	110.1
Queue Delay	14.4	5.8	0.0	0.0	0.0	0.0
Total Delay	28.8	20.0	57.4	66.0	1.0	110.1
Queue Length 50th (ft)	288	248	394	~1062	0	~703
Queue Length 95th (ft)	345	310	m391	m#957	0	#854
Internal Link Dist (ft)	252			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	2185	1737	959	1857	1686	1044
Starvation Cap Reductn	1029	718	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	1.00	0.93	0.87	1.07	0.49	1.13

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1064	876	769	1835	0	0	0	760	0	0	1084
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2733
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2733
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1157	952	836	1995	0	0	0	826	0	0	1178
RTOR Reduction (vph)	0	0	17	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1157	935	836	1995	0	0	0	826	0	0	1178
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		90.2	90.2	40.8	77.5				140.0			53.5
Effective Green, g (s)		90.2	90.2	40.8	77.5				140.0			53.5
Actuated g/C Ratio		0.64	0.64	0.29	0.55				1.00			0.38
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		2162	1702	916	1857				1686			1044
v/s Ratio Prot		0.34		0.27	c0.59							
v/s Ratio Perm			0.35						0.49			c0.43
v/c Ratio		0.54	0.55	0.91	1.07				0.49			1.13
Uniform Delay, d1		13.5	13.7	47.9	31.2				0.0			43.2
Progression Factor		1.00	1.00	1.06	0.88				1.00			1.00
Incremental Delay, d2		0.3	0.4	5.8	38.1				1.0			70.2
Delay (s)		13.8	14.1	56.8	65.8				1.0			113.5
Level of Service		B	B	E	E				A			F
Approach Delay (s)		13.9			63.1			1.0			113.5	
Approach LOS		B			E			A			F	

Intersection Summary			
HCM Average Control Delay	49.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	697	1286	1211	780	947	1748
v/c Ratio	0.84	0.38	0.60	0.83	0.59	1.14
Control Delay	31.6	0.3	10.2	20.7	1.6	80.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	0.3	10.2	20.7	1.6	80.7
Queue Length 50th (ft)	176	0	155	234	0	~202
Queue Length 95th (ft)	203	0	212	#487	0	#449
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	876	3355	2035	943	1611	1528
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	0.80	0.38	0.60	0.83	0.59	1.14

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	641	1183	0	0	1114	718	0	0	871	0	0	1608
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	697	1286	0	0	1211	780	0	0	947	0	0	1748
RTOR Reduction (vph)	0	0	0	0	0	15	0	0	0	0	0	0
Lane Group Flow (vph)	697	1286	0	0	1211	765	0	0	947	0	0	1748
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	18.5	70.0			42.5	42.5			70.0			70.0
Effective Green, g (s)	18.5	70.0			42.5	42.5			70.0			70.0
Actuated g/C Ratio	0.26	1.00			0.61	0.61			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	831	3355			2037	930			1611			1528
v/s Ratio Prot	0.22	0.38			0.36							
v/s Ratio Perm						0.50			0.59			c1.14
v/c Ratio	0.84	0.38			0.59	0.82			0.59			1.14
Uniform Delay, d1	24.3	0.0			8.5	10.8			0.0			35.0
Progression Factor	0.94	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	6.5	0.3			1.3	8.2			1.6			73.1
Delay (s)	29.5	0.3			9.7	19.0			1.6			108.1
Level of Service	C	A			A	B			A			F
Approach Delay (s)		10.6			13.4			1.6			108.1	
Approach LOS		B			B			A			F	

Intersection Summary			
HCM Average Control Delay	35.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	325	458	512	401	21	504	770	15	58	693	275
v/c Ratio	1.01	0.62	0.29	1.00	0.06	0.73	0.55	0.03	0.41	0.86	0.58
Control Delay	81.7	29.0	0.4	85.9	23.7	45.3	27.2	14.9	55.8	50.7	24.9
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	81.7	29.0	0.4	85.9	23.7	45.3	27.2	14.9	55.8	50.7	24.9
Queue Length 50th (ft)	~175	236	0	272	6	164	220	3	37	236	86
Queue Length 95th (ft)	#398	386	0	#515	28	220	280	17	84	#371	188
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	323	741	1770	403	350	999	1636	609	156	809	474
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	1.01	0.62	0.29	1.00	0.06	0.50	0.47	0.02	0.37	0.86	0.58

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	299	421	471	3	366	19	464	708	14	53	638	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1473	3204	3539	1337	1652	3303	1550
Flt Permitted	0.14	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	242	1739	1770		1733	1473	3204	3539	1337	1652	3303	1550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	325	458	512	3	398	21	504	770	15	58	693	275
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	5	0	0	94
Lane Group Flow (vph)	325	458	512	0	401	13	504	770	10	58	693	181
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	44.7	44.7	107.0		24.2	24.2	21.8	40.9	40.9	7.0	26.0	26.0
Effective Green, g (s)	45.2	45.2	107.0		24.7	24.7	22.8	41.9	40.9	7.9	27.0	27.0
Actuated g/C Ratio	0.42	0.42	1.00		0.23	0.23	0.21	0.39	0.38	0.07	0.25	0.25
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.9	5.0	5.0
Vehicle Extension (s)	4.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	320	735	1770		400	340	683	1386	511	122	833	391
v/s Ratio Prot	c0.16	0.26					c0.16	0.22		0.04	c0.21	
v/s Ratio Perm	c0.27		0.29		0.23	0.01			0.01			0.12
v/c Ratio	1.02	0.62	0.29		1.00	0.04	0.74	0.56	0.02	0.48	0.83	0.46
Uniform Delay, d1	30.5	24.2	0.0		41.1	31.9	39.3	25.3	20.6	47.6	37.9	33.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	54.3	1.9	0.4		45.6	0.1	4.2	1.0	0.0	3.4	8.3	2.4
Delay (s)	84.9	26.1	0.4		86.8	32.0	43.5	26.4	20.6	51.0	46.1	36.3
Level of Service	F	C	A		F	C	D	C	C	D	D	D
Approach Delay (s)		30.7			84.0			33.0			43.8	
Approach LOS		C			F			C			D	

Intersection Summary			
HCM Average Control Delay	40.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	107.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	29	90	1017	160	1323
v/c Ratio	0.12	0.26	0.27	0.45	0.49
Control Delay	17.3	6.5	3.8	13.9	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	6.5	3.8	13.9	5.6
Queue Length 50th (ft)	8	0	29	16	72
Queue Length 95th (ft)	22	25	90	#125	229
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	572	691	3760	352	2653
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.05	0.13	0.27	0.45	0.50

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	26	1	83	0	894	41	147	1215	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.99		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		0.99		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1570	1400		4916		1619	3470	
Flt Permitted					0.76	1.00		1.00		0.27	1.00	
Satd. Flow (perm)					1244	1400		4916		459	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	28	1	90	0	972	45	160	1321	2
RTOR Reduction (vph)	0	0	0	0	0	80	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	29	10	0	1011	0	160	1323	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					5.2	5.2		31.1		31.1	31.1	
Effective Green, g (s)					5.2	5.2		31.1		31.1	31.1	
Actuated g/C Ratio					0.12	0.12		0.69		0.69	0.69	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					144	162		3405		318	2403	
v/s Ratio Prot								0.21			c0.38	
v/s Ratio Perm					c0.02	0.01				0.35		
v/c Ratio					0.20	0.06		0.30		0.50	0.55	
Uniform Delay, d1					18.0	17.7		2.7		3.3	3.4	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.7	0.2		0.0		0.5	0.2	
Delay (s)					18.7	17.9		2.7		3.7	3.6	
Level of Service					B	B		A		A	A	
Approach Delay (s)		0.0			18.0			2.7			3.6	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	3.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	44.9	Sum of lost time (s)	8.6
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	11	334	646	42	26
v/c Ratio	0.11	0.21	0.22	0.32	0.18
Control Delay	70.6	0.5	1.7	54.0	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	70.6	0.5	1.7	54.0	19.8
Queue Length 50th (ft)	8	3	29	29	0
Queue Length 95th (ft)	m17	9	33	63	27
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	185	1623	2968	426	401
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.21	0.22	0.10	0.06

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	10	307	544	51	39	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3494		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3494		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	334	591	55	42	26
RTOR Reduction (vph)	0	0	3	0	0	24
Lane Group Flow (vph)	11	334	643	0	42	2
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	1.5	94.0	88.0		7.0	7.0
Effective Green, g (s)	1.5	94.0	88.0		7.0	7.0
Actuated g/C Ratio	0.01	0.85	0.80		0.06	0.06
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	24	1592	2795		113	101
v/s Ratio Prot	0.01	c0.18	c0.18		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.46	0.21	0.23		0.37	0.02
Uniform Delay, d1	53.8	1.4	2.7		49.4	48.3
Progression Factor	1.41	0.16	0.62		1.00	1.00
Incremental Delay, d2	11.8	0.3	0.2		2.1	0.1
Delay (s)	87.6	0.5	1.9		51.4	48.3
Level of Service	F	A	A		D	D
Approach Delay (s)		3.3	1.9		50.3	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	5.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1416	543	2458	563
v/c Ratio	0.52	0.69	0.48	0.78
Control Delay	16.9	19.5	0.3	23.8
Queue Delay	0.0	1.2	0.0	0.0
Total Delay	16.9	20.7	0.3	23.8
Queue Length 50th (ft)	129	171	0	188
Queue Length 95th (ft)	188	224	0	253
Internal Link Dist (ft)	387		252	
Turn Bay Length (ft)				
Base Capacity (vph)	2718	974	5085	887
Starvation Cap Reductn	0	229	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.73	0.48	0.63

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1272	30	500	2261	0	518
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6385		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6385		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1383	33	543	2458	0	563
RTOR Reduction (vph)	4	0	0	0	0	2
Lane Group Flow (vph)	1412	0	543	2458	0	561
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	29.7		31.3	70.0		31.3
Effective Green, g (s)	29.7		31.3	70.0		31.3
Actuated g/C Ratio	0.42		0.45	1.00		0.45
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	2709		791	5085		720
v/s Ratio Prot	0.22		0.31	c0.48		c0.35
v/s Ratio Perm						
v/c Ratio	0.52		0.69	0.48		0.78
Uniform Delay, d1	14.9		15.4	0.0		16.4
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.7		2.5	0.3		5.4
Delay (s)	15.6		17.9	0.3		21.8
Level of Service	B		B	A		C
Approach Delay (s)	15.6			3.5	21.8	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	9.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	4.5
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	58	173	289	166	1208	27	1334	257	1426	1209	90
v/c Ratio	0.97	0.44	0.90	0.36	0.70	0.38	1.09	0.34	1.27	0.62	0.10
Control Delay	173.0	55.2	85.8	43.6	18.0	80.0	100.7	6.5	165.2	20.4	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	173.0	55.2	85.8	43.6	18.0	80.0	100.7	6.5	165.2	20.4	2.7
Queue Length 50th (ft)	54	73	257	123	369	24	~501	33	~846	382	0
Queue Length 95th (ft)	#151	102	#555	192	457	58	#599	73	#984	456	24
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	60	702	320	467	1732	79	1228	756	1126	1943	945
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	0.97	0.25	0.90	0.36	0.70	0.34	1.09	0.34	1.27	0.62	0.10

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	53	134	25	266	153	1111	25	1227	236	1312	1112	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	2.5	2.5		2.5	2.5	2.5	2.5	1.8	1.8	2.5	1.8	1.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3113		1678	1689	2642	1620	4655	1449	3143	3240	1515
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3113		1678	1689	2642	1620	4655	1449	3143	3240	1515
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	146	27	289	166	1208	27	1334	257	1426	1209	90
RTOR Reduction (vph)	0	12	0	0	0	8	0	0	89	0	0	37
Lane Group Flow (vph)	58	161	0	289	166	1200	27	1334	168	1426	1209	53
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	4.0	15.1		25.9	37.0	91.0	3.5	36.6	62.5	49.5	82.6	82.6
Effective Green, g (s)	5.0	17.1		26.9	39.0	93.0	4.5	38.6	66.5	50.5	84.6	84.6
Actuated g/C Ratio	0.04	0.12		0.19	0.27	0.65	0.03	0.27	0.47	0.35	0.59	0.59
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	3.0	3.0
Lane Grp Cap (vph)	59	374		317	463	1725	51	1262	677	1115	1925	900
v/s Ratio Prot	c0.03	0.05		c0.17	0.10	c0.45	0.02	c0.29	0.12	c0.45	0.37	
v/s Ratio Perm												0.04
v/c Ratio	0.98	0.43		0.91	0.36	0.70	0.53	1.06	0.25	1.28	0.63	0.06
Uniform Delay, d1	68.7	58.1		56.6	41.6	15.7	67.9	51.9	22.9	46.0	18.7	12.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	110.3	1.4		28.6	0.7	1.3	4.5	41.9	0.3	132.5	0.6	0.0
Delay (s)	179.0	59.5		85.2	42.3	17.0	72.4	93.8	23.1	178.5	19.4	12.2
Level of Service	F	E		F	D	B	E	F	C	F	B	B
Approach Delay (s)		89.5			31.4			82.2			102.4	
Approach LOS		F			C			F			F	

Intersection Summary			
HCM Average Control Delay	77.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	11.8
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	149	1713	25	1543	183	28	148	187	124
v/c Ratio	0.60	0.78	0.15	0.84	0.20	0.25	0.64	0.49	0.52
Control Delay	52.8	17.4	52.9	15.4	0.5	50.9	21.2	46.7	28.5
Queue Delay	0.0	3.2	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	52.8	20.6	52.9	15.4	0.5	50.9	21.4	46.7	28.5
Queue Length 50th (ft)	95	245	17	85	0	18	1	62	36
Queue Length 95th (ft)	162	#758	m24	#678	m1	45	60	94	92
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	247	2210	170	1842	896	224	318	462	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	386	0	0	0	0	18	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.94	0.15	0.84	0.20	0.13	0.49	0.40	0.45

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	1560	16	23	1420	168	26	2	134	172	42	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	2.0	3.0		2.0	3.0	3.0	2.0	2.0		2.0	2.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.98		1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3174		1620	3209	1435	1678	1431		3143	1474	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3174		1620	3209	1435	1678	1431		3143	1474	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	149	1696	17	25	1543	183	28	2	146	187	46	78
RTOR Reduction (vph)	0	0	0	0	0	74	0	136	0	0	59	0
Lane Group Flow (vph)	149	1713	0	25	1543	109	28	12	0	187	65	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	16.8	70.3		4.0	57.5	57.5	5.9	5.9		11.8	11.8	
Effective Green, g (s)	17.8	71.3		5.0	58.5	58.5	6.9	6.9		12.8	12.8	
Actuated g/C Ratio	0.17	0.68		0.05	0.56	0.56	0.07	0.07		0.12	0.12	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	275	2155		77	1788	800	110	94		383	180	
v/s Ratio Prot	0.09	c0.54		0.02	c0.48		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.08						
v/c Ratio	0.54	0.79		0.32	0.86	0.14	0.25	0.12		0.49	0.36	
Uniform Delay, d1	39.9	11.7		48.4	19.8	11.1	46.6	46.2		43.0	42.3	
Progression Factor	1.00	1.00		1.19	0.50	0.01	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	3.1		0.8	5.0	0.3	0.4	0.2		1.0	1.2	
Delay (s)	41.0	14.9		58.2	14.9	0.5	47.1	46.4		44.0	43.6	
Level of Service	D	B		E	B	A	D	D		D	D	
Approach Delay (s)		17.0			14.1			46.5			43.9	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	1947	374	1637	179	223	147	93
v/c Ratio	0.38	0.82	0.86	0.54	0.76	0.28	0.81	0.47
Control Delay	51.2	20.4	64.0	8.4	64.3	11.8	77.1	42.4
Queue Delay	0.0	2.6	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	51.2	23.0	64.0	8.5	64.3	11.8	77.1	42.4
Queue Length 50th (ft)	22	421	122	157	116	27	96	46
Queue Length 95th (ft)	m30	293	m#173	m182	#190	52	#198	98
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	93	2377	442	3047	275	816	197	211
Starvation Cap Reductn	0	306	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	216	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.94	0.85	0.58	0.65	0.27	0.75	0.44

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1630	161	344	1452	54	146	18	205	135	58	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	2.0	3.0		2.5	3.0			2.0	2.5	2.0	2.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4506		3143	4746			1808	2807	1562	1542	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4506		3143	4746			1808	2807	1562	1542	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1772	175	374	1578	59	159	20	223	147	63	30
RTOR Reduction (vph)	0	10	0	0	3	0	0	0	68	0	17	0
Lane Group Flow (vph)	33	1937	0	374	1634	0	0	179	155	147	76	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	3.0	54.1		13.5	65.1			12.7	26.2	11.2	11.2	
Effective Green, g (s)	4.0	55.1		14.5	66.1			13.7	28.2	12.2	12.2	
Actuated g/C Ratio	0.04	0.52		0.14	0.63			0.13	0.27	0.12	0.12	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	62	2365		434	2988			236	754	181	179	
v/s Ratio Prot	0.02	c0.43		c0.12	0.34			c0.10	0.03	c0.09	0.05	
v/s Ratio Perm									0.03			
v/c Ratio	0.53	0.82		0.86	0.55			0.76	0.21	0.81	0.43	
Uniform Delay, d1	49.6	20.8		44.3	11.0			44.1	29.7	45.3	43.1	
Progression Factor	0.89	0.83		1.11	0.69			1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.0	2.3		11.3	0.5			11.7	0.0	22.4	0.6	
Delay (s)	47.2	19.6		60.4	8.1			55.7	29.8	67.7	43.7	
Level of Service	D	B		E	A			E	C	E	D	
Approach Delay (s)		20.0			17.8			41.3			58.4	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	663	2151	1379	424	191	672
v/c Ratio	0.18	0.85	0.56	0.35	0.32	1.01
Control Delay	1.9	12.4	6.3	1.2	39.1	70.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.9	12.4	6.3	1.2	39.1	70.1
Queue Length 50th (ft)	20	339	167	0	58	~203
Queue Length 95th (ft)	m25	360	211	21	91	#340
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3604	2533	2445	1217	601	665
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	0.18	0.85	0.56	0.35	0.32	1.01

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	610	1979	0	1269	390	0	0	0	176	0	618
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	663	2151	0	1379	424	0	0	0	191	0	672
RTOR Reduction (vph)	0	0	0	0	0	105	0	0	0	0	0	143
Lane Group Flow (vph)	0	663	2151	0	1379	319	0	0	0	191	0	529
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		4
Permitted Phases			2 4			6				4		
Actuated Green, G (s)		79.0	105.0		79.0	79.0				18.0		18.0
Effective Green, g (s)		80.0	105.0		80.0	79.0				19.0		19.0
Actuated g/C Ratio		0.76	1.00		0.76	0.75				0.18		0.18
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3604	2533		2445	1112				601		523
v/s Ratio Prot		0.14			0.43					0.06		c0.18
v/s Ratio Perm			c0.85			0.22						
v/c Ratio		0.18	0.85		0.56	0.29				0.32		1.01
Uniform Delay, d1		3.5	0.0		5.2	4.1				37.4		43.0
Progression Factor		0.52	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.1	2.5		0.9	0.6				0.4		42.5
Delay (s)		1.9	2.5		6.2	4.8				37.8		85.5
Level of Service		A	A		A	A				D		F
Approach Delay (s)		2.3			5.8			0.0			74.9	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	3.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	196	25	40	133	352	122
v/c Ratio	0.53	0.07	0.20	0.11	0.34	0.12
Control Delay	25.2	7.7	25.9	4.4	9.7	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	7.7	25.9	4.4	9.7	2.9
Queue Length 50th (ft)	63	0	13	13	41	0
Queue Length 95th (ft)	105	14	37	37	156	25
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	587	542	216	1242	1034	994
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	0.33	0.05	0.19	0.11	0.34	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	180	23	37	122	324	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1562
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	25	40	133	352	122
RTOR Reduction (vph)	0	20	0	0	0	53
Lane Group Flow (vph)	196	6	40	133	352	69
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	12.2	12.2	2.8	39.8	33.0	33.0
Effective Green, g (s)	13.2	13.2	3.8	40.8	34.0	34.0
Actuated g/C Ratio	0.22	0.22	0.06	0.68	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	369	330	103	1242	966	885
v/s Ratio Prot	c0.12		c0.02	0.07	c0.21	
v/s Ratio Perm		0.00				0.04
v/c Ratio	0.53	0.02	0.39	0.11	0.36	0.08
Uniform Delay, d1	20.7	18.3	27.0	3.3	7.1	5.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0	2.4	0.2	1.1	0.2
Delay (s)	22.1	18.3	29.4	3.5	8.2	6.1
Level of Service	C	B	C	A	A	A
Approach Delay (s)	21.7			9.5	7.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	214	249	296	30	1401	71	1241
v/c Ratio	0.52	0.66	0.70	0.23	0.87	0.62	0.77
Control Delay	20.1	26.4	25.3	15.0	21.3	43.1	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	26.4	25.3	15.0	21.3	43.1	16.3
Queue Length 50th (ft)	57	74	81	5	206	16	166
Queue Length 95th (ft)	111	141	155	26	#414	#89	#310
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	557	511	565	134	1649	116	1652
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	0.49	0.52	0.22	0.85	0.61	0.75

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	116	22	136	93	272	28	1205	84	65	1092	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1536			1681	1306	1618	3043		1562	3054	
Flt Permitted		0.84			0.70	1.00	0.15	1.00		0.13	1.00	
Satd. Flow (perm)		1310			1215	1306	249	3043		215	3054	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	126	24	148	101	296	30	1310	91	71	1187	54
RTOR Reduction (vph)	0	8	0	0	0	19	0	7	0	0	5	0
Lane Group Flow (vph)	0	206	0	0	249	277	30	1394	0	71	1236	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		17.8			17.8	17.8	30.6	30.6		30.6	30.6	
Effective Green, g (s)		17.8			17.8	17.8	30.6	30.6		30.6	30.6	
Actuated g/C Ratio		0.31			0.31	0.31	0.53	0.53		0.53	0.53	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		405			375	404	132	1617		114	1622	
v/s Ratio Prot								c0.46			0.40	
v/s Ratio Perm		0.16			0.20	c0.21	0.12			0.33		
v/c Ratio		0.51			0.66	0.69	0.23	0.86		0.62	0.76	
Uniform Delay, d1		16.3			17.3	17.5	7.2	11.7		9.5	10.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4			4.8	5.2	1.2	5.2		11.4	2.3	
Delay (s)		17.7			22.1	22.6	8.4	16.8		20.9	12.9	
Level of Service		B			C	C	A	B		C	B	
Approach Delay (s)		17.7			22.4			16.7			13.4	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	57.6	Sum of lost time (s)	9.2
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	28	298	646	193	341	27
v/c Ratio	0.27	0.22	0.57	0.14	1.14	0.10
Control Delay	55.2	5.2	9.9	0.2	138.0	22.8
Queue Delay	0.0	0.0	1.1	0.0	14.7	0.0
Total Delay	55.2	5.2	10.9	0.2	152.8	22.8
Queue Length 50th (ft)	19	58	115	0	~283	6
Queue Length 95th (ft)	49	88	305	m0	#464	31
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	118	1335	1137	1385	298	270
Starvation Cap Reductn	0	0	258	0	0	0
Spillback Cap Reductn	0	3	0	0	9	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.22	0.73	0.14	1.18	0.10

Intersection Summary

~ 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.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	26	274	594	178	314	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1574	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1574	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	298	646	193	341	27
RTOR Reduction (vph)	0	0	0	30	0	13
Lane Group Flow (vph)	28	298	646	163	341	14
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	4.7	80.4	71.7	92.7	21.0	21.0
Effective Green, g (s)	4.7	80.4	71.7	92.7	21.0	21.0
Actuated g/C Ratio	0.04	0.73	0.65	0.84	0.19	0.19
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	69	1335	1111	1326	298	258
v/s Ratio Prot	c0.02	0.16	c0.38	0.02	c0.22	
v/s Ratio Perm				0.08		0.01
v/c Ratio	0.41	0.22	0.58	0.12	1.14	0.05
Uniform Delay, d1	51.3	4.8	10.7	1.5	44.5	36.4
Progression Factor	1.00	1.00	0.73	0.27	1.00	1.00
Incremental Delay, d2	3.9	0.4	1.8	0.0	97.0	0.1
Delay (s)	55.2	5.1	9.6	0.4	141.5	36.5
Level of Service	E	A	A	A	F	D
Approach Delay (s)		9.4	7.5		133.8	
Approach LOS		A	A		F	

Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	374	348	448	394	439	280	3
v/c Ratio	0.78	0.53	1.12	0.41	0.77	0.46	0.04
Control Delay	32.5	2.7	119.4	15.8	42.7	15.5	51.3
Queue Delay	2.5	0.1	0.0	0.0	1.5	0.0	0.0
Total Delay	35.0	2.7	119.4	15.8	44.2	15.5	51.3
Queue Length 50th (ft)	156	0	~346	143	274	66	2
Queue Length 95th (ft)	m229	m0	#638	257	400	139	12
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	478	651	401	963	562	613	81
Starvation Cap Reductn	39	12	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	35	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.54	1.12	0.41	0.83	0.46	0.04

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	343	320	412	362	1	401	3	258	2	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.98		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (prot)		1759	1462	1562	1704			1682	1725		1754	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (perm)		1758	1462	1562	1704			1682	1725		1754	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	373	348	448	393	1	436	3	280	2	1	0
RTOR Reduction (vph)	0	0	264	0	0	0	0	0	104	0	0	0
Lane Group Flow (vph)	0	374	84	448	394	0	0	439	176	0	3	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		26.7	26.7	28.3	59.0			36.9	32.9		1.0	
Effective Green, g (s)		26.7	26.7	28.3	59.0			36.9	32.9		1.0	
Actuated g/C Ratio		0.24	0.24	0.26	0.54			0.34	0.30		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		427	355	402	914			564	516		16	
v/s Ratio Prot				c0.29	0.23			c0.26	0.04		c0.00	
v/s Ratio Perm		c0.21	0.06						0.06			
v/c Ratio		0.88	0.24	1.11	0.43			0.78	0.34		0.19	
Uniform Delay, d1		40.1	33.5	40.9	15.4			32.9	30.1		54.1	
Progression Factor		0.59	0.07	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		17.5	1.2	79.7	1.5			6.7	0.4		5.6	
Delay (s)		41.2	3.6	120.5	16.9			39.6	30.5		59.7	
Level of Service		D	A	F	B			D	C		E	
Approach Delay (s)		23.1			72.0			36.0			59.7	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM Average Control Delay	45.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	79	160	27	142	121	666	15	754	139	264	851
v/c Ratio	0.59	0.36	0.07	0.69	0.21	0.94	0.16	0.80	0.33	0.86	0.58
Control Delay	78.3	41.1	14.8	71.6	33.0	40.6	65.1	48.7	25.0	77.4	27.9
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	78.3	41.1	14.8	71.6	33.0	40.6	65.1	48.7	25.0	77.4	27.9
Queue Length 50th (ft)	67	108	1	120	75	291	13	320	57	229	265
Queue Length 95th (ft)	#134	184	27	194	130	#581	38	397	116	#416	396
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	154	542	470	273	661	759	154	1149	506	315	1502
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	0.51	0.30	0.06	0.52	0.18	0.88	0.10	0.66	0.27	0.84	0.57

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	147	25	131	111	613	14	694	128	243	734	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1451	1620	1739	1392	1652	3240	1331	1620	3047	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1451	1620	1739	1392	1652	3240	1331	1620	3047	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	160	27	142	121	666	15	754	139	264	798	53
RTOR Reduction (vph)	0	0	19	0	0	253	0	0	37	0	3	0
Lane Group Flow (vph)	79	160	8	142	121	413	15	754	102	264	848	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	8.6	32.9	32.9	16.7	41.0	41.0	3.3	38.3	38.3	24.4	59.4	
Effective Green, g (s)	7.6	32.4	32.4	15.7	40.5	40.5	2.3	37.8	37.8	23.4	58.9	
Actuated g/C Ratio	0.06	0.26	0.26	0.13	0.32	0.32	0.02	0.30	0.30	0.19	0.47	
Clearance Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	100	450	375	203	562	450	30	977	402	303	1432	
v/s Ratio Prot	0.05	0.09		c0.09	0.07		0.01	c0.23		c0.16	0.28	
v/s Ratio Perm			0.01			c0.30			0.08			
v/c Ratio	0.79	0.36	0.02	0.70	0.22	0.92	0.50	0.77	0.25	0.87	0.59	
Uniform Delay, d1	58.1	37.9	34.6	52.5	30.8	40.8	60.9	39.8	33.1	49.5	24.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	34.9	0.7	0.0	10.8	0.3	23.7	16.8	4.1	0.5	23.4	0.8	
Delay (s)	93.0	38.6	34.7	63.4	31.1	64.5	77.7	43.9	33.5	72.9	25.2	
Level of Service	F	D	C	E	C	E	E	D	C	E	C	
Approach Delay (s)		54.3			60.0			42.9			36.5	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	46.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	125.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	34	615	89	1503	1305	186	470	800	258	514	45
v/c Ratio	0.44	0.83	0.29	1.04	0.71	1.02	0.71	0.44	0.91	0.91	0.16
Control Delay	82.6	67.6	12.2	70.0	20.6	141.8	43.6	11.2	97.1	77.3	27.5
Queue Delay	0.0	0.0	0.0	32.4	0.7	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	82.6	67.6	12.2	102.4	21.3	141.8	43.6	11.4	97.1	77.3	27.5
Queue Length 50th (ft)	31	201	0	~760	256	~151	172	334	122	244	15
Queue Length 95th (ft)	70	249	50	#897	515	#350	183	27	#207	#347	52
Internal Link Dist (ft)		238			389		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	78	748	312	1442	1843	183	659	1807	284	567	279
Starvation Cap Reductn	0	0	0	102	225	0	0	314	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	0.44	0.82	0.29	1.12	0.81	1.02	0.71	0.54	0.91	0.91	0.16

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	31	566	82	1383	970	231	171	432	736	237	473	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3136		1678	3355	2706	3255	3240	1470
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3136		1678	3355	2706	3255	3240	1470
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	615	89	1503	1054	251	186	470	800	258	514	45
RTOR Reduction (vph)	0	0	75	0	14	0	0	0	0	0	0	21
Lane Group Flow (vph)	34	615	14	1503	1291	0	186	470	800	258	514	24
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	4.2	20.8	20.8	62.0	78.6		15.2	26.0	93.5	12.2	23.0	23.0
Effective Green, g (s)	4.2	22.3	22.3	62.0	80.1		15.2	27.5	88.0	12.2	24.5	24.5
Actuated g/C Ratio	0.03	0.16	0.16	0.44	0.57		0.11	0.20	0.63	0.09	0.18	0.18
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	47	741	235	1442	1794		182	659	1701	284	567	257
v/s Ratio Prot	0.02	c0.13		c0.46	0.41		c0.11	c0.14	0.30	0.08	c0.16	
v/s Ratio Perm			0.01									0.02
v/c Ratio	0.72	0.83	0.06	1.04	0.72		1.02	0.71	0.47	0.91	0.91	0.09
Uniform Delay, d1	67.3	57.0	50.0	39.0	21.8		62.4	52.6	13.7	63.3	56.6	48.4
Progression Factor	1.00	1.00	1.00	0.95	0.88		1.21	0.70	0.94	1.00	1.00	1.00
Incremental Delay, d2	44.8	10.4	0.5	33.7	2.1		71.9	3.8	0.3	30.9	18.4	0.2
Delay (s)	112.1	67.4	50.4	70.6	21.3		147.1	40.8	13.1	94.3	75.0	48.6
Level of Service	F	E	D	E	C		F	D	B	F	E	D
Approach Delay (s)		67.5			47.7			39.2			79.7	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM Average Control Delay	52.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	189	1499	253	1908	150	153	89	368
v/c Ratio	0.96	0.59	0.79	0.80	0.61	0.61	0.28	0.88
Control Delay	104.5	20.7	77.0	26.5	64.0	63.8	10.5	57.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.5	20.7	77.0	26.5	64.0	63.8	10.5	57.9
Queue Length 50th (ft)	174	246	235	361	137	141	0	99
Queue Length 95th (ft)	#337	374	m246	m#716	189	191	44	#190
Internal Link Dist (ft)		660		577		351		533
Turn Bay Length (ft)	125		180		200			
Base Capacity (vph)	197	2556	333	2393	403	412	463	417
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	0.96	0.59	0.76	0.80	0.37	0.37	0.19	0.88

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	174	1030	349	233	1693	63	226	52	82	41	116	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.86		1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	5622		1678	4625		1539	1571	1512		3031	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1620	5622		1678	4625		1539	1571	1512		3031	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	189	1120	379	253	1840	68	246	57	89	45	126	197
RTOR Reduction (vph)	0	37	0	0	2	0	0	0	75	0	149	0
Lane Group Flow (vph)	189	1462	0	253	1906	0	150	153	14	0	219	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases									8			
Actuated Green, G (s)	16.0	61.8		25.6	71.4		21.7	21.7	21.7		11.7	
Effective Green, g (s)	17.0	62.8		26.6	72.4		22.3	22.3	22.3		12.3	
Actuated g/C Ratio	0.12	0.45		0.19	0.52		0.16	0.16	0.16		0.09	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	197	2522		319	2392		245	250	241		266	
v/s Ratio Prot	c0.12	0.26		0.15	c0.41		c0.10	0.10			c0.07	
v/s Ratio Perm									0.01			
v/c Ratio	0.96	0.58		0.79	0.80		0.61	0.61	0.06		0.82	
Uniform Delay, d1	61.2	28.8		54.1	27.8		54.8	54.8	49.9		62.8	
Progression Factor	0.83	0.68		1.25	0.85		1.00	1.00	1.00		1.00	
Incremental Delay, d2	50.7	0.9		7.3	1.5		5.1	5.0	0.1		19.1	
Delay (s)	101.7	20.4		75.1	25.2		59.9	59.8	50.1		81.9	
Level of Service	F	C		E	C		E	E	D		F	
Approach Delay (s)		29.5			31.0			57.7			81.9	
Approach LOS		C			C			E			F	

Intersection Summary			
HCM Average Control Delay	36.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	152	1212	439	1503	263	248	226	54	610
v/c Ratio	0.87	0.83	0.96	0.95	0.98	0.28	0.37	0.47	0.90
Control Delay	85.3	32.4	83.0	48.2	112.5	41.4	6.5	80.1	66.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.3	32.4	83.0	48.2	112.5	41.4	6.5	80.1	66.2
Queue Length 50th (ft)	133	110	394	684	125	94	0	25	264
Queue Length 95th (ft)	m#258	254	#609	#861	#217	134	64	49	#359
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	174	1467	462	1585	269	886	618	114	708
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.83	0.95	0.95	0.98	0.28	0.37	0.47	0.86

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	764	351	404	1353	29	242	228	208	50	388	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4494		1652	3278		3143	3240	1658	3204	3072	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4494		1652	3278		3143	3240	1658	3204	3072	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	830	382	439	1471	32	263	248	226	54	422	188
RTOR Reduction (vph)	0	59	0	0	1	0	0	0	164	0	37	0
Lane Group Flow (vph)	152	1153	0	439	1502	0	263	248	62	54	573	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	15.2	42.2		38.9	65.9		13.0	38.6	38.6	4.8	30.4	
Effective Green, g (s)	15.1	43.2		38.8	66.9		12.0	38.2	38.2	3.8	30.0	
Actuated g/C Ratio	0.11	0.31		0.28	0.48		0.09	0.27	0.27	0.03	0.21	
Clearance Time (s)	3.9	5.0		3.9	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	175	1387		458	1566		269	884	452	87	658	
v/s Ratio Prot	0.09	c0.26		0.27	c0.46		c0.08	0.08		0.02	c0.19	
v/s Ratio Perm									0.04			
v/c Ratio	0.87	0.83		0.96	0.96		0.98	0.28	0.14	0.62	0.87	
Uniform Delay, d1	61.5	45.0		49.8	35.2		63.9	40.1	38.4	67.4	53.1	
Progression Factor	0.76	0.66		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	30.2	5.2		31.5	14.9		48.3	0.2	0.2	14.6	12.4	
Delay (s)	77.0	34.8		81.3	50.1		112.2	40.3	38.6	82.0	65.6	
Level of Service	E	C		F	D		F	D	D	F	E	
Approach Delay (s)		39.5			57.2			65.4			66.9	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM Average Control Delay	54.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	45	67	265	17	1088	78	880	1270
v/c Ratio	0.38	0.54	0.54	0.22	0.62	0.09	0.87	0.45
Control Delay	59.1	76.4	10.6	77.4	29.2	6.4	46.5	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Total Delay	59.1	76.4	10.6	77.4	29.2	6.4	46.5	9.7
Queue Length 50th (ft)	32	60	0	15	442	16	335	156
Queue Length 95th (ft)	72	107	45	m29	590	m56	395	502
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	171	183	598	78	1741	854	1165	2794
Starvation Cap Reductn	0	0	0	0	0	0	0	845
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	0.26	0.37	0.44	0.22	0.62	0.09	0.76	0.65

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	0	9	60	2	244	16	1001	72	810	1085	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697			1777	2787	1678	3355	1583	3433	3427	
Flt Permitted		0.70			0.74	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1241			1387	2787	1678	3355	1583	3433	3427	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	0	10	65	2	265	17	1088	78	880	1179	91
RTOR Reduction (vph)	0	7	0	0	0	242	0	0	33	0	3	0
Lane Group Flow (vph)	0	38	0	0	67	23	17	1088	45	880	1267	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		12.4			12.4	12.4	2.8	72.6	72.6	41.5	111.3	
Effective Green, g (s)		12.4			12.4	12.4	2.8	72.6	72.6	41.5	111.3	
Actuated g/C Ratio		0.09			0.09	0.09	0.02	0.52	0.52	0.30	0.79	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		110			123	247	34	1740	821	1018	2724	
v/s Ratio Prot							0.01	c0.32		c0.26	0.37	
v/s Ratio Perm		0.03			c0.05	0.01			0.03			
v/c Ratio		0.34			0.54	0.10	0.50	0.63	0.06	0.86	0.47	
Uniform Delay, d1		60.0			61.1	58.6	67.9	24.0	16.7	46.6	4.7	
Progression Factor		1.00			1.00	1.00	1.11	1.07	1.01	0.84	1.86	
Incremental Delay, d2		1.9			4.9	0.2	9.7	1.5	0.1	6.2	0.4	
Delay (s)		61.8			66.0	58.8	85.1	27.1	17.0	45.1	9.1	
Level of Service		E			E	E	F	C	B	D	A	
Approach Delay (s)		61.8			60.3			27.3			23.8	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	186	26	109	92	466	32	531	403	559
v/c Ratio	0.55	0.08	0.49	0.22	0.70	0.21	0.65	0.77	0.31
Control Delay	32.4	10.4	34.0	25.4	9.1	41.5	28.2	35.4	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	10.4	34.0	25.4	9.1	41.5	28.2	35.4	9.3
Queue Length 50th (ft)	73	0	42	33	0	14	105	155	47
Queue Length 95th (ft)	156	19	104	80	84	49	197	#379	134
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	622	566	409	760	835	155	1210	709	2218
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.05	0.27	0.12	0.56	0.21	0.44	0.57	0.25

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	94	24	100	85	429	29	410	78	371	485	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1692	1259	1620	1739	1313	1711	2993		1620	3050	
Flt Permitted		0.82	1.00	0.55	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1424	1259	936	1739	1313	1711	2993		1620	3050	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	102	26	109	92	466	32	446	85	403	527	32
RTOR Reduction (vph)	0	0	20	0	0	357	0	16	0	0	4	0
Lane Group Flow (vph)	0	186	6	109	92	109	32	515	0	403	555	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		16.9	16.9	16.9	16.9	16.9	1.9	21.1		23.0	42.2	
Effective Green, g (s)		16.9	16.9	16.9	16.9	16.9	1.9	21.1		23.0	42.2	
Actuated g/C Ratio		0.23	0.23	0.23	0.23	0.23	0.03	0.29		0.32	0.58	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		332	293	218	405	306	45	871		514	1775	
v/s Ratio Prot					0.05		0.02	c0.17		c0.25	0.18	
v/s Ratio Perm		c0.13	0.00	0.12		0.08						
v/c Ratio		0.56	0.02	0.50	0.23	0.35	0.71	0.59		0.78	0.31	
Uniform Delay, d1		24.5	21.4	24.1	22.5	23.2	35.0	22.0		22.5	7.7	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.2	0.0	1.8	0.3	0.7	41.4	1.3		7.7	0.1	
Delay (s)		26.7	21.5	25.9	22.8	24.0	76.4	23.3		30.2	7.9	
Level of Service		C	C	C	C	C	E	C		C	A	
Approach Delay (s)		26.0			24.1			26.3			17.2	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	72.5	Sum of lost time (s)	11.5
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	220	328	175	586	229	1164	43	1214
v/c Ratio	0.63	0.77	0.75	0.81	0.82	0.86	0.46	0.41	0.81
Control Delay	75.7	74.3	21.7	86.0	60.4	85.2	19.1	89.0	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.7	74.3	21.7	86.0	60.4	85.2	19.1	89.0	13.9
Queue Length 50th (ft)	67	192	39	157	256	203	229	39	421
Queue Length 95th (ft)	#120	#288	157	#271	317	#337	270	83	135
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	230	308	450	228	809	283	2511	114	1494
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.71	0.73	0.77	0.72	0.81	0.46	0.38	0.81

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	202	302	161	406	133	211	839	232	40	1032	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1305	1770	3394		1652	4473		1770	3409	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1305	1770	3394		1652	4473		1770	3409	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	220	328	175	441	145	229	912	252	43	1122	92
RTOR Reduction (vph)	0	0	236	0	24	0	0	33	0	0	4	0
Lane Group Flow (vph)	146	220	92	175	562	0	229	1131	0	43	1210	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	10.5	21.8	21.8	17.2	28.5		22.6	76.7		7.1	61.2	
Effective Green, g (s)	10.5	21.8	21.8	17.2	28.5		22.6	76.7		7.1	61.2	
Actuated g/C Ratio	0.08	0.16	0.16	0.12	0.20		0.16	0.55		0.05	0.44	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	230	287	203	217	691		267	2451		90	1490	
v/s Ratio Prot	0.05	c0.12		0.10	c0.17		c0.14	0.25		0.02	c0.35	
v/s Ratio Perm			0.07									
v/c Ratio	0.63	0.77	0.46	0.81	0.81		0.86	0.46		0.48	0.81	
Uniform Delay, d1	62.9	56.7	53.7	59.8	53.2		57.1	19.1		64.6	34.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.24	0.25	
Incremental Delay, d2	6.3	12.2	2.2	20.2	7.6		23.5	0.6		4.9	4.5	
Delay (s)	69.2	68.9	55.9	80.0	60.9		80.6	19.8		85.1	13.3	
Level of Service	E	E	E	E	E		F	B		F	B	
Approach Delay (s)		62.8			65.3			29.8			15.7	
Approach LOS		E			E			C			B	

Intersection Summary			
HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	75	352	101	1101	16	14	50	61	22
v/c Ratio	0.54	0.29	0.57	0.90	0.14	0.09	0.42	0.32	0.28
Control Delay	63.2	11.6	59.9	29.9	47.8	22.8	57.3	17.4	56.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	11.6	59.9	29.9	47.8	22.8	57.3	17.4	56.4
Queue Length 50th (ft)	50	63	69	546	11	1	34	2	15
Queue Length 95th (ft)	#129	236	124	#1126	32	20	72	41	40
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	140	1210	208	1223	211	273	228	310	79
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.29	0.49	0.90	0.08	0.05	0.22	0.20	0.28

Intersection Summary

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

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	293	31	93	790	223	15	1	12	46	3	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1831		1770	1801		1711	1603		1770	1597	
Flt Permitted	0.95	1.00		0.95	1.00		0.72	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1831		1770	1801		1291	1603		1394	1597	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	318	34	101	859	242	16	1	13	50	3	58
RTOR Reduction (vph)	0	3	0	0	0	0	0	12	0	0	54	0
Lane Group Flow (vph)	75	349	0	101	1101	0	16	2	0	50	7	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	8.7	69.0		10.9	71.2		8.2	8.2		8.2	8.2	
Effective Green, g (s)	8.7	69.0		10.9	71.2		8.2	8.2		8.2	8.2	
Actuated g/C Ratio	0.08	0.63		0.10	0.65		0.07	0.07		0.07	0.07	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	140	1149		175	1166		96	119		104	119	
v/s Ratio Prot	0.04	0.19		c0.06	c0.61			0.00			0.00	
v/s Ratio Perm							0.01			c0.04		
v/c Ratio	0.54	0.30		0.58	0.94		0.17	0.02		0.48	0.06	
Uniform Delay, d1	48.7	9.4		47.3	17.6		47.7	47.2		48.9	47.3	
Progression Factor	0.99	1.01		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.8	0.7		4.6	16.0		0.8	0.1		3.5	0.2	
Delay (s)	52.0	10.2		51.9	33.6		48.5	47.2		52.3	47.5	
Level of Service	D	B		D	C		D	D		D	D	
Approach Delay (s)		17.6			35.1			47.9			49.7	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1096
Flt Permitted	1.00
Satd. Flow (perm)	1096
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	22
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	50%
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	9
Actuated Green, G (s)	3.9
Effective Green, g (s)	3.9
Actuated g/C Ratio	0.04
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	39
v/s Ratio Prot	c0.02
v/s Ratio Perm	
v/c Ratio	0.56
Uniform Delay, d1	52.2
Progression Factor	1.00
Incremental Delay, d2	17.3
Delay (s)	69.6
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	90	320	12	955	67	126	14	78	429
v/c Ratio	0.97	0.26	0.19	0.99	1.06	0.26	0.04	0.27	0.86
Control Delay	138.2	8.5	58.7	52.4	174.7	33.6	14.1	35.2	53.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	138.2	8.5	58.7	52.4	174.7	33.6	14.1	35.2	53.4
Queue Length 50th (ft)	65	74	8	633	~52	70	0	44	265
Queue Length 95th (ft)	#168	143	29	#947	#145	122	16	87	#441
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	93	1240	62	961	63	493	359	289	497
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.26	0.19	0.99	1.06	0.26	0.04	0.27	0.86

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	199	96	11	824	54	62	116	13	72	206	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1918		1711	1702		1652	1863	1320	1638	1764	
Flt Permitted	0.95	1.00		0.95	1.00		0.14	1.00	1.00	0.63	1.00	
Satd. Flow (perm)	1711	1918		1711	1702		239	1863	1320	1092	1764	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	90	216	104	12	896	59	67	126	14	78	224	205
RTOR Reduction (vph)	0	14	0	0	2	0	0	0	10	0	30	0
Lane Group Flow (vph)	90	306	0	12	953	0	67	126	4	78	399	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.0	70.3		0.8	65.1		29.1	29.1	29.1	29.1	29.1	
Effective Green, g (s)	6.0	70.3		0.8	65.1		29.1	29.1	29.1	29.1	29.1	
Actuated g/C Ratio	0.05	0.62		0.01	0.58		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	91	1191		12	979		61	479	339	281	453	
v/s Ratio Prot	c0.05	0.16		0.01	c0.56			0.07			0.23	
v/s Ratio Perm							c0.28		0.00	0.07		
v/c Ratio	0.99	0.26		1.00	0.97		1.10	0.26	0.01	0.28	0.88	
Uniform Delay, d1	53.6	9.7		56.2	23.2		42.0	33.5	31.3	33.6	40.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	90.1	0.2		259.8	22.4		144.9	0.4	0.0	0.7	17.9	
Delay (s)	143.6	9.8		316.0	45.6		187.0	33.9	31.3	34.4	58.2	
Level of Service	F	A		F	D		F	C	C	C	E	
Approach Delay (s)		39.2			49.0			83.3			54.6	
Approach LOS		D			D			F			D	

Intersection Summary			
HCM Average Control Delay	51.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	113.2	Sum of lost time (s)	13.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	191	96	4	28	563	674	13	27	1067
v/c Ratio	1.04	0.23	0.06	0.15	0.99	0.33	0.01	0.27	0.97
Control Delay	122.5	9.8	54.2	25.0	71.7	10.9	8.8	56.4	52.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.5	9.8	54.2	25.0	71.7	10.9	8.8	56.4	52.0
Queue Length 50th (ft)	121	6	2	7	339	95	2	16	303
Queue Length 95th (ft)	#338	46	16	32	#756	216	14	52	#609
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	184	665	65	534	566	2072	920	101	1101
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.14	0.06	0.05	0.99	0.33	0.01	0.27	0.97

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	176	10	78	4	11	15	524	620	12	25	582	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.87		1.00	0.91		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1529		1652	1571		1652	3240	1442	1711	3176	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1529		1652	1571		1652	3240	1442	1711	3176	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	191	11	85	4	12	16	563	674	13	27	633	434
RTOR Reduction (vph)	0	66	0	0	14	0	0	0	2	0	90	0
Lane Group Flow (vph)	191	30	0	4	14	0	563	674	11	27	977	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	11.1	24.1		0.7	13.7		35.3	65.8	65.8	3.5	34.0	
Effective Green, g (s)	11.1	24.1		0.7	13.7		35.3	65.8	65.8	3.5	34.0	
Actuated g/C Ratio	0.10	0.23		0.01	0.13		0.33	0.62	0.62	0.03	0.32	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	178	346		11	202		547	2000	890	56	1013	
v/s Ratio Prot	c0.11	c0.02		0.00	0.01		c0.34	0.21		0.02	c0.31	
v/s Ratio Perm									0.01			
v/c Ratio	1.07	0.09		0.36	0.07		1.03	0.34	0.01	0.48	0.96	
Uniform Delay, d1	47.8	32.6		52.7	40.8		35.6	9.9	7.9	50.7	35.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	88.2	0.1		25.7	0.2		46.2	0.1	0.0	8.7	20.2	
Delay (s)	136.0	32.7		78.5	41.0		81.8	10.0	7.9	59.3	55.9	
Level of Service	F	C		E	D		F	A	A	E	E	
Approach Delay (s)		101.4			45.7			42.3			56.0	
Approach LOS		F			D			D			E	

Intersection Summary			
HCM Average Control Delay	54.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	106.6	Sum of lost time (s)	9.5
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	38	7	17	1348	1502
v/c Ratio	0.27	0.06	0.07	0.47	0.53
Control Delay	49.5	24.2	3.2	3.2	3.6
Queue Delay	0.0	0.0	0.0	1.1	0.0
Total Delay	49.5	24.2	3.2	4.2	3.6
Queue Length 50th (ft)	26	0	1	92	111
Queue Length 95th (ft)	54	13	9	221	267
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	300	248	245	2874	2848
Starvation Cap Reductn	0	0	0	1184	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.03	0.07	0.80	0.53

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	6	16	1240	1299	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3209	
Flt Permitted	0.95	1.00	0.16	1.00	1.00	
Satd. Flow (perm)	1652	1330	277	3240	3209	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	7	17	1348	1412	90
RTOR Reduction (vph)	0	7	0	0	2	0
Lane Group Flow (vph)	38	0	17	1348	1500	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	7.0	7.0	94.0	94.0	94.0	
Effective Green, g (s)	7.0	7.0	94.0	94.0	94.0	
Actuated g/C Ratio	0.06	0.06	0.85	0.85	0.85	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	105	85	237	2769	2742	
v/s Ratio Prot	c0.02			0.42	c0.47	
v/s Ratio Perm		0.00	0.06			
v/c Ratio	0.36	0.01	0.07	0.49	0.55	
Uniform Delay, d1	49.4	48.2	1.2	2.0	2.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	0.0	0.6	0.6	0.8	
Delay (s)	51.5	48.3	1.8	2.6	3.0	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.6	3.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	3.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1097	778	1079	2077	763	876
v/c Ratio	0.66	0.58	0.98	1.09	0.50	0.91
Control Delay	23.0	20.9	56.3	69.2	1.2	60.6
Queue Delay	0.6	0.3	0.0	0.0	0.0	0.0
Total Delay	23.6	21.2	56.3	69.2	1.2	60.6
Queue Length 50th (ft)	278	201	481	~1116	0	336
Queue Length 95th (ft)	316	238	m#601	m#1227	0	#436
Internal Link Dist (ft)	248			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1671	1336	1105	1909	1517	967
Starvation Cap Reductn	228	148	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	0.76	0.65	0.98	1.09	0.50	0.91

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1009	716	993	1911	0	0	0	702	0	0	806
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.76
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3020	2378	2828	3020				1517			3187
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			3187
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1097	778	1079	2077	0	0	0	763	0	0	876
RTOR Reduction (vph)	0	0	20	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1097	758	1079	2077	0	0	0	763	0	0	876
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		76.5	76.5	54.5	88.5				140.0			42.5
Effective Green, g (s)		76.5	76.5	54.5	88.5				140.0			42.5
Actuated g/C Ratio		0.55	0.55	0.39	0.63				1.00			0.30
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		1650	1299	1101	1909				1517			967
v/s Ratio Prot		0.36		0.38	c0.69							
v/s Ratio Perm			0.32						0.50			c0.27
v/c Ratio		0.66	0.58	0.98	1.09				0.50			0.91
Uniform Delay, d1		22.6	21.1	42.2	25.8				0.0			46.8
Progression Factor		0.95	0.98	0.98	0.92				1.00			1.00
Incremental Delay, d2		2.0	1.8	14.6	44.7				1.2			13.6
Delay (s)		23.4	22.5	56.1	68.5				1.2			60.4
Level of Service		C	C	E	E				A			E
Approach Delay (s)		23.0			64.2			1.2			60.4	
Approach LOS		C			E			A			E	

Intersection Summary			
HCM Average Control Delay	44.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	627	1182	1638	516	565	1468
v/c Ratio	0.80	0.35	0.78	0.53	0.35	0.96
Control Delay	31.7	0.2	16.7	8.7	0.6	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	0.2	16.7	8.7	0.6	18.5
Queue Length 50th (ft)	173	0	535	201	0	0
Queue Length 95th (ft)	227	0	293	m135	0	#183
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	831	3355	2093	972	1611	1528
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	0.75	0.35	0.78	0.53	0.35	0.96

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	577	1087	0	0	1507	475	0	0	520	0	0	1351
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	627	1182	0	0	1638	516	0	0	565	0	0	1468
RTOR Reduction (vph)	0	0	0	0	0	17	0	0	0	0	0	0
Lane Group Flow (vph)	627	1182	0	0	1638	499	0	0	565	0	0	1468
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	17.3	70.0			43.7	43.7			70.0			70.0
Effective Green, g (s)	17.3	70.0			43.7	43.7			70.0			70.0
Actuated g/C Ratio	0.25	1.00			0.62	0.62			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	777	3355			2094	956			1611			1528
v/s Ratio Prot	0.20	0.35			0.49							
v/s Ratio Perm						0.33			0.35			c0.96
v/c Ratio	0.81	0.35			0.78	0.52			0.35			0.96
Uniform Delay, d1	24.8	0.0			9.7	7.3			0.0			0.0
Progression Factor	0.99	1.00			1.45	1.05			1.00			1.00
Incremental Delay, d2	5.0	0.2			1.9	1.3			0.6			15.4
Delay (s)	29.7	0.2			15.9	9.0			0.6			15.4
Level of Service	C	A			B	A			A			B
Approach Delay (s)		10.4			14.3			0.6			15.4	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	393	392	486	666	21	835	1113	11	74	998	550
v/c Ratio	1.59	0.55	0.27	1.46	0.05	1.18	0.75	0.02	0.65	1.25	1.01
Control Delay	306.3	24.9	0.4	247.0	20.1	130.4	23.8	11.7	70.2	153.3	63.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	306.3	24.9	0.4	247.0	20.1	130.4	23.8	11.7	70.2	153.3	63.7
Queue Length 50th (ft)	~296	176	0	~553	6	~317	255	2	42	~404	~236
Queue Length 95th (ft)	#480	267	0	#766	24	#424	352	m7	m#106	#532	#452
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	247	714	1770	457	395	708	1475	546	113	800	542
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	1.59	0.55	0.27	1.46	0.05	1.18	0.75	0.02	0.65	1.25	1.01

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	362	361	447	2	611	19	768	1024	10	68	918	506
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1477	3204	3539	1338	1652	3303	1552
Flt Permitted	0.14	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	240	1739	1770		1737	1477	3204	3539	1338	1652	3303	1552
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	393	392	486	2	664	21	835	1113	11	74	998	550
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	3	0	0	167
Lane Group Flow (vph)	393	392	486	0	666	15	835	1113	8	74	998	383
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	38.5	38.5	95.0		24.5	24.5	20.0	37.7	37.7	4.8	22.0	22.0
Effective Green, g (s)	39.0	39.0	95.0		25.0	25.0	21.0	38.7	37.7	5.3	23.0	23.0
Actuated g/C Ratio	0.41	0.41	1.00		0.26	0.26	0.22	0.41	0.40	0.06	0.24	0.24
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	247	714	1770		457	389	708	1442	531	92	800	376
v/s Ratio Prot	c0.17	0.23					c0.26	0.31		0.04	c0.30	
v/s Ratio Perm	c0.49		0.27		0.38	0.01			0.01			0.25
v/c Ratio	1.59	0.55	0.27		1.46	0.04	1.18	0.77	0.02	0.80	1.25	1.02
Uniform Delay, d1	23.8	21.3	0.0		35.0	26.1	37.0	24.3	17.4	44.3	36.0	36.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.04	0.82	0.81	0.99	0.95	0.89
Incremental Delay, d2	284.3	1.1	0.4		217.7	0.1	94.8	4.0	0.1	38.8	121.7	51.3
Delay (s)	308.2	22.4	0.4		252.7	26.1	133.3	23.9	14.1	82.7	155.8	83.4
Level of Service	F	C	A		F	C	F	C	B	F	F	F
Approach Delay (s)		102.3			245.7			70.5			127.9	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	116.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	14	1	1320	83	2067
v/c Ratio	0.21	0.12	0.01	0.29	0.28	0.65
Control Delay	63.5	25.2	1.0	2.4	1.0	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	63.5	25.2	1.0	2.4	1.0	1.9
Queue Length 50th (ft)	16	0	0	138	0	4
Queue Length 95th (ft)	39	21	m0	187	m2	m26
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		150	
Base Capacity (vph)	195	236	128	4489	300	3156
Starvation Cap Reductn	0	0	0	0	0	275
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.06	0.01	0.29	0.28	0.72

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	16	1	13	1	1188	27	76	1898	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00	1.00	0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00	1.00	1.00		1.00	1.00	
Frt					1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1572	1395	1652	4935		1618	3470	
Flt Permitted					0.74	1.00	0.08	1.00		0.19	1.00	
Satd. Flow (perm)					1214	1395	141	4935		331	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	17	1	14	1	1291	29	83	2063	4
RTOR Reduction (vph)	0	0	0	0	0	13	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	18	1	1	1319	0	83	2067	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					7.5	7.5	123.9	123.9		123.9	123.9	
Effective Green, g (s)					7.5	7.5	123.9	123.9		123.9	123.9	
Actuated g/C Ratio					0.05	0.05	0.89	0.89		0.89	0.89	
Clearance Time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)					65	75	125	4367		293	3071	
v/s Ratio Prot								0.27			c0.60	
v/s Ratio Perm					c0.01	0.00	0.01			0.25		
v/c Ratio					0.28	0.01	0.01	0.30		0.28	0.67	
Uniform Delay, d1					63.6	62.7	0.9	1.3		1.2	2.3	
Progression Factor					1.00	1.00	0.55	1.32		0.09	0.41	
Incremental Delay, d2					2.3	0.1	0.1	0.1		0.7	0.4	
Delay (s)					66.0	62.8	0.6	1.8		0.9	1.3	
Level of Service					E	E	A	A		A	A	
Approach Delay (s)		0.0			64.6			1.8			1.3	
Approach LOS		A			E			A			A	

Intersection Summary			
HCM Average Control Delay	2.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	75	440	1212	57	64
v/c Ratio	0.47	0.27	0.47	0.39	0.34
Control Delay	56.2	2.4	3.8	55.0	16.6
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay	56.2	2.4	4.0	55.0	16.6
Queue Length 50th (ft)	51	48	62	39	0
Queue Length 95th (ft)	95	88	m103	78	40
Internal Link Dist (ft)		522	524	160	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	205	1609	2590	378	389
Starvation Cap Reductn	0	0	523	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.37	0.27	0.59	0.15	0.16

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	69	405	892	223	52	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3433		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3433		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	440	970	242	57	64
RTOR Reduction (vph)	0	0	12	0	0	59
Lane Group Flow (vph)	75	440	1200	0	57	5
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	8.8	93.2	79.9		7.8	7.8
Effective Green, g (s)	8.8	93.2	79.9		7.8	7.8
Actuated g/C Ratio	0.08	0.85	0.73		0.07	0.07
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	142	1578	2494		126	112
v/s Ratio Prot	c0.04	0.24	c0.35		c0.03	
v/s Ratio Perm						0.00
v/c Ratio	0.53	0.28	0.48		0.45	0.04
Uniform Delay, d1	48.6	1.7	6.3		49.0	47.6
Progression Factor	1.00	1.00	0.47		1.00	1.00
Incremental Delay, d2	3.5	0.4	0.5		2.6	0.1
Delay (s)	52.1	2.1	3.5		51.6	47.8
Level of Service	D	A	A		D	D
Approach Delay (s)		9.4	3.5		49.6	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1684	217	2809	164
v/c Ratio	0.39	0.62	0.55	0.49
Control Delay	3.9	26.6	0.0	26.6
Queue Delay	0.0	0.0	0.1	0.2
Total Delay	3.9	26.6	0.2	26.7
Queue Length 50th (ft)	122	97	0	56
Queue Length 95th (ft)	122	m85	m0	100
Internal Link Dist (ft)	389		248	
Turn Bay Length (ft)				
Base Capacity (vph)	4315	569	5085	529
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	103	0	907	59
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.38	0.67	0.35

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1539	10	200	2584	0	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6402		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6402		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1673	11	217	2809	0	164
RTOR Reduction (vph)	1	0	0	0	0	14
Lane Group Flow (vph)	1683	0	217	2809	0	150
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	47.2		13.8	70.0		13.8
Effective Green, g (s)	47.2		13.8	70.0		13.8
Actuated g/C Ratio	0.67		0.20	1.00		0.20
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	4317		349	5085		318
v/s Ratio Prot	0.26		0.12	c0.55		0.09
v/s Ratio Perm						
v/c Ratio	0.39		0.62	0.55		0.47
Uniform Delay, d1	5.0		25.7	0.0		24.9
Progression Factor	0.69		1.03	1.00		1.00
Incremental Delay, d2	0.2		0.3	0.0		1.1
Delay (s)	3.7		26.9	0.0		26.0
Level of Service	A		C	A		C
Approach Delay (s)	3.7			2.0	26.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	3.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	114	183	315	58	1488	46	1213	451	993	1047	70
v/c Ratio	1.48	0.51	0.49	0.08	0.90	0.72	1.05	0.44	1.98	0.85	0.12
Control Delay	316.7	47.7	38.1	23.6	32.0	117.5	91.2	3.2	477.4	48.6	10.3
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	316.7	47.7	38.1	23.6	32.0	117.5	91.2	3.2	477.4	48.6	10.3
Queue Length 50th (ft)	~143	63	213	31	630	42	~442	20	~728	471	8
Queue Length 95th (ft)	#275	93	358	59	785	#111	#539	53	#862	568	43
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	77	1077	638	739	1648	68	1155	1034	502	1229	607
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	1.48	0.17	0.49	0.08	0.90	0.68	1.05	0.44	1.98	0.85	0.12

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	120	49	290	53	1369	42	1116	415	914	963	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3057		1678	1689	2642	1620	4655	1449	3143	3240	1512
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3057		1678	1689	2642	1620	4655	1449	3143	3240	1512
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	130	53	315	58	1488	46	1213	451	993	1047	70
RTOR Reduction (vph)	0	43	0	0	0	4	0	0	125	0	0	35
Lane Group Flow (vph)	114	140	0	315	58	1484	46	1213	326	993	1047	35
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	6.5	14.6		53.6	61.7	88.7	4.7	35.7	89.3	22.5	53.5	53.5
Effective Green, g (s)	6.5	14.6		53.6	61.7	88.7	4.7	35.7	89.3	22.5	53.5	53.5
Actuated g/C Ratio	0.05	0.10		0.38	0.44	0.63	0.03	0.25	0.63	0.16	0.38	0.38
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	4.5	4.5
Lane Grp Cap (vph)	77	315		635	735	1654	54	1173	913	499	1223	571
v/s Ratio Prot	c0.07	0.05		0.19	0.03	c0.56	0.03	c0.26	0.22	c0.32	0.32	
v/s Ratio Perm												0.02
v/c Ratio	1.48	0.44		0.50	0.08	0.90	0.85	1.03	0.36	1.99	0.86	0.06
Uniform Delay, d1	67.6	59.7		33.7	23.4	22.6	68.2	53.0	12.5	59.6	40.6	28.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	273.2	1.7		0.2	0.1	7.0	68.8	35.5	0.3	452.6	6.5	0.1
Delay (s)	340.8	61.5		33.9	23.4	29.6	137.0	88.5	12.8	512.2	47.1	28.2
Level of Service	F	E		C	C	C	F	F	B	F	D	C
Approach Delay (s)		168.7			30.1			69.8			265.4	
Approach LOS		F			C			E			F	

Intersection Summary			
HCM Average Control Delay	131.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	141.7	Sum of lost time (s)	15.3
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	1360	157	1490	634	74	290	901	557
v/c Ratio	1.05	1.04	0.80	1.08	0.68	0.58	0.99	1.08	1.02
Control Delay	130.3	67.1	72.7	66.0	2.9	65.5	67.8	90.9	67.0
Queue Delay	0.0	232.4	0.0	15.5	1.6	0.0	53.2	5.2	0.0
Total Delay	130.3	299.5	72.7	81.5	4.5	65.5	121.0	96.1	67.0
Queue Length 50th (ft)	~132	~536	90	~592	0	49	62	~348	~263
Queue Length 95th (ft)	#270	#674	m126	m#689	m23	#108	#238	#471	#489
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	170	1309	216	1375	934	128	293	838	547
Starvation Cap Reductn	0	0	0	45	151	0	0	0	0
Spillback Cap Reductn	0	442	0	0	0	0	40	10	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	1.57	0.73	1.12	0.81	0.58	1.15	1.09	1.02

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	165	1241	10	144	1371	583	68	3	264	829	57	455
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3174		1620	3209	1435	1678	1431		3143	1420	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3174		1620	3209	1435	1678	1431		3143	1420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	1349	11	157	1490	634	74	3	287	901	62	495
RTOR Reduction (vph)	0	1	0	0	0	305	0	184	0	0	168	0
Lane Group Flow (vph)	179	1359	0	157	1490	329	74	106	0	901	389	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	11.0	43.3		12.7	45.0	45.0	8.0	8.0		28.0	28.0	
Effective Green, g (s)	11.0	43.3		12.7	45.0	46.0	8.0	8.0		28.0	28.0	
Actuated g/C Ratio	0.10	0.41		0.12	0.43	0.44	0.08	0.08		0.27	0.27	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	170	1309		196	1375	629	128	109		838	379	
v/s Ratio Prot	0.11	c0.43		0.10	c0.46		0.04	c0.07		c0.29	0.27	
v/s Ratio Perm						0.23						
v/c Ratio	1.05	1.04		0.80	1.08	0.52	0.58	0.97		1.08	1.03	
Uniform Delay, d1	47.0	30.9		44.9	30.0	21.5	46.9	48.4		38.5	38.5	
Progression Factor	1.00	1.00		1.20	0.58	0.09	1.00	1.00		1.00	1.00	
Incremental Delay, d2	83.7	35.5		13.0	46.3	2.0	3.9	77.1		53.3	53.2	
Delay (s)	130.7	66.3		66.7	63.6	4.0	50.8	125.5		91.8	91.7	
Level of Service	F	E		E	E	A	D	F		F	F	
Approach Delay (s)		73.8			47.2			110.3			91.8	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM Average Control Delay	70.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	87	2564	322	1969	365	849	83	54
v/c Ratio	0.58	1.11	0.91	0.76	1.06	0.99	0.93	0.48
Control Delay	40.8	69.9	70.0	16.9	106.6	57.1	129.5	39.4
Queue Delay	0.0	70.1	0.0	1.0	0.0	0.0	0.0	0.2
Total Delay	40.8	140.0	70.0	17.8	106.6	57.1	129.5	39.7
Queue Length 50th (ft)	53	~711	108	312	~270	253	57	14
Queue Length 95th (ft)	m53	m#660	m#153	408	#452	#330	#154	#55
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	170	2318	353	2602	345	858	89	112
Starvation Cap Reductn	0	290	0	185	0	0	0	0
Spillback Cap Reductn	0	0	0	350	0	0	0	2
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	1.26	0.91	0.87	1.06	0.99	0.93	0.49

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	2168	190	296	1672	140	298	38	781	76	19	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4513		3143	4713			1808	2802	1562	1422	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4513		3143	4713			1808	2802	1562	1422	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	2357	207	322	1817	152	324	41	849	83	21	33
RTOR Reduction (vph)	0	10	0	0	9	0	0	0	23	0	31	0
Lane Group Flow (vph)	87	2554	0	322	1960	0	0	365	826	83	23	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	8.8	53.7		11.8	57.2			20.0	31.8	6.0	6.0	
Effective Green, g (s)	8.8	53.7		11.8	57.2			20.0	31.8	6.0	6.0	
Actuated g/C Ratio	0.08	0.51		0.11	0.54			0.19	0.30	0.06	0.06	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	136	2308		353	2567			344	849	89	81	
v/s Ratio Prot	0.05	c0.57		0.10	0.42			c0.20	c0.11	c0.05	0.02	
v/s Ratio Perm									0.19			
v/c Ratio	0.64	1.11		0.91	0.76			1.06	0.97	0.93	0.28	
Uniform Delay, d1	46.6	25.6		46.1	18.6			42.5	36.2	49.3	47.4	
Progression Factor	0.86	0.77		1.10	0.83			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	48.7		16.5	1.2			65.6	24.2	72.3	0.7	
Delay (s)	40.9	68.5		67.1	16.6			108.1	60.3	121.6	48.1	
Level of Service	D	E		E	B			F	E	F	D	
Approach Delay (s)		67.6			23.7			74.7			92.6	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM Average Control Delay	53.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1729	653	2073	538	422	426
v/c Ratio	0.48	0.26	0.85	0.43	0.71	0.76
Control Delay	3.9	0.0	12.8	1.4	47.7	46.2
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	0.0	12.8	1.4	47.7	46.2
Queue Length 50th (ft)	106	0	407	0	138	138
Queue Length 95th (ft)	m96	m0	533	23	192	#201
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3609	2521	2449	1246	601	562
Starvation Cap Reductn	820	0	0	0	0	0
Spillback Cap Reductn	0	0	4	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.26	0.85	0.43	0.70	0.76

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1591	601	0	1907	495	0	0	0	388	0	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1729	653	0	2073	538	0	0	0	422	0	426
RTOR Reduction (vph)	0	0	0	0	0	133	0	0	0	0	0	39
Lane Group Flow (vph)	0	1729	653	0	2073	405	0	0	0	422	0	387
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		4
Permitted Phases			2 4			6				4		
Actuated Green, G (s)		79.1	105.0		79.1	79.1				17.9		17.9
Effective Green, g (s)		80.1	105.0		80.1	79.1				18.9		18.9
Actuated g/C Ratio		0.76	1.00		0.76	0.75				0.18		0.18
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3608	2533		2448	1113				597		520
v/s Ratio Prot		0.37			c0.65					0.13		c0.13
v/s Ratio Perm			0.26			0.27						
v/c Ratio		0.48	0.26		0.85	0.36				0.71		0.74
Uniform Delay, d1		4.7	0.0		8.3	4.4				40.4		40.8
Progression Factor		0.82	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.0	0.0		3.8	0.9				4.1		6.1
Delay (s)		3.9	0.0		12.2	5.3				44.5		46.8
Level of Service		A	A		B	A				D		D
Approach Delay (s)		2.8			10.8			0.0			45.7	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	618	45	39	271	190	428
v/c Ratio	0.86	0.07	0.39	0.33	0.28	0.49
Control Delay	29.9	3.6	41.0	14.2	17.5	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	3.6	41.0	14.2	17.5	4.5
Queue Length 50th (ft)	197	0	15	71	48	0
Queue Length 95th (ft)	#365	14	#44	127	113	60
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	800	739	100	819	680	879
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	0.77	0.06	0.39	0.33	0.28	0.49

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	569	41	36	249	175	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1560
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	618	45	39	271	190	428
RTOR Reduction (vph)	0	26	0	0	0	273
Lane Group Flow (vph)	618	19	39	271	190	155
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	27.9	27.9	1.6	29.1	23.5	23.5
Effective Green, g (s)	27.9	27.9	1.6	29.1	23.5	23.5
Actuated g/C Ratio	0.43	0.43	0.02	0.45	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	720	644	40	818	616	564
v/s Ratio Prot	c0.37		c0.02	c0.15	0.11	
v/s Ratio Perm		0.01				0.10
v/c Ratio	0.86	0.03	0.97	0.33	0.31	0.27
Uniform Delay, d1	16.8	10.7	31.7	11.6	14.9	14.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.0	0.0	131.6	1.1	1.3	1.2
Delay (s)	26.7	10.7	163.3	12.7	16.2	15.9
Level of Service	C	B	F	B	B	B
Approach Delay (s)	25.6			31.7	16.0	
Approach LOS	C			C	B	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	181	145	14	1304	202	1272
v/c Ratio	0.41	0.53	0.40	0.09	0.74	1.43	0.71
Control Delay	17.6	22.8	14.9	9.6	13.8	250.6	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	22.8	14.9	9.6	13.8	250.6	13.3
Queue Length 50th (ft)	34	49	27	2	133	~90	128
Queue Length 95th (ft)	73	96	64	13	#367	#195	#352
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	595	577	581	155	1769	141	1781
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	0.25	0.31	0.25	0.09	0.74	1.43	0.71

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	80	21	91	75	133	13	1074	126	186	1127	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1529			1685	1305	1618	3022		1561	3058	
Flt Permitted		0.89			0.78	1.00	0.16	1.00		0.15	1.00	
Satd. Flow (perm)		1372			1352	1305	266	3022		242	3058	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	87	23	99	82	145	14	1167	137	202	1225	47
RTOR Reduction (vph)	0	13	0	0	0	31	0	11	0	0	3	0
Lane Group Flow (vph)	0	135	0	0	181	114	14	1293	0	202	1269	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		14.4			14.4	14.4	32.9	32.9		32.9	32.9	
Effective Green, g (s)		14.4			14.4	14.4	32.9	32.9		32.9	32.9	
Actuated g/C Ratio		0.25			0.25	0.25	0.58	0.58		0.58	0.58	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		350			345	333	155	1760		141	1781	
v/s Ratio Prot								0.43			0.41	
v/s Ratio Perm		0.10			c0.13	0.09	0.05			c0.83		
v/c Ratio		0.39			0.52	0.34	0.09	0.73		1.43	0.71	
Uniform Delay, d1		17.4			18.1	17.2	5.2	8.6		11.8	8.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			1.9	0.8	0.3	1.7		230.4	1.5	
Delay (s)		18.4			20.0	18.0	5.5	10.3		242.2	9.9	
Level of Service		B			B	B	A	B		F	A	
Approach Delay (s)		18.4			19.1			10.3			41.7	
Approach LOS		B			B			B			D	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	56.5	Sum of lost time (s)	9.2
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	43	511	340	234	164	26
v/c Ratio	0.34	0.36	0.29	0.17	0.68	0.11
Control Delay	54.9	5.5	11.3	1.1	57.8	14.2
Queue Delay	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	54.9	5.5	11.6	1.1	57.8	14.2
Queue Length 50th (ft)	29	96	92	0	111	0
Queue Length 95th (ft)	65	184	194	22	172	24
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	151	1403	1181	1491	454	411
Starvation Cap Reductn	0	0	411	0	0	0
Spillback Cap Reductn	0	11	0	0	2	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.37	0.44	0.16	0.36	0.06

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	40	470	313	215	151	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1570	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1570	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	511	340	234	164	26
RTOR Reduction (vph)	0	0	0	39	0	22
Lane Group Flow (vph)	43	511	340	195	164	4
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	5.9	84.5	74.6	91.5	16.9	16.9
Effective Green, g (s)	5.9	84.5	74.6	91.5	16.9	16.9
Actuated g/C Ratio	0.05	0.77	0.68	0.83	0.15	0.15
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	87	1403	1156	1306	240	207
v/s Ratio Prot	c0.03	c0.28	0.20	0.02	c0.10	
v/s Ratio Perm				0.10		0.00
v/c Ratio	0.49	0.36	0.29	0.15	0.68	0.02
Uniform Delay, d1	50.6	4.1	7.1	1.8	44.0	39.5
Progression Factor	1.00	1.00	1.23	3.37	1.00	1.00
Incremental Delay, d2	4.4	0.7	0.6	0.0	7.8	0.0
Delay (s)	55.0	4.8	9.3	6.0	51.8	39.6
Level of Service	D	A	A	A	D	D
Approach Delay (s)		8.7	8.0		50.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	401	273	175	193	367	487	3
v/c Ratio	0.54	0.35	0.73	0.18	0.75	0.74	0.04
Control Delay	22.8	2.5	62.6	11.4	45.0	19.6	45.3
Queue Delay	0.9	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	23.7	2.7	62.6	11.4	45.0	19.6	45.3
Queue Length 50th (ft)	140	0	119	54	231	107	1
Queue Length 95th (ft)	287	19	#218	119	323	214	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	744	777	241	1046	566	656	83
Starvation Cap Reductn	142	96	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	0.67	0.40	0.73	0.18	0.65	0.74	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	369	251	161	177	1	336	2	448	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		0.90	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1759	1465	1562	1703			1682	1727		1538	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)		1759	1465	1562	1703			1682	1727		1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	401	273	175	192	1	365	2	487	1	1	1
RTOR Reduction (vph)	0	0	166	0	0	0	0	0	229	0	1	0
Lane Group Flow (vph)	0	401	107	175	193	0	0	367	258	0	2	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		43.3	43.3	17.0	64.3			32.1	27.6		1.0	
Effective Green, g (s)		43.3	43.3	17.0	64.3			27.6	27.6		1.0	
Actuated g/C Ratio		0.39	0.39	0.15	0.58			0.25	0.25		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		692	577	241	995			422	504		14	
v/s Ratio Prot		c0.23		c0.11	0.11			c0.22	0.05		c0.00	
v/s Ratio Perm			0.07						0.10			
v/c Ratio		0.58	0.19	0.73	0.19			0.87	0.51		0.14	
Uniform Delay, d1		26.2	21.8	44.3	10.7			39.5	35.4		54.1	
Progression Factor		0.76	0.41	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.3	0.7	10.4	0.4			17.1	0.9		4.7	
Delay (s)		23.3	9.5	54.7	11.1			56.6	36.3		58.8	
Level of Service		C	A	D	B			E	D		E	
Approach Delay (s)		17.7			31.8			45.0			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	32.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	61	140	25	222	249	364	26	791	116	362	971
v/c Ratio	0.45	0.59	0.11	0.79	0.56	0.58	0.29	0.85	0.28	0.86	0.59
Control Delay	66.3	59.6	17.5	69.8	46.1	8.0	67.0	50.0	25.5	62.0	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	59.6	17.5	69.8	46.1	8.0	67.0	50.0	25.5	62.0	21.7
Queue Length 50th (ft)	47	106	0	171	180	0	20	307	45	269	277
Queue Length 95th (ft)	100	178	26	#335	276	84	55	#461	106	#455	392
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	157	424	372	297	591	712	95	1021	447	509	1747
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	0.39	0.33	0.07	0.75	0.42	0.51	0.27	0.77	0.26	0.71	0.56

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	129	23	204	229	335	24	728	107	333	825	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	3.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1444	1620	1739	1392	1652	3240	1331	1620	3040	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1444	1620	1739	1392	1652	3240	1331	1620	3040	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	140	25	222	249	364	26	791	116	362	897	74
RTOR Reduction (vph)	0	0	21	0	0	272	0	0	28	0	4	0
Lane Group Flow (vph)	61	140	4	222	249	92	26	791	88	362	967	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	7.9	16.9	16.9	20.3	30.2	30.2	4.2	35.7	35.7	31.6	63.1	
Effective Green, g (s)	7.8	16.8	16.8	20.2	30.1	30.1	3.2	35.2	35.2	30.6	62.6	
Actuated g/C Ratio	0.07	0.14	0.14	0.17	0.25	0.25	0.03	0.30	0.30	0.26	0.53	
Clearance Time (s)	3.0	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	108	246	204	275	441	353	44	960	394	417	1602	
v/s Ratio Prot	0.04	0.08		c0.14	c0.14		0.02	c0.24		c0.22	0.32	
v/s Ratio Perm			0.00			0.07			0.07			
v/c Ratio	0.56	0.57	0.02	0.81	0.56	0.26	0.59	0.82	0.22	0.87	0.60	
Uniform Delay, d1	53.9	47.6	43.9	47.4	38.6	35.5	57.2	38.9	31.5	42.2	19.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.0	3.6	0.0	16.6	2.0	0.5	22.4	6.1	0.4	17.6	0.7	
Delay (s)	61.8	51.3	43.9	64.0	40.7	36.0	79.6	45.0	31.9	59.8	20.2	
Level of Service	E	D	D	E	D	D	E	D	C	E	C	
Approach Delay (s)		53.3			44.8			44.3			31.0	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	118.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	723	88	1204	826	401	688	1178	414	243	20
v/c Ratio	0.57	0.93	0.27	1.11	0.60	1.11	0.86	0.76	0.87	0.44	0.07
Control Delay	79.0	75.8	11.9	104.5	33.2	123.3	52.8	10.8	76.9	54.5	18.7
Queue Delay	0.0	0.0	0.0	36.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	75.8	11.9	140.6	33.8	123.3	52.8	10.8	76.9	54.5	18.7
Queue Length 50th (ft)	65	240	0	~650	322	~411	277	277	191	105	0
Queue Length 95th (ft)	120	#319	49	#789	387	#620	#388	41	#274	150	24
Internal Link Dist (ft)		238			390		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	145	781	321	1080	1369	360	803	1545	488	567	274
Starvation Cap Reductn	0	0	0	75	220	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	0.51	0.93	0.27	1.20	0.72	1.11	0.86	0.76	0.85	0.43	0.07

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	665	81	1108	575	185	369	633	1084	381	224	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3108		1678	3355	2706	3255	3240	1470
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3108		1678	3355	2706	3255	3240	1470
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	723	88	1204	625	201	401	688	1178	414	243	20
RTOR Reduction (vph)	0	0	73	0	21	0	0	0	0	0	0	17
Lane Group Flow (vph)	74	723	15	1204	805	0	401	688	1178	414	243	3
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	10.0	22.0	22.0	46.4	58.4		30.0	32.0	78.4	20.6	22.6	22.6
Effective Green, g (s)	10.0	23.5	23.5	46.4	59.9		30.0	33.5	78.4	20.6	24.1	24.1
Actuated g/C Ratio	0.07	0.17	0.17	0.33	0.43		0.21	0.24	0.56	0.15	0.17	0.17
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	112	781	248	1079	1330		360	803	1515	479	558	253
v/s Ratio Prot	0.05	c0.16		c0.37	0.26		c0.24	0.21	0.44	c0.13	c0.08	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.66	0.93	0.06	1.12	0.61		1.11	0.86	0.78	0.86	0.44	0.01
Uniform Delay, d1	63.3	57.4	49.0	46.8	30.9		55.0	51.0	24.0	58.3	51.9	48.1
Progression Factor	1.00	1.00	1.00	0.93	1.04		0.87	0.83	0.64	1.00	1.00	1.00
Incremental Delay, d2	14.9	18.5	0.5	64.3	1.9		79.2	8.3	2.4	15.4	0.7	0.0
Delay (s)	78.3	75.9	49.4	107.7	33.9		126.9	50.5	17.9	73.7	52.6	48.1
Level of Service	E	E	D	F	C		F	D	B	E	D	D
Approach Delay (s)		73.5			77.7			47.1			65.4	
Approach LOS		E			E			D			E	

Intersection Summary			
HCM Average Control Delay	63.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	423	2210	299	1434	265	266	178	299
v/c Ratio	1.04	0.96	0.86	0.87	0.78	0.77	0.38	0.87
Control Delay	95.8	42.0	70.1	32.8	66.9	66.1	7.8	51.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.8	42.0	70.1	32.8	66.9	66.1	7.8	51.1
Queue Length 50th (ft)	~414	529	261	362	237	238	0	58
Queue Length 95th (ft)	#631	#653	m#401	m#560	335	335	59	#141
Internal Link Dist (ft)		660		577		351		533
Turn Bay Length (ft)	125		180		200			
Base Capacity (vph)	405	2311	346	1645	402	407	528	344
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	1.04	0.96	0.86	0.87	0.66	0.65	0.34	0.87

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	389	1836	197	275	1275	44	436	52	164	61	52	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.86		1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1620	5772		1678	4627		1539	1559	1514		2978	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1620	5772		1678	4627		1539	1559	1514		2978	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	423	1996	214	299	1386	48	474	57	178	66	57	176
RTOR Reduction (vph)	0	13	0	0	3	0	0	0	139	0	165	0
Lane Group Flow (vph)	423	2197	0	299	1431	0	265	266	39	0	134	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases									8			
Actuated Green, G (s)	34.0	54.8		27.9	48.7		30.3	30.3	30.3		7.8	
Effective Green, g (s)	35.0	55.8		28.9	49.7		30.9	30.9	30.9		8.4	
Actuated g/C Ratio	0.25	0.40		0.21	0.36		0.22	0.22	0.22		0.06	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	405	2301		346	1643		340	344	334		179	
v/s Ratio Prot	c0.26	c0.38		0.18	c0.31		c0.17	0.17			c0.04	
v/s Ratio Perm									0.03			
v/c Ratio	1.04	0.95		0.86	0.87		0.78	0.77	0.12		0.75	
Uniform Delay, d1	52.5	40.9		53.7	42.2		51.3	51.3	43.6		64.8	
Progression Factor	0.84	0.79		0.95	0.63		1.00	1.00	1.00		1.00	
Incremental Delay, d2	52.5	9.3		15.5	5.0		11.4	10.9	0.2		16.4	
Delay (s)	96.6	41.8		66.4	31.4		62.7	62.2	43.9		81.2	
Level of Service	F	D		E	C		E	E	D		F	
Approach Delay (s)		50.6			37.4			57.8			81.2	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM Average Control Delay	49.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	265	1822	170	764	495	295	563	92	701
v/c Ratio	0.88	0.97	0.93	0.71	1.00	0.27	0.80	0.67	0.99
Control Delay	69.6	14.1	111.3	46.3	99.3	34.8	35.1	89.3	83.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	14.1	111.3	46.3	99.3	34.8	35.1	89.3	83.0
Queue Length 50th (ft)	172	28	156	329	~236	103	301	43	328
Queue Length 95th (ft)	m199	m#54	#301	408	#356	142	464	#84	#465
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	331	1871	183	1071	494	1088	702	137	710
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.97	0.93	0.71	1.00	0.27	0.80	0.67	0.99

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	244	1183	493	156	681	22	455	271	518	85	507	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4511		1652	3273		3143	3240	1659	3204	3123	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4511		1652	3273		3143	3240	1659	3204	3123	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	265	1286	536	170	740	24	495	295	563	92	551	150
RTOR Reduction (vph)	0	54	0	0	1	0	0	0	145	0	18	0
Lane Group Flow (vph)	265	1768	0	170	763	0	495	295	418	92	683	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	26.2	55.4		15.6	44.8		23.0	47.4	47.4	7.0	31.4	
Effective Green, g (s)	26.1	56.4		15.5	45.8		22.0	47.0	47.0	6.0	31.0	
Actuated g/C Ratio	0.19	0.40		0.11	0.33		0.16	0.34	0.34	0.04	0.22	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	302	1817		183	1071		494	1088	557	137	692	
v/s Ratio Prot	0.16	c0.39		c0.10	0.23		c0.16	0.09		0.03	c0.22	
v/s Ratio Perm									0.25			
v/c Ratio	0.88	0.97		0.93	0.71		1.00	0.27	0.75	0.67	0.99	
Uniform Delay, d1	55.4	41.1		61.7	41.3		59.0	34.0	41.3	66.0	54.3	
Progression Factor	1.01	0.10		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.4	8.5		46.5	4.0		41.0	0.2	5.8	13.3	30.7	
Delay (s)	67.6	12.7		108.2	45.3		100.0	34.2	47.1	79.3	85.0	
Level of Service	E	B		F	D		F	C	D	E	F	
Approach Delay (s)		19.6			56.8			63.6			84.4	
Approach LOS		B			E			E			F	

Intersection Summary			
HCM Average Control Delay	47.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	95	221	872	3	1266	196	613	871
v/c Ratio	0.49	0.81	0.77	0.04	0.77	0.23	0.88	0.36
Control Delay	48.7	74.5	15.6	54.7	26.3	3.9	67.9	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Total Delay	48.7	74.5	15.6	54.7	26.5	3.9	67.9	4.2
Queue Length 50th (ft)	63	188	86	3	603	20	218	92
Queue Length 95th (ft)	123	#305	176	m4	702	m37	315	107
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	213	300	1171	72	1637	850	748	2440
Starvation Cap Reductn	0	0	0	0	31	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	0.45	0.74	0.74	0.04	0.79	0.23	0.82	0.36

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	3	28	203	0	802	3	1165	180	564	758	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		0.99			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.96			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1686			1770	2787	1678	3355	1583	3433	3438	
Flt Permitted		0.50			0.69	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		867			1291	2787	1678	3355	1583	3433	3438	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	3	30	221	0	872	3	1266	196	613	824	47
RTOR Reduction (vph)	0	12	0	0	0	539	0	0	78	0	3	0
Lane Group Flow (vph)	0	83	0	0	221	333	3	1266	118	613	868	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		29.6			29.6	29.6	1.2	68.3	68.3	28.6	95.7	
Effective Green, g (s)		29.6			29.6	29.6	1.2	68.3	68.3	28.6	95.7	
Actuated g/C Ratio		0.21			0.21	0.21	0.01	0.49	0.49	0.20	0.68	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		183			273	589	14	1637	772	701	2350	
v/s Ratio Prot							0.00	c0.38		c0.18	0.25	
v/s Ratio Perm		0.10			c0.17	0.12			0.07			
v/c Ratio		0.45			0.81	0.57	0.21	0.77	0.15	0.87	0.37	
Uniform Delay, d1		48.2			52.5	49.4	68.9	29.5	19.8	54.0	9.4	
Progression Factor		1.00			1.00	1.00	0.83	0.77	0.57	1.02	0.44	
Incremental Delay, d2		1.8			16.0	1.3	5.3	2.6	0.3	10.5	0.4	
Delay (s)		49.9			68.6	50.7	62.8	25.1	11.6	65.6	4.6	
Level of Service		D			E	D	E	C	B	E	A	
Approach Delay (s)		49.9			54.3			23.4			29.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	38	189	148	486	50	604	516	647
v/c Ratio	0.30	0.12	0.69	0.36	0.71	0.35	0.78	0.87	0.36
Control Delay	29.9	9.8	44.8	30.5	9.5	48.7	35.1	43.0	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	9.8	44.8	30.5	9.5	48.7	35.1	43.0	10.8
Queue Length 50th (ft)	55	0	101	72	0	29	155	274	102
Queue Length 95th (ft)	102	24	176	126	92	67	#230	#480	151
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	526	442	379	575	758	153	919	721	1984
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.09	0.50	0.26	0.64	0.33	0.66	0.72	0.33

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	81	35	174	136	447	46	386	169	475	520	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715	1259	1620	1739	1311	1711	2916		1620	3015	
Flt Permitted		0.92	1.00	0.67	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1593	1259	1146	1739	1311	1711	2916		1620	3015	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	88	38	189	148	486	50	420	184	516	565	82
RTOR Reduction (vph)	0	0	29	0	0	372	0	50	0	0	11	0
Lane Group Flow (vph)	0	114	9	189	148	114	50	554	0	516	636	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		19.6	19.6	19.6	19.6	19.6	3.7	22.3		30.3	48.9	
Effective Green, g (s)		19.6	19.6	19.6	19.6	19.6	3.7	22.3		30.3	48.9	
Actuated g/C Ratio		0.23	0.23	0.23	0.23	0.23	0.04	0.27		0.36	0.58	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		373	295	268	407	307	76	777		586	1761	
v/s Ratio Prot					0.09		0.03	c0.19		c0.32	0.21	
v/s Ratio Perm		0.07	0.01	c0.16		0.09						
v/c Ratio		0.31	0.03	0.71	0.36	0.37	0.66	0.71		0.88	0.36	
Uniform Delay, d1		26.4	24.7	29.4	26.8	26.9	39.4	27.8		25.0	9.2	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5	0.0	8.2	0.6	0.8	18.7	3.3		14.4	0.2	
Delay (s)		26.9	24.8	37.6	27.4	27.6	58.1	31.1		39.4	9.3	
Level of Service		C	C	D	C	C	E	C		D	A	
Approach Delay (s)		26.4			29.9			33.2			22.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	83.7	Sum of lost time (s)	11.5
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	350	489	243	153	685	282	1276	86	933
v/c Ratio	0.76	0.94	0.50	0.90	0.86	0.93	0.67	0.58	0.86
Control Delay	69.0	76.9	17.7	109.4	62.9	93.2	34.4	94.1	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.0	76.9	17.7	109.4	62.9	93.2	34.4	94.1	31.7
Queue Length 50th (ft)	160	433	56	141	308	255	338	82	395
Queue Length 95th (ft)	#240	#642	143	#279	380	#428	395	m131	#300
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	459	532	492	170	858	307	1900	164	1082
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	2	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.92	0.49	0.90	0.80	0.92	0.67	0.52	0.86

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	322	450	224	141	534	97	259	962	212	79	764	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1305	1770	3449		1652	4503		1770	3394	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1305	1770	3449		1652	4503		1770	3394	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	350	489	243	153	580	105	282	1046	230	86	830	103
RTOR Reduction (vph)	0	0	116	0	11	0	0	25	0	0	7	0
Lane Group Flow (vph)	350	489	127	153	674	0	282	1251	0	86	926	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	21.0	39.4	39.4	13.4	31.8		25.6	58.3		11.7	44.4	
Effective Green, g (s)	21.0	39.4	39.4	13.4	31.8		25.6	58.3		11.7	44.4	
Actuated g/C Ratio	0.15	0.28	0.28	0.10	0.23		0.18	0.42		0.08	0.32	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	459	519	367	169	783		302	1875		148	1076	
v/s Ratio Prot	0.11	c0.27		0.09	c0.20		c0.17	0.28		0.05	c0.27	
v/s Ratio Perm			0.10									
v/c Ratio	0.76	0.94	0.34	0.91	0.86		0.93	0.67		0.58	0.86	
Uniform Delay, d1	57.1	49.2	40.0	62.7	52.0		56.4	33.0		61.8	44.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.29	0.51	
Incremental Delay, d2	7.8	25.9	0.8	43.4	9.9		34.9	1.9		6.2	8.4	
Delay (s)	64.9	75.1	40.8	106.1	61.9		91.3	34.9		85.8	31.2	
Level of Service	E	E	D	F	E		F	C		F	C	
Approach Delay (s)		64.1			69.9			45.1			35.8	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	52.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	65	751	22	676	88	74	328	179	48
v/c Ratio	0.59	0.77	0.23	0.78	0.32	0.15	0.90	0.32	0.59
Control Delay	72.6	26.8	55.6	33.6	35.4	8.7	67.3	6.4	76.5
Queue Delay	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.6	28.0	55.6	33.6	35.4	8.7	67.3	6.4	76.5
Queue Length 50th (ft)	43	446	15	444	47	1	210	1	31
Queue Length 95th (ft)	m#82	#616	42	#584	97	37	#399	53	#91
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	113	975	97	906	281	501	372	575	81
Starvation Cap Reductn	0	81	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.84	0.23	0.75	0.31	0.15	0.88	0.31	0.59

Intersection Summary

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.

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	677	14	20	520	102	81	3	65	302	1	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.86		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1856		1770	1817		1711	1595		1770	1585	
Flt Permitted	0.95	1.00		0.95	1.00		0.55	1.00		0.71	1.00	
Satd. Flow (perm)	1770	1856		1770	1817		996	1595		1320	1585	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	736	15	22	565	111	88	3	71	328	1	178
RTOR Reduction (vph)	0	1	0	0	0	0	0	51	0	0	129	0
Lane Group Flow (vph)	65	750	0	22	676	0	88	23	0	328	50	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.7	54.2		2.4	50.9		30.3	30.3		30.3	30.3	
Effective Green, g (s)	5.7	54.2		2.4	50.9		30.3	30.3		30.3	30.3	
Actuated g/C Ratio	0.05	0.49		0.02	0.46		0.28	0.28		0.28	0.28	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	92	915		39	841		274	439		364	437	
v/s Ratio Prot	c0.04	c0.40		0.01	0.37			0.01			0.03	
v/s Ratio Perm							0.09			c0.25		
v/c Ratio	0.71	0.82		0.56	0.80		0.32	0.05		0.90	0.11	
Uniform Delay, d1	51.3	23.8		53.3	25.3		31.7	29.3		38.4	29.8	
Progression Factor	1.10	0.92		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.9	6.6		17.3	8.0		0.7	0.0		24.4	0.1	
Delay (s)	74.1	28.4		70.6	33.3		32.4	29.3		62.8	29.9	
Level of Service	E	C		E	C		C	C		E	C	
Approach Delay (s)		32.0			34.5			31.0			51.2	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR	SWR2
Lane Configurations		
Volume (vph)	40	5
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.5	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1340	
Flt Permitted	1.00	
Satd. Flow (perm)	1340	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	43	5
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	44	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	25%	2%
Parking (#/hr)		
Turn Type	custom	
Protected Phases	9	
Permitted Phases	9	
Actuated Green, G (s)	5.1	
Effective Green, g (s)	5.1	
Actuated g/C Ratio	0.05	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	62	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.71	
Uniform Delay, d1	51.7	
Progression Factor	1.00	
Incremental Delay, d2	32.0	
Delay (s)	83.7	
Level of Service	F	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	249	1060	7	545	60	110	13	41	364
v/c Ratio	0.95	0.95	0.07	0.86	0.44	0.22	0.04	0.13	0.70
Control Delay	77.1	35.8	33.7	36.2	30.1	19.0	8.8	18.2	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.1	35.8	33.7	36.2	30.1	19.0	8.8	18.2	25.7
Queue Length 50th (ft)	100	324	3	190	20	34	0	12	112
Queue Length 95th (ft)	#268	#871	15	#441	53	68	11	33	193
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	263	1111	105	651	209	777	560	495	774
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.95	0.07	0.84	0.29	0.14	0.02	0.08	0.47

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	229	711	264	6	442	60	55	101	12	38	203	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1937		1711	1684		1652	1863	1326	1643	1788	
Flt Permitted	0.95	1.00		0.95	1.00		0.29	1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1711	1937		1711	1684		502	1863	1326	1186	1788	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	249	773	287	7	480	65	60	110	13	41	221	143
RTOR Reduction (vph)	0	14	0	0	6	0	0	0	10	0	36	0
Lane Group Flow (vph)	249	1046	0	7	539	0	60	110	3	41	328	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	10.1	37.2		0.7	27.8		17.9	17.9	17.9	17.9	17.9	
Effective Green, g (s)	10.1	37.2		0.7	27.8		17.9	17.9	17.9	17.9	17.9	
Actuated g/C Ratio	0.15	0.54		0.01	0.40		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	251	1047		17	680		131	485	345	309	465	
v/s Ratio Prot	c0.15	c0.54		0.00	0.32			0.06			c0.18	
v/s Ratio Perm							0.12		0.00	0.03		
v/c Ratio	0.99	1.00		0.41	0.79		0.46	0.23	0.01	0.13	0.70	
Uniform Delay, d1	29.3	15.8		33.8	18.0		21.4	20.0	18.9	19.5	23.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	54.4	27.4		20.6	6.7		3.4	0.3	0.0	0.3	5.2	
Delay (s)	83.7	43.2		54.5	24.6		24.8	20.3	18.9	19.8	28.2	
Level of Service	F	D		D	C		C	C	B	B	C	
Approach Delay (s)		50.9			25.0			21.7			27.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	39.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	8.5
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	309	442	10	48	310	738	64	20	947
v/c Ratio	1.02	0.57	0.12	0.20	0.99	0.42	0.08	0.19	0.85
Control Delay	93.2	6.3	43.7	19.2	84.6	14.0	9.0	43.4	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.2	6.3	43.7	19.2	84.6	14.0	9.0	43.4	33.6
Queue Length 50th (ft)	146	13	5	11	145	87	6	9	198
Queue Length 95th (ft)	#415	82	23	37	#412	260	43	37	#459
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	303	1002	84	680	313	1770	800	108	1117
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.44	0.12	0.07	0.99	0.42	0.08	0.19	0.85

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	284	13	394	9	23	21	288	679	59	18	641	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85		1.00	0.93		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1506		1652	1597		1652	3240	1448	1711	3239	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1506		1652	1597		1652	3240	1448	1711	3239	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	309	14	428	10	25	23	310	738	64	20	697	250
RTOR Reduction (vph)	0	272	0	0	19	0	0	0	14	0	32	0
Lane Group Flow (vph)	309	170	0	10	29	0	310	738	50	20	915	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.2	27.3		0.6	13.7		15.2	43.7	43.7	0.8	29.3	
Effective Green, g (s)	14.2	27.3		0.6	13.7		15.2	43.7	43.7	0.8	29.3	
Actuated g/C Ratio	0.17	0.32		0.01	0.16		0.18	0.51	0.51	0.01	0.35	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	286	484		12	258		296	1668	745	16	1118	
v/s Ratio Prot	c0.18	c0.11		0.01	0.02		c0.19	0.23		0.01	c0.28	
v/s Ratio Perm									0.03			
v/c Ratio	1.08	0.35		0.83	0.11		1.05	0.44	0.07	1.25	0.82	
Uniform Delay, d1	35.4	22.0		42.1	30.4		34.9	12.9	10.4	42.1	25.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	76.3	0.6		172.9	0.3		65.2	0.3	0.1	314.0	5.0	
Delay (s)	111.6	22.6		215.0	30.7		100.1	13.2	10.4	356.1	30.4	
Level of Service	F	C		F	C		F	B	B	F	C	
Approach Delay (s)		59.3			62.4			37.3			37.1	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	43.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	84.9	Sum of lost time (s)	9.5
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	73	26	5	1332	1328
v/c Ratio	0.48	0.18	0.02	0.48	0.48
Control Delay	56.7	18.5	2.4	3.5	3.5
Queue Delay	0.0	0.0	0.0	1.6	0.0
Total Delay	56.7	18.5	2.4	5.2	3.5
Queue Length 50th (ft)	50	0	0	110	108
Queue Length 95th (ft)	94	26	3	178	177
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	360	311	285	2763	2755
Starvation Cap Reductn	0	0	0	1186	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.08	0.02	0.84	0.48

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	67	24	5	1225	1196	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3229	
Flt Permitted	0.95	1.00	0.19	1.00	1.00	
Satd. Flow (perm)	1652	1330	334	3240	3229	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	26	5	1332	1300	28
RTOR Reduction (vph)	0	24	0	0	1	0
Lane Group Flow (vph)	73	2	5	1332	1327	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	9.0	9.0	92.0	92.0	92.0	
Effective Green, g (s)	9.0	9.0	92.0	92.0	92.0	
Actuated g/C Ratio	0.08	0.08	0.84	0.84	0.84	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	135	109	279	2710	2701	
v/s Ratio Prot	c0.04			c0.41	0.41	
v/s Ratio Perm		0.00	0.01			
v/c Ratio	0.54	0.02	0.02	0.49	0.49	
Uniform Delay, d1	48.5	46.4	1.5	2.5	2.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.4	0.1	0.1	0.6	0.6	
Delay (s)	52.9	46.5	1.6	3.1	3.1	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.2			3.1	3.1	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	4.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1696	1162	707	1667	848	897
v/c Ratio	0.82	0.71	0.97	0.94	0.56	0.81
Control Delay	17.1	11.8	65.9	37.1	1.5	48.0
Queue Delay	92.3	7.5	0.0	0.6	0.0	0.0
Total Delay	109.4	19.3	65.9	37.7	1.5	48.0
Queue Length 50th (ft)	460	52	344	716	0	323
Queue Length 95th (ft)	517	60	#462	#916	0	396
Internal Link Dist (ft)	251			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	2066	1642	737	1771	1517	1113
Starvation Cap Reductn	656	439	0	0	0	0
Spillback Cap Reductn	0	0	0	17	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.20	0.97	0.96	0.95	0.56	0.81

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1560	1069	650	1534	0	0	0	780	0	0	825
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.76
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3020	2378	2828	3020				1517			3187
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			3187
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1696	1162	707	1667	0	0	0	848	0	0	897
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1696	1146	707	1667	0	0	0	848	0	0	897
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		94.8	94.8	36.2	82.1				140.0			48.9
Effective Green, g (s)		94.8	94.8	36.2	82.1				140.0			48.9
Actuated g/C Ratio		0.68	0.68	0.26	0.59				1.00			0.35
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		2045	1610	731	1771				1517			1113
v/s Ratio Prot		c0.56		0.25	c0.55							
v/s Ratio Perm			0.48						0.56			0.28
v/c Ratio		0.83	0.71	0.97	0.94				0.56			0.81
Uniform Delay, d1		16.6	14.1	51.3	26.7				0.0			41.3
Progression Factor		0.88	0.76	0.87	1.04				1.00			1.00
Incremental Delay, d2		2.7	1.8	20.6	8.9				1.5			6.3
Delay (s)		17.3	12.5	65.0	36.6				1.5			47.5
Level of Service		B	B	E	D				A			D
Approach Delay (s)		15.3			45.1			1.5			47.5	
Approach LOS		B			D			A			D	

Intersection Summary			
HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	4.5
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	746	1798	1247	700	1062	1118
v/c Ratio	0.84	0.54	0.63	0.76	0.66	0.73
Control Delay	27.6	0.4	13.2	21.2	2.1	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	0.4	13.2	21.2	2.1	3.1
Queue Length 50th (ft)	166	0	457	484	0	0
Queue Length 95th (ft)	222	0	553	m609	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	925	3355	1976	917	1611	1528
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	0.81	0.54	0.63	0.76	0.66	0.73

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	686	1654	0	0	1147	644	0	0	977	0	0	1029
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	746	1798	0	0	1247	700	0	0	1062	0	0	1118
RTOR Reduction (vph)	0	0	0	0	0	15	0	0	0	0	0	0
Lane Group Flow (vph)	746	1798	0	0	1247	685	0	0	1062	0	0	1118
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	19.8	70.0			41.2	41.2			70.0			70.0
Effective Green, g (s)	19.8	70.0			41.2	41.2			70.0			70.0
Actuated g/C Ratio	0.28	1.00			0.59	0.59			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	889	3355			1975	901			1611			1528
v/s Ratio Prot	0.24	0.54			0.37							
v/s Ratio Perm						0.45			0.66			c0.73
v/c Ratio	0.84	0.54			0.63	0.76			0.66			0.73
Uniform Delay, d1	23.6	0.0			9.4	10.7			0.0			0.0
Progression Factor	0.89	1.00			1.27	1.65			1.00			1.00
Incremental Delay, d2	4.8	0.4			0.8	3.3			2.1			3.1
Delay (s)	25.8	0.4			12.9	21.0			2.1			3.1
Level of Service	C	A			B	C			A			A
Approach Delay (s)		7.8			15.8			2.1			3.1	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	524	779	903	298	36	290	872	21	100	1038	228
v/c Ratio	1.22	0.97	0.51	0.78	0.10	0.94	0.74	0.05	0.67	0.98	0.41
Control Delay	142.6	53.3	1.1	51.2	13.9	82.9	34.3	16.6	66.2	56.7	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	142.6	53.3	1.1	51.2	13.9	82.9	34.3	16.6	66.2	56.7	17.7
Queue Length 50th (ft)	~324	469	0	178	3	96	258	5	63	342	64
Queue Length 95th (ft)	#530	#730	0	#306	29	#177	331	22	#137	#483	130
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	429	803	1770	383	379	310	1175	438	152	1064	562
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	1.22	0.97	0.51	0.78	0.09	0.94	0.74	0.05	0.66	0.98	0.41

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	482	717	831	6	268	33	267	802	19	92	955	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	3.6	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1737	1475	3204	3539	1337	1652	3303	1551
Flt Permitted	0.27	1.00	1.00		0.91	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	466	1739	1770		1582	1475	3204	3539	1337	1652	3303	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	524	779	903	7	291	36	290	872	21	100	1038	228
RTOR Reduction (vph)	0	0	0	0	0	22	0	0	7	0	0	63
Lane Group Flow (vph)	524	779	903	0	298	14	290	872	14	100	1038	165
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	45.6	45.6	100.0		23.6	23.6	8.7	32.2	32.2	8.2	31.2	31.2
Effective Green, g (s)	46.1	46.1	100.0		24.1	24.1	9.7	33.2	32.2	9.1	32.2	32.2
Actuated g/C Ratio	0.46	0.46	1.00		0.24	0.24	0.10	0.33	0.32	0.09	0.32	0.32
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	428	802	1770		381	355	311	1175	431	150	1064	499
v/s Ratio Prot	c0.22	0.45					c0.09	0.25		0.06	c0.31	
v/s Ratio Perm	c0.34		c0.51		0.19	0.01			0.01			0.11
v/c Ratio	1.22	0.97	0.51		0.78	0.04	0.93	0.74	0.03	0.67	0.98	0.33
Uniform Delay, d1	22.2	26.3	0.0		35.5	29.1	44.8	29.6	23.2	44.0	33.5	25.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	120.2	24.9	1.1		10.6	0.1	33.7	4.3	0.1	11.1	22.3	1.8
Delay (s)	142.4	51.2	1.1		46.1	29.1	78.5	33.9	23.4	55.1	55.8	27.5
Level of Service	F	D	A		D	C	E	C	C	E	E	C
Approach Delay (s)		52.3			44.3			44.6			51.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	49.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	90	2163	141	1527
v/c Ratio	0.45	0.63	0.51	1.34	0.52
Control Delay	72.9	61.2	5.3	203.8	2.1
Queue Delay	0.0	0.0	0.2	0.0	0.9
Total Delay	72.9	61.2	5.5	203.8	3.0
Queue Length 50th (ft)	42	56	202	~163	12
Queue Length 95th (ft)	83	112	383	m#189	m48
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	200	247	4216	105	2963
Starvation Cap Reductn	0	0	1037	0	1061
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.36	0.68	1.34	0.80

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	44	0	83	0	1956	34	130	1404	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		1.00		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1562	1393		4939		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.07	1.00	
Satd. Flow (perm)					1245	1393		4939		122	3471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	48	0	90	0	2126	37	141	1526	1
RTOR Reduction (vph)	0	0	0	0	0	25	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	65	0	2162	0	141	1527	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					11.9	11.9		119.5		119.5	119.5	
Effective Green, g (s)					11.9	11.9		119.5		119.5	119.5	
Actuated g/C Ratio					0.09	0.09		0.85		0.85	0.85	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					106	118		4216		104	2963	
v/s Ratio Prot								0.44			0.44	
v/s Ratio Perm					0.04	c0.05				c1.15		
v/c Ratio					0.45	0.55		0.51		1.36	0.52	
Uniform Delay, d1					61.0	61.5		2.7		10.2	2.7	
Progression Factor					1.00	1.00		1.69		1.97	0.58	
Incremental Delay, d2					3.1	5.5		0.3		185.4	0.3	
Delay (s)					64.0	67.0		4.8		205.6	1.8	
Level of Service					E	E		A		F	A	
Approach Delay (s)		0.0			66.0			4.8			19.1	
Approach LOS		A			E			A			B	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	65	782	921	321	162
v/c Ratio	0.45	0.61	0.45	0.79	0.33
Control Delay	57.3	12.8	10.3	53.9	6.6
Queue Delay	0.0	1.7	0.0	0.0	0.0
Total Delay	57.3	14.5	10.3	53.9	6.6
Queue Length 50th (ft)	44	265	93	214	0
Queue Length 95th (ft)	88	475	173	290	48
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	172	1284	2042	539	595
Starvation Cap Reductn	0	321	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.81	0.45	0.60	0.27

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	60	719	745	102	295	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3475		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3475		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	782	810	111	321	162
RTOR Reduction (vph)	0	0	8	0	0	125
Lane Group Flow (vph)	65	782	913	0	321	37
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	7.8	75.8	63.5		25.2	25.2
Effective Green, g (s)	7.8	75.8	63.5		25.2	25.2
Actuated g/C Ratio	0.07	0.69	0.58		0.23	0.23
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	126	1284	2006		405	363
v/s Ratio Prot	0.04	c0.42	0.26		c0.18	
v/s Ratio Perm						0.02
v/c Ratio	0.52	0.61	0.46		0.79	0.10
Uniform Delay, d1	49.3	9.2	13.3		39.9	33.5
Progression Factor	1.00	1.00	0.66		1.00	1.00
Incremental Delay, d2	3.5	2.2	0.6		10.2	0.1
Delay (s)	52.8	11.3	9.5		50.1	33.6
Level of Service	D	B	A		D	C
Approach Delay (s)		14.5	9.5		44.6	
Approach LOS		B	A		D	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	2348	489	2030	507
v/c Ratio	0.74	0.74	0.40	0.84
Control Delay	13.9	24.6	0.1	33.2
Queue Delay	0.8	3.0	0.0	0.0
Total Delay	14.7	27.6	0.1	33.2
Queue Length 50th (ft)	255	211	0	182
Queue Length 95th (ft)	329	m223	m0	#308
Internal Link Dist (ft)	390		251	
Turn Bay Length (ft)				
Base Capacity (vph)	3178	746	5085	680
Starvation Cap Reductn	0	159	0	0
Spillback Cap Reductn	463	0	84	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.86	0.83	0.41	0.75

Intersection Summary

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.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2130	30	450	1868	0	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6394		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6394		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2315	33	489	2030	0	507
RTOR Reduction (vph)	3	0	0	0	0	1
Lane Group Flow (vph)	2345	0	489	2030	0	506
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	34.8		26.2	70.0		26.2
Effective Green, g (s)	34.8		26.2	70.0		26.2
Actuated g/C Ratio	0.50		0.37	1.00		0.37
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3179		662	5085		603
v/s Ratio Prot	c0.37		0.28	0.40		c0.31
v/s Ratio Perm						
v/c Ratio	0.74		0.74	0.40		0.84
Uniform Delay, d1	14.0		18.9	0.0		20.0
Progression Factor	0.89		1.15	1.00		1.00
Incremental Delay, d2	0.9		1.9	0.1		10.0
Delay (s)	13.3		23.7	0.1		30.0
Level of Service	B		C	A		C
Approach Delay (s)	13.3			4.7	30.0	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	96	221	262	205	1051	36	904	208	732	649	54
v/c Ratio	1.03	0.57	0.49	0.32	0.65	0.49	0.79	0.23	1.14	0.48	0.08
Control Delay	163.8	56.3	42.6	31.2	18.5	87.6	54.0	1.7	129.3	31.6	7.0
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	163.8	56.3	42.6	31.2	18.5	87.6	54.0	1.7	129.3	31.6	7.0
Queue Length 50th (ft)	~98	92	187	128	318	33	285	1	~417	234	0
Queue Length 95th (ft)	#218	126	308	195	396	72	340	19	#543	297	29
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	93	1053	533	698	1620	89	1209	921	641	1355	664
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	1.03	0.21	0.49	0.29	0.65	0.40	0.75	0.23	1.14	0.48	0.08

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	162	41	241	189	967	33	832	191	673	597	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3093		1678	1689	2642	1620	4655	1449	3143	3240	1513
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3093		1678	1689	2642	1620	4655	1449	3143	3240	1513
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	176	45	262	205	1051	36	904	208	732	649	54
RTOR Reduction (vph)	0	21	0	0	0	16	0	0	89	0	0	32
Lane Group Flow (vph)	96	200	0	262	205	1035	36	904	119	732	649	22
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	7.5	16.0		43.1	51.6	83.8	5.2	34.2	77.3	27.7	56.7	56.7
Effective Green, g (s)	7.5	16.0		43.1	51.6	83.8	5.2	34.2	77.3	27.7	56.7	56.7
Actuated g/C Ratio	0.06	0.12		0.32	0.38	0.61	0.04	0.25	0.57	0.20	0.42	0.42
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	92	363		531	639	1624	62	1168	822	639	1348	629
v/s Ratio Prot	c0.06	0.06		0.16	0.12	c0.39	0.02	c0.19	0.08	c0.23	0.20	
v/s Ratio Perm												0.01
v/c Ratio	1.04	0.55		0.49	0.32	0.64	0.58	0.77	0.15	1.15	0.48	0.04
Uniform Delay, d1	64.4	56.8		37.8	30.0	16.6	64.5	47.5	13.9	54.3	29.1	23.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	106.1	2.6		0.3	0.4	0.9	8.6	3.3	0.1	83.0	0.3	0.0
Delay (s)	170.5	59.4		38.0	30.4	17.6	73.1	50.7	14.0	137.3	29.3	23.6
Level of Service	F	E		D	C	B	E	D	B	F	C	C
Approach Delay (s)		93.1			22.8			44.8			84.2	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM Average Control Delay	53.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	136.3	Sum of lost time (s)	15.3
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	1120	108	1559	786	53	235	564	281
v/c Ratio	0.94	0.66	0.66	0.92	0.73	0.46	0.89	0.93	0.65
Control Delay	110.8	23.3	81.2	20.6	5.5	66.4	48.6	71.2	22.7
Queue Delay	0.0	89.0	0.0	3.8	2.3	0.0	17.1	0.0	0.0
Total Delay	110.8	112.3	81.2	24.4	7.8	66.4	65.8	71.2	22.7
Queue Length 50th (ft)	121	318	87	578	2	40	42	226	60
Queue Length 95th (ft)	#255	423	m104	m#705	m3	83	#177	#342	161
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	163	1685	203	1703	1073	140	284	606	430
Starvation Cap Reductn	0	0	0	94	166	0	0	0	0
Spillback Cap Reductn	0	745	0	0	0	0	42	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.19	0.53	0.97	0.87	0.38	0.97	0.93	0.65

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	142	1016	15	99	1434	723	49	8	208	519	41	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3171		1620	3209	1434	1678	1438		3143	1424	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3171		1620	3209	1434	1678	1438		3143	1424	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	1104	16	108	1559	786	53	9	226	564	45	236
RTOR Reduction (vph)	0	1	0	0	0	312	0	167	0	0	156	0
Lane Group Flow (vph)	154	1119	0	108	1559	474	53	68	0	564	125	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	12.1	63.8		12.0	63.7	63.7	8.1	8.1		23.1	23.1	
Effective Green, g (s)	12.1	63.8		12.0	63.7	63.7	8.1	8.1		23.1	23.1	
Actuated g/C Ratio	0.10	0.53		0.10	0.53	0.53	0.07	0.07		0.19	0.19	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	163	1686		162	1703	761	113	97		605	274	
v/s Ratio Prot	c0.10	0.35		0.07	c0.49		0.03	c0.05		c0.18	0.09	
v/s Ratio Perm						0.33						
v/c Ratio	0.94	0.66		0.67	0.92	0.62	0.47	0.70		0.93	0.46	
Uniform Delay, d1	53.6	20.3		52.1	25.7	19.7	53.9	54.8		47.7	42.9	
Progression Factor	1.00	1.00		1.33	0.53	0.82	1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.5	2.1		4.8	6.0	2.3	1.1	17.1		21.4	1.2	
Delay (s)	107.1	22.4		73.9	19.6	18.5	55.0	71.8		69.0	44.1	
Level of Service	F	C		E	B	B	D	E		E	D	
Approach Delay (s)		32.7			21.7			68.7			60.8	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	2020	670	2213	316	559	70	58
v/c Ratio	0.48	1.01	0.97	0.77	1.00	0.50	0.90	0.56
Control Delay	61.9	51.1	67.7	16.7	100.5	20.3	133.4	50.2
Queue Delay	0.0	53.8	0.0	1.4	0.0	0.0	0.0	0.4
Total Delay	61.9	104.9	67.7	18.0	100.5	20.3	133.4	50.6
Queue Length 50th (ft)	44	~589	261	403	247	139	55	19
Queue Length 95th (ft)	m63	m#699	m#344	498	#435	186	#148	#75
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	135	2008	689	2865	316	1119	78	103
Starvation Cap Reductn	0	239	0	418	0	0	0	0
Spillback Cap Reductn	0	0	0	339	0	0	0	2
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.14	0.97	0.90	1.00	0.50	0.90	0.57

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	1689	169	616	1913	123	259	31	514	64	23	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4505		3143	4726			1807	2808	1562	1428	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4505		3143	4726			1807	2808	1562	1428	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	1836	184	670	2079	134	282	34	559	70	25	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	0	23	0	31	0
Lane Group Flow (vph)	57	2010	0	670	2207	0	0	316	536	70	27	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	8.0	53.2		26.3	72.0			21.0	47.3	6.0	6.0	
Effective Green, g (s)	8.0	53.2		26.3	72.0			21.0	47.3	6.0	6.0	
Actuated g/C Ratio	0.07	0.44		0.22	0.60			0.18	0.39	0.05	0.05	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	108	1997		689	2836			316	1107	78	71	
v/s Ratio Prot	0.04	c0.45		c0.21	0.47			c0.17	0.11	c0.04	0.02	
v/s Ratio Perm									0.08			
v/c Ratio	0.53	1.01		0.97	0.78			1.00	0.48	0.90	0.38	
Uniform Delay, d1	54.2	33.4		46.5	18.0			49.5	27.2	56.7	55.2	
Progression Factor	0.99	0.99		1.03	0.84			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	18.5		18.7	1.2			50.6	0.1	66.4	1.2	
Delay (s)	55.0	51.4		66.5	16.4			100.1	27.3	123.1	56.4	
Level of Service	D	D		E	B			F	C	F	E	
Approach Delay (s)		51.5			28.0			53.6			92.9	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1236	1516	2066	797	611	605
v/c Ratio	0.36	0.60	0.89	0.62	0.82	0.89
Control Delay	7.1	1.4	19.0	2.7	54.3	58.4
Queue Delay	0.0	0.0	0.7	0.0	0.0	0.1
Total Delay	7.1	1.4	19.7	2.7	54.3	58.5
Queue Length 50th (ft)	123	0	573	0	233	244
Queue Length 95th (ft)	m129	m0	720	32	#304	#355
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3429	2533	2327	1285	747	681
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	72	0	0	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.60	0.92	0.62	0.82	0.89

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1137	1395	0	1901	733	0	0	0	562	0	557
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1236	1516	0	2066	797	0	0	0	611	0	605
RTOR Reduction (vph)	0	0	0	0	0	226	0	0	0	0	0	31
Lane Group Flow (vph)	0	1236	1516	0	2066	571	0	0	0	611	0	574
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		
Permitted Phases			2 4			6				4		4
Actuated Green, G (s)		86.0	120.0		86.0	86.0				26.0		26.0
Effective Green, g (s)		87.0	120.0		87.0	86.0				27.0		27.0
Actuated g/C Ratio		0.72	1.00		0.72	0.72				0.22		0.22
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3429	2533		2327	1059				747		650
v/s Ratio Prot		0.26			c0.64					0.18		
v/s Ratio Perm			0.60			0.39						c0.20
v/c Ratio		0.36	0.60		0.89	0.54				0.82		0.88
Uniform Delay, d1		6.1	0.0		12.7	7.9				44.2		45.0
Progression Factor		1.12	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.2	0.3		5.5	2.0				7.3		13.8
Delay (s)		7.0	0.3		18.3	9.8				51.5		58.8
Level of Service		A	A		B	A				D		E
Approach Delay (s)		3.3			15.9			0.0			55.1	
Approach LOS		A			B			A			E	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	59	63	260	248	428
v/c Ratio	0.79	0.08	0.41	0.40	0.53	0.58
Control Delay	22.1	3.5	37.5	13.8	21.7	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	3.5	37.5	13.8	21.7	5.9
Queue Length 50th (ft)	159	0	21	59	73	0
Queue Length 95th (ft)	#348	16	#73	110	136	57
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	1072	980	154	1085	689	884
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	0.06	0.41	0.24	0.36	0.48

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	556	54	58	239	228	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1559
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	59	63	260	248	428
RTOR Reduction (vph)	0	33	0	0	0	314
Lane Group Flow (vph)	604	26	63	260	248	114
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	21.5	21.5	1.9	18.7	12.8	12.8
Effective Green, g (s)	21.5	21.5	1.9	18.7	12.8	12.8
Actuated g/C Ratio	0.45	0.45	0.04	0.39	0.27	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	748	670	64	709	453	414
v/s Ratio Prot	c0.36		c0.04	0.14	c0.15	
v/s Ratio Perm		0.02				0.07
v/c Ratio	0.81	0.04	0.98	0.37	0.55	0.27
Uniform Delay, d1	11.6	7.5	23.1	10.5	15.2	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.4	0.0	106.4	0.3	1.4	0.4
Delay (s)	18.0	7.6	129.5	10.8	16.6	14.4
Level of Service	B	A	F	B	B	B
Approach Delay (s)	17.0			34.0	15.2	
Approach LOS	B			C	B	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	125	138	26	1140	71	698
v/c Ratio	0.24	0.36	0.37	0.06	0.58	0.33	0.36
Control Delay	15.1	18.7	12.9	7.4	9.6	13.8	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.1	18.7	12.9	7.4	9.6	13.8	7.2
Queue Length 50th (ft)	17	30	19	3	90	9	44
Queue Length 95th (ft)	45	68	55	17	254	56	129
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	738	728	727	447	2098	234	2105
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	0.12	0.17	0.19	0.06	0.54	0.30	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	44	10	63	52	127	24	972	76	65	613	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1531			1685	1306	1616	3039		1561	3053	
Flt Permitted		0.88			0.78	1.00	0.38	1.00		0.21	1.00	
Satd. Flow (perm)		1365			1357	1306	650	3039		339	3053	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	48	11	68	57	138	26	1057	83	71	666	32
RTOR Reduction (vph)	0	9	0	0	0	45	0	7	0	0	4	0
Lane Group Flow (vph)	0	76	0	0	125	93	26	1133	0	71	694	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		9.9			9.9	9.9	28.9	28.9		28.9	28.9	
Effective Green, g (s)		9.9			9.9	9.9	28.9	28.9		28.9	28.9	
Actuated g/C Ratio		0.21			0.21	0.21	0.60	0.60		0.60	0.60	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		282			280	269	391	1830		204	1838	
v/s Ratio Prot								c0.37			0.23	
v/s Ratio Perm		0.06			c0.09	0.07	0.04			0.21		
v/c Ratio		0.27			0.45	0.34	0.07	0.62		0.35	0.38	
Uniform Delay, d1		16.0			16.7	16.3	4.0	6.1		4.8	4.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			1.5	1.1	0.1	0.7		1.4	0.2	
Delay (s)		16.7			18.2	17.3	4.1	6.8		6.2	5.1	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		16.7			17.7			6.7			5.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	20	210	368	180	168	34
v/c Ratio	0.07	0.24	0.50	0.15	0.38	0.08
Control Delay	19.8	6.9	12.2	0.6	15.8	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	6.9	12.2	0.6	15.8	6.9
Queue Length 50th (ft)	3	20	39	0	20	0
Queue Length 95th (ft)	25	62	179	10	102	18
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	464	1827	1642	1524	1245	1083
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	0.04	0.11	0.22	0.12	0.13	0.03

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	18	193	339	166	155	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1618	1562	1362
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1618	1562	1362
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	210	368	180	168	34
RTOR Reduction (vph)	0	0	0	59	0	25
Lane Group Flow (vph)	20	210	368	121	168	9
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	0.9	21.5	16.6	27.5	10.9	10.9
Effective Green, g (s)	0.9	21.5	16.6	27.5	10.9	10.9
Actuated g/C Ratio	0.02	0.52	0.40	0.67	0.27	0.27
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	36	958	690	1085	415	362
v/s Ratio Prot	0.01	c0.11	c0.22	0.03	c0.11	
v/s Ratio Perm				0.05		0.01
v/c Ratio	0.56	0.22	0.53	0.11	0.40	0.02
Uniform Delay, d1	19.9	5.2	9.3	2.4	12.4	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.3	0.1	0.8	0.0	0.6	0.0
Delay (s)	37.1	5.4	10.1	2.4	13.0	11.2
Level of Service	D	A	B	A	B	B
Approach Delay (s)		8.1	7.6		12.7	
Approach LOS		A	A		B	

Intersection Summary			
HCM Average Control Delay	8.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	41.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	217	163	341	299	310	241
v/c Ratio	0.61	0.38	0.72	0.32	0.54	0.41
Control Delay	43.0	8.7	39.0	12.1	30.2	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	8.7	39.0	12.1	30.2	13.8
Queue Length 50th (ft)	111	0	168	84	139	41
Queue Length 95th (ft)	232	55	341	165	287	124
Internal Link Dist (ft)	328			4916	905	
Turn Bay Length (ft)		350	75			100
Base Capacity (vph)	756	722	720	1468	712	716
Starvation Cap Reductn	5	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	0.29	0.23	0.47	0.20	0.44	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	199	150	314	274	1	283	2	222	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5			
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.98			
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		1758	1460	1562	1704			1682	1724			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		1756	1460	1562	1704			1682	1724			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	216	163	341	298	1	308	2	241	0	0	0
RTOR Reduction (vph)	0	0	129	0	0	0	0	0	97	0	0	0
Lane Group Flow (vph)	0	217	34	341	299	0	0	310	144	0	0	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		18.3	18.3	27.6	49.9			30.0	26.0			
Effective Green, g (s)		18.3	18.3	27.6	49.9			30.0	26.0			
Actuated g/C Ratio		0.21	0.21	0.31	0.56			0.34	0.29			
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0			
Lane Grp Cap (vph)		361	300	484	955			567	504			
v/s Ratio Prot				c0.22	0.18			c0.18	0.03			
v/s Ratio Perm		c0.12	0.02						0.06			
v/c Ratio		0.60	0.11	0.70	0.31			0.55	0.29			
Uniform Delay, d1		32.0	28.7	27.1	10.4			24.0	24.3			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Incremental Delay, d2		2.8	0.2	4.6	0.2			1.1	0.3			
Delay (s)		34.9	28.9	31.7	10.6			25.1	24.6			
Level of Service		C	C	C	B			C	C			
Approach Delay (s)		32.3			21.9			24.9			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	166	408	64	245	386	716	24	555	143	271	688
v/c Ratio	0.76	0.78	0.14	0.84	0.63	0.96	0.30	0.81	0.43	0.92	0.60
Control Delay	77.6	53.6	24.0	76.0	41.3	43.7	72.6	59.2	28.5	90.3	35.9
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	77.6	53.6	24.0	76.0	41.3	43.7	72.6	59.2	28.5	90.3	35.9
Queue Length 50th (ft)	143	331	25	209	283	341	21	244	56	243	264
Queue Length 95th (ft)	#247	464	62	#342	401	#635	53	314	124	#431	335
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	247	562	487	331	656	772	84	789	375	293	1155
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	0.67	0.73	0.13	0.74	0.59	0.93	0.29	0.70	0.38	0.92	0.60

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	153	375	59	225	355	659	22	511	132	249	526	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1452	1620	1739	1391	1652	3240	1331	1620	2994	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1452	1620	1739	1391	1652	3240	1331	1620	2994	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	408	64	245	386	716	24	555	143	271	572	116
RTOR Reduction (vph)	0	0	18	0	0	260	0	0	52	0	12	0
Lane Group Flow (vph)	166	408	46	245	386	456	24	555	91	271	676	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	17.1	38.9	38.9	23.4	45.2	45.2	4.2	29.0	29.0	24.3	49.1	
Effective Green, g (s)	17.0	38.8	38.8	23.3	45.1	45.1	3.2	28.5	28.5	23.3	48.6	
Actuated g/C Ratio	0.13	0.30	0.30	0.18	0.35	0.35	0.02	0.22	0.22	0.18	0.37	
Clearance Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	216	519	434	291	604	483	41	711	292	291	1120	
v/s Ratio Prot	0.10	0.23		c0.15	0.22		0.01	c0.17		c0.17	0.23	
v/s Ratio Perm			0.03			c0.33			0.07			
v/c Ratio	0.77	0.79	0.11	0.84	0.64	0.94	0.59	0.78	0.31	0.93	0.60	
Uniform Delay, d1	54.5	41.7	33.0	51.5	35.6	41.2	62.7	47.8	42.5	52.5	32.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	15.9	8.1	0.1	20.0	2.5	27.6	22.8	5.9	0.8	35.3	1.1	
Delay (s)	70.5	49.9	33.1	71.5	38.1	68.8	85.5	53.6	43.3	87.8	33.9	
Level of Service	E	D	C	E	D	E	F	D	D	F	C	
Approach Delay (s)		53.6			60.5			52.6			49.2	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	54.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	129.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	612	102	1346	1206	208	332	621	193	239	15
v/c Ratio	0.38	0.66	0.27	1.06	0.72	1.20	0.53	0.39	0.58	0.40	0.05
Control Delay	67.7	51.0	10.0	79.5	26.8	177.6	49.6	8.5	63.2	47.0	18.1
Queue Delay	0.0	0.0	0.0	94.1	3.9	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.7	51.0	10.0	173.6	30.7	177.6	49.6	8.5	63.2	47.0	18.1
Queue Length 50th (ft)	37	171	0	~643	401	~212	132	86	79	91	0
Queue Length 95th (ft)	85	230	49	#890	548	#410	187	126	129	135	19
Internal Link Dist (ft)		238			391		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	136	1117	432	1274	1726	174	854	1767	370	855	400
Starvation Cap Reductn	0	0	0	218	426	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	0.35	0.55	0.24	1.27	0.93	1.20	0.39	0.35	0.52	0.28	0.04

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	563	94	1238	848	261	191	305	571	178	220	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	3.1	4.0	4.0	3.1	4.0		4.0	4.0	3.1	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1471
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	612	102	1346	922	284	208	332	621	193	239	15
RTOR Reduction (vph)	0	0	81	0	19	0	0	0	0	0	0	12
Lane Group Flow (vph)	47	612	21	1346	1187	0	208	332	621	193	239	3
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	7.5	24.3	24.3	48.4	65.2		13.1	22.2	70.6	12.8	21.9	21.9
Effective Green, g (s)	8.4	25.8	25.8	49.3	66.7		13.1	23.7	72.4	12.8	23.4	23.4
Actuated g/C Ratio	0.07	0.20	0.20	0.39	0.53		0.10	0.19	0.57	0.10	0.18	0.18
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	104	948	301	1267	1639		173	628	1546	329	598	272
v/s Ratio Prot	0.03	0.13		c0.41	c0.38		c0.12	c0.10	0.23	c0.06	0.07	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.45	0.65	0.07	1.06	0.72		1.20	0.53	0.40	0.59	0.40	0.01
Uniform Delay, d1	56.9	46.3	40.7	38.7	23.0		56.8	46.5	15.1	54.4	45.5	42.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	1.7	0.1	43.6	1.7		133.3	1.0	0.2	3.1	0.6	0.0
Delay (s)	61.1	48.0	40.9	82.3	24.7		190.1	47.5	15.3	57.6	46.1	42.2
Level of Service	E	D	D	F	C		F	D	B	E	D	D
Approach Delay (s)		47.8			55.1			55.8			50.9	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM Average Control Delay	53.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	126.7	Sum of lost time (s)	11.1
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	301	2380	203	1375	224	226	122	143
v/c Ratio	0.85	0.83	0.87	0.71	0.72	0.72	0.30	0.77
Control Delay	71.2	31.5	88.7	35.2	62.0	61.4	8.8	59.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	31.5	88.7	35.2	62.0	61.4	8.8	59.0
Queue Length 50th (ft)	238	477	169	358	186	188	0	32
Queue Length 95th (ft)	#419	615	#344	472	281	282	50	#95
Internal Link Dist (ft)		660		577		351		533
Turn Bay Length (ft)	125		180		200			
Base Capacity (vph)	388	2860	234	1939	435	442	516	185
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	0.78	0.83	0.87	0.71	0.51	0.51	0.24	0.77

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	277	1810	380	187	1228	37	355	59	112	22	44	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.86		1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	5698		1678	4631		1539	1564	1514		3026	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1620	5698		1678	4631		1539	1564	1514		3026	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	1967	413	203	1335	40	386	64	122	24	48	71
RTOR Reduction (vph)	0	25	0	0	2	0	0	0	97	0	68	0
Lane Group Flow (vph)	301	2355	0	203	1373	0	224	226	25	0	75	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases									8			
Actuated Green, G (s)	27.4	63.7		17.0	53.3		25.5	25.5	25.5		4.4	
Effective Green, g (s)	28.4	64.7		18.0	54.3		26.1	26.1	26.1		5.0	
Actuated g/C Ratio	0.22	0.50		0.14	0.42		0.20	0.20	0.20		0.04	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	354	2840		233	1937		309	314	304		117	
v/s Ratio Prot	c0.19	c0.41		0.12	0.30		c0.15	0.14			c0.02	
v/s Ratio Perm									0.02			
v/c Ratio	0.85	0.83		0.87	0.71		0.72	0.72	0.08		0.64	
Uniform Delay, d1	48.7	27.8		54.8	31.2		48.5	48.4	42.1		61.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	18.0	2.5		28.6	1.8		8.7	8.2	0.2		12.2	
Delay (s)	66.7	30.3		83.4	33.0		57.2	56.6	42.3		73.7	
Level of Service	E	C		F	C		E	E	D		E	
Approach Delay (s)		34.4			39.5			53.8			73.7	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	39.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	129.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	185	1668	233	997	267	184	300	27	290
v/c Ratio	0.73	0.85	0.95	0.74	0.82	0.21	0.45	0.24	0.51
Control Delay	54.3	28.3	86.4	27.8	61.0	25.2	5.4	49.7	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	28.3	86.4	27.8	61.0	25.2	5.4	49.7	23.0
Queue Length 50th (ft)	92	263	123	230	72	38	0	7	46
Queue Length 95th (ft)	#235	#510	#334	#461	#176	70	56	24	82
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	278	1955	245	1349	326	1365	873	111	1141
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.85	0.95	0.74	0.82	0.13	0.34	0.24	0.25

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	1129	406	214	901	17	246	169	276	25	165	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4535		1652	3280		3143	3240	1660	3204	3032	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4535		1652	3280		3143	3240	1660	3204	3032	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	1227	441	233	979	18	267	184	300	27	179	111
RTOR Reduction (vph)	0	57	0	0	1	0	0	0	219	0	92	0
Lane Group Flow (vph)	185	1611	0	233	996	0	267	184	81	27	198	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	13.8	35.7		13.1	35.0		10.1	24.5	24.5	1.5	15.9	
Effective Green, g (s)	13.7	36.7		13.0	36.0		9.1	24.1	24.1	0.5	15.5	
Actuated g/C Ratio	0.15	0.41		0.15	0.40		0.10	0.27	0.27	0.01	0.17	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	248	1862		240	1321		320	873	447	18	526	
v/s Ratio Prot	0.11	c0.36		c0.14	0.30		c0.08	0.06		0.01	c0.07	
v/s Ratio Perm									0.05			
v/c Ratio	0.75	0.87		0.97	0.75		0.83	0.21	0.18	1.50	0.38	
Uniform Delay, d1	36.2	24.1		38.0	22.9		39.4	25.3	25.1	44.5	32.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.5	4.6		49.8	2.6		17.5	0.2	0.3	395.6	0.6	
Delay (s)	47.7	28.7		87.9	25.5		56.9	25.5	25.3	440.1	33.3	
Level of Service	D	C		F	C		E	C	C	F	C	
Approach Delay (s)		30.6			37.4			36.6			67.9	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	11.1
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	215	343	5	824	276	667	785
v/c Ratio	0.07	0.78	0.40	0.05	0.57	0.33	0.82	0.33
Control Delay	26.7	59.2	4.9	48.0	20.7	3.0	48.5	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	59.2	4.9	48.0	20.7	3.0	48.5	8.5
Queue Length 50th (ft)	9	143	0	3	143	6	229	98
Queue Length 95th (ft)	29	217	37	m9	184	20	286	201
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	370	354	994	93	1448	840	927	2372
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	0.06	0.61	0.35	0.05	0.57	0.33	0.72	0.33

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	0	5	196	2	316	5	758	254	614	675	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697			1775	2787	1678	3355	1583	3433	3432	
Flt Permitted		0.78			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1374			1328	2787	1678	3355	1583	3433	3432	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	0	5	213	2	343	5	824	276	667	734	51
RTOR Reduction (vph)	0	4	0	0	0	271	0	0	157	0	3	0
Lane Group Flow (vph)	0	17	0	0	215	72	5	824	119	667	782	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		23.0			23.0	23.0	1.2	47.4	47.4	26.1	72.3	
Effective Green, g (s)		23.0			23.0	23.0	1.2	47.4	47.4	26.1	72.3	
Actuated g/C Ratio		0.21			0.21	0.21	0.01	0.43	0.43	0.24	0.66	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		287			278	583	18	1446	682	815	2256	
v/s Ratio Prot							0.00	c0.25		c0.19	0.23	
v/s Ratio Perm		0.01			c0.16	0.03			0.08			
v/c Ratio		0.06			0.77	0.12	0.28	0.57	0.17	0.82	0.35	
Uniform Delay, d1		34.8			41.0	35.3	54.0	23.6	19.3	39.7	8.4	
Progression Factor		1.00			1.00	1.00	0.95	0.74	0.62	1.00	1.00	
Incremental Delay, d2		0.1			12.6	0.1	7.7	1.5	0.5	6.4	0.4	
Delay (s)		34.9			53.6	35.4	58.9	19.1	12.4	46.1	8.8	
Level of Service		C			D	D	E	B	B	D	A	
Approach Delay (s)		34.9			42.4			17.6			25.9	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM Average Control Delay	26.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	210	67	116	126	300	60	492	229	413
v/c Ratio	0.52	0.17	0.45	0.27	0.52	0.27	0.59	0.58	0.29
Control Delay	25.6	7.0	26.7	20.8	6.6	33.5	22.4	29.0	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	7.0	26.7	20.8	6.6	33.5	22.4	29.0	12.1
Queue Length 50th (ft)	60	0	32	33	0	19	69	68	47
Queue Length 95th (ft)	160	29	101	96	57	71	167	184	105
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	797	715	514	944	848	278	1489	791	2365
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.09	0.23	0.13	0.35	0.22	0.33	0.29	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	123	62	107	116	276	55	348	105	211	333	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1703	1260	1620	1739	1316	1711	2955		1620	3018	
Flt Permitted		0.85	1.00	0.56	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1472	1260	947	1739	1316	1711	2955		1620	3018	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	134	67	116	126	300	60	378	114	229	362	51
RTOR Reduction (vph)	0	0	49	0	0	219	0	29	0	0	12	0
Lane Group Flow (vph)	0	210	18	116	126	81	60	463	0	229	401	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		16.5	16.5	16.5	16.5	16.5	4.4	18.2		14.8	28.6	
Effective Green, g (s)		16.5	16.5	16.5	16.5	16.5	4.4	18.2		14.8	28.6	
Actuated g/C Ratio		0.27	0.27	0.27	0.27	0.27	0.07	0.30		0.24	0.47	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		398	341	256	470	356	123	882		393	1415	
v/s Ratio Prot					0.07		0.04	c0.16		c0.14	0.13	
v/s Ratio Perm		c0.14	0.01	0.12		0.06						
v/c Ratio		0.53	0.05	0.45	0.27	0.23	0.49	0.53		0.58	0.28	
Uniform Delay, d1		18.9	16.5	18.5	17.5	17.3	27.2	17.8		20.4	9.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.1	1.3	0.3	0.3	3.0	0.7		2.2	0.2	
Delay (s)		20.2	16.5	19.8	17.8	17.6	30.2	18.5		22.6	10.1	
Level of Service		C	B	B	B	B	C	B		C	B	
Approach Delay (s)		19.3			18.1			19.8			14.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	200	117	146	462	152	844	82	873
v/c Ratio	0.48	0.66	0.38	0.65	0.63	0.67	0.39	0.48	0.62
Control Delay	50.5	53.4	10.4	56.7	38.8	59.5	20.2	56.7	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	53.4	10.4	56.7	38.8	59.5	20.2	56.7	27.6
Queue Length 50th (ft)	56	134	0	102	117	102	139	45	281
Queue Length 95th (ft)	87	200	47	167	193	171	196	m100	377
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	473	409	381	257	833	250	2179	186	1416
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.49	0.31	0.57	0.55	0.61	0.39	0.44	0.62

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	148	184	108	134	240	185	140	651	125	75	711	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1306	1770	3287		1652	4524		1770	3392	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1306	1770	3287		1652	4524		1770	3392	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	161	200	117	146	261	201	152	708	136	82	773	100
RTOR Reduction (vph)	0	0	98	0	132	0	0	22	0	0	8	0
Lane Group Flow (vph)	161	200	19	146	330	0	152	822	0	82	865	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	12.0	18.0	18.0	14.0	20.0		15.1	51.7		9.1	45.7	
Effective Green, g (s)	12.0	18.0	18.0	14.0	20.0		15.1	51.7		9.1	45.7	
Actuated g/C Ratio	0.11	0.16	0.16	0.13	0.18		0.14	0.47		0.08	0.42	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	334	302	214	225	598		227	2126		146	1409	
v/s Ratio Prot	0.05	c0.11		c0.08	0.10		c0.09	0.18		0.05	c0.25	
v/s Ratio Perm			0.01									
v/c Ratio	0.48	0.66	0.09	0.65	0.55		0.67	0.39		0.56	0.61	
Uniform Delay, d1	46.1	43.1	39.0	45.7	40.9		45.1	18.9		48.5	25.2	
Progression Factor	1.00	1.00	1.00	0.96	1.33		1.00	1.00		1.02	0.95	
Incremental Delay, d2	1.5	5.9	0.2	6.9	1.3		8.0	0.5		5.5	1.9	
Delay (s)	47.6	49.0	39.3	50.6	55.8		53.1	19.4		55.1	25.8	
Level of Service	D	D	D	D	E		D	B		E	C	
Approach Delay (s)		46.2			54.5			24.6			28.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	35.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	16	322	34	605	11	11	61	79	11
v/c Ratio	0.15	0.23	0.27	0.42	0.09	0.02	0.47	0.37	0.16
Control Delay	59.5	5.0	53.4	8.6	45.4	0.0	58.3	15.9	53.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	5.0	53.4	8.6	45.4	0.0	58.3	15.9	53.2
Queue Length 50th (ft)	12	37	23	83	7	0	42	2	8
Queue Length 95th (ft)	36	199	55	387	24	0	82	46	26
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	112	1402	133	1431	210	784	235	331	72
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.23	0.26	0.42	0.05	0.01	0.26	0.24	0.15

Intersection Summary

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	283	13	31	478	78	10	0	10	56	3	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.85		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1849		1770	1823		1711	1583		1770	1594	
Flt Permitted	0.95	1.00		0.95	1.00		0.69	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1849		1770	1823		1251	1583		1398	1594	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	308	14	34	520	85	11	0	11	61	3	76
RTOR Reduction (vph)	0	1	0	0	0	0	0	10	0	0	70	0
Lane Group Flow (vph)	16	321	0	34	605	0	11	1	0	61	9	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.1	76.0		5.2	78.1		9.0	9.0		9.0	9.0	
Effective Green, g (s)	3.1	76.0		5.2	78.1		9.0	9.0		9.0	9.0	
Actuated g/C Ratio	0.03	0.69		0.05	0.71		0.08	0.08		0.08	0.08	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	50	1277		84	1294		102	130		114	130	
v/s Ratio Prot	0.01	0.17		c0.02	c0.33			0.00			0.01	
v/s Ratio Perm							0.01			c0.04		
v/c Ratio	0.32	0.25		0.40	0.47		0.11	0.01		0.54	0.07	
Uniform Delay, d1	52.4	6.4		50.9	6.9		46.8	46.4		48.5	46.6	
Progression Factor	1.17	0.63		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.6	0.5		3.2	1.2		0.5	0.0		4.8	0.2	
Delay (s)	64.7	4.5		54.1	8.1		47.2	46.4		53.3	46.9	
Level of Service	E	A		D	A		D	D		D	D	
Approach Delay (s)		7.3			10.6			46.8			49.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR
Lane Configurations	
Volume (vph)	10
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1096
Flt Permitted	1.00
Satd. Flow (perm)	1096
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	11
RTOR Reduction (vph)	0
Lane Group Flow (vph)	11
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	50%
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	9
Actuated Green, G (s)	1.8
Effective Green, g (s)	1.8
Actuated g/C Ratio	0.02
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	18
v/s Ratio Prot	c0.01
v/s Ratio Perm	
v/c Ratio	0.61
Uniform Delay, d1	53.8
Progression Factor	1.00
Incremental Delay, d2	48.7
Delay (s)	102.4
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	417	5	525	41	59	7	37	308
v/c Ratio	0.23	0.41	0.03	0.71	0.20	0.11	0.02	0.11	0.57
Control Delay	29.3	10.0	30.6	21.6	20.4	17.4	10.3	17.9	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	10.0	30.6	21.6	20.4	17.4	10.3	17.9	19.1
Queue Length 50th (ft)	19	60	2	149	12	16	0	10	76
Queue Length 95th (ft)	56	189	12	#350	35	42	8	31	152
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	250	1330	143	977	420	1069	763	713	1042
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.31	0.03	0.54	0.10	0.06	0.01	0.05	0.30

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	291	93	5	444	39	38	54	6	34	152	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1947		1711	1698		1652	1863	1327	1644	1768	
Flt Permitted	0.95	1.00		0.95	1.00		0.42	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1711	1947		1711	1698		731	1863	1327	1243	1768	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	316	101	5	483	42	41	59	7	37	165	143
RTOR Reduction (vph)	0	13	0	0	4	0	0	0	5	0	49	0
Lane Group Flow (vph)	57	404	0	5	521	0	41	59	2	37	259	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	3.4	27.0		0.6	24.2		14.6	14.6	14.6	14.6	14.6	
Effective Green, g (s)	3.4	27.0		0.6	24.2		14.6	14.6	14.6	14.6	14.6	
Actuated g/C Ratio	0.06	0.49		0.01	0.44		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	105	952		19	744		193	493	351	329	468	
v/s Ratio Prot	c0.03	c0.21		0.00	c0.31			0.03			c0.15	
v/s Ratio Perm							0.06		0.00	0.03		
v/c Ratio	0.54	0.42		0.26	0.70		0.21	0.12	0.01	0.11	0.55	
Uniform Delay, d1	25.1	9.1		27.1	12.6		15.8	15.4	15.0	15.4	17.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.0	0.4		9.9	3.2		0.8	0.1	0.0	0.2	1.8	
Delay (s)	32.2	9.5		36.9	15.8		16.6	15.6	15.0	15.6	19.3	
Level of Service	C	A		D	B		B	B	B	B	B	
Approach Delay (s)		12.2			16.0			15.9			18.9	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	134	173	3	10	494	761	40	23	861
v/c Ratio	1.01	0.36	0.04	0.05	1.01	0.38	0.04	0.21	0.78
Control Delay	122.3	7.0	41.0	20.9	73.5	10.2	7.1	43.0	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.3	7.0	41.0	20.9	73.5	10.2	7.1	43.0	29.5
Queue Length 50th (ft)	62	4	1	2	219	58	2	10	165
Queue Length 95th (ft)	#224	49	11	14	#588	232	26	40	#393
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	133	790	85	701	490	2029	911	110	1104
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.22	0.04	0.01	1.01	0.38	0.04	0.21	0.78

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	123	9	150	3	5	5	459	700	37	21	548	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.86		1.00	0.93		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1514		1652	1592		1652	3240	1449	1711	3220	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1514		1652	1592		1652	3240	1449	1711	3220	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	134	10	163	3	5	5	494	761	40	23	596	265
RTOR Reduction (vph)	0	126	0	0	4	0	0	0	8	0	45	0
Lane Group Flow (vph)	134	47	0	3	6	0	494	761	32	23	816	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	6.1	18.7		0.6	13.2		23.3	49.2	49.2	1.9	27.8	
Effective Green, g (s)	6.1	18.7		0.6	13.2		23.3	49.2	49.2	1.9	27.8	
Actuated g/C Ratio	0.07	0.23		0.01	0.16		0.28	0.59	0.59	0.02	0.34	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	126	342		12	253		464	1923	860	39	1080	
v/s Ratio Prot	c0.08	c0.03		0.00	0.00		c0.30	0.23		0.01	c0.25	
v/s Ratio Perm									0.02			
v/c Ratio	1.06	0.14		0.25	0.02		1.06	0.40	0.04	0.59	0.76	
Uniform Delay, d1	38.4	25.7		40.9	29.4		29.8	9.0	7.0	40.1	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	98.2	0.2		14.4	0.1		60.0	0.2	0.0	24.2	3.3	
Delay (s)	136.6	25.9		55.3	29.5		89.8	9.1	7.0	64.3	27.8	
Level of Service	F	C		E	C		F	A	A	E	C	
Approach Delay (s)		74.2			35.4			39.9			28.7	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM Average Control Delay	40.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	82.9	Sum of lost time (s)	9.5
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	63	17	16	974	968
v/c Ratio	0.20	0.06	0.04	0.39	0.39
Control Delay	18.6	8.5	5.4	5.1	5.0
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	18.6	8.5	5.4	5.3	5.0
Queue Length 50th (ft)	20	0	1	54	53
Queue Length 95th (ft)	38	11	10	155	153
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	701	574	379	2449	2436
Starvation Cap Reductn	0	0	0	730	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.04	0.57	0.40

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	58	16	15	896	855	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3219	
Flt Permitted	0.95	1.00	0.29	1.00	1.00	
Satd. Flow (perm)	1652	1330	502	3240	3219	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	17	16	974	929	39
RTOR Reduction (vph)	0	15	0	0	3	0
Lane Group Flow (vph)	63	2	16	974	965	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	5.8	5.8	33.8	33.8	33.8	
Effective Green, g (s)	5.8	5.8	33.8	33.8	33.8	
Actuated g/C Ratio	0.12	0.12	0.70	0.70	0.70	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	197	159	349	2253	2239	
v/s Ratio Prot	c0.04			c0.30	0.30	
v/s Ratio Perm		0.00	0.03			
v/c Ratio	0.32	0.01	0.05	0.43	0.43	
Uniform Delay, d1	19.6	18.9	2.3	3.2	3.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.0	0.2	0.4	0.4	
Delay (s)	20.5	18.9	2.5	3.6	3.6	
Level of Service	C	B	A	A	A	
Approach Delay (s)	20.2			3.6	3.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	48.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1184	958	836	2087	848	1178
v/c Ratio	0.67	0.67	0.84	1.11	0.56	1.19
Control Delay	21.7	20.4	48.0	74.1	1.5	137.7
Queue Delay	78.9	36.1	0.0	0.0	0.0	0.0
Total Delay	100.6	56.5	48.0	74.1	1.5	137.7
Queue Length 50th (ft)	366	296	388	~1140	0	~565
Queue Length 95th (ft)	444	378	m376	m#999	0	#682
Internal Link Dist (ft)	249			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1780	1434	1000	1888	1517	990
Starvation Cap Reductn	767	534	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	1.17	1.06	0.84	1.11	0.56	1.19

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1089	881	769	1920	0	0	0	780	0	0	1084
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.76
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3020	2378	2828	3020				1517			3187
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			3187
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1184	958	836	2087	0	0	0	848	0	0	1178
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1184	925	836	2087	0	0	0	848	0	0	1178
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		81.5	81.5	49.5	87.5				140.0			43.5
Effective Green, g (s)		81.5	81.5	49.5	87.5				140.0			43.5
Actuated g/C Ratio		0.58	0.58	0.35	0.62				1.00			0.31
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		1758	1384	1000	1888				1517			990
v/s Ratio Prot		0.39		0.30	c0.69							
v/s Ratio Perm			0.39						0.56			c0.37
v/c Ratio		0.67	0.67	0.84	1.11				0.56			1.19
Uniform Delay, d1		20.1	20.0	41.5	26.2				0.0			48.2
Progression Factor		1.00	1.00	1.07	0.85				1.00			1.00
Incremental Delay, d2		1.0	1.2	2.9	50.5				1.5			95.6
Delay (s)		21.1	21.2	47.5	72.9				1.5			143.9
Level of Service		C	C	D	E				A			F
Approach Delay (s)		21.2			65.6			1.5			143.9	
Approach LOS		C			E			A			F	

Intersection Summary			
HCM Average Control Delay	57.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	722	1310	1255	780	963	1797
v/c Ratio	0.85	0.39	0.62	0.84	0.60	1.18
Control Delay	30.9	0.3	10.9	21.6	1.6	94.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	0.3	10.9	21.6	1.6	94.8
Queue Length 50th (ft)	170	0	167	239	0	~247
Queue Length 95th (ft)	191	0	229	#491	0	#495
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	894	3355	2013	933	1611	1528
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	0.81	0.39	0.62	0.84	0.60	1.18

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	664	1205	0	0	1155	718	0	0	886	0	0	1653
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	722	1310	0	0	1255	780	0	0	963	0	0	1797
RTOR Reduction (vph)	0	0	0	0	0	14	0	0	0	0	0	0
Lane Group Flow (vph)	722	1310	0	0	1255	766	0	0	963	0	0	1797
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	19.0	70.0			42.0	42.0			70.0			70.0
Effective Green, g (s)	19.0	70.0			42.0	42.0			70.0			70.0
Actuated g/C Ratio	0.27	1.00			0.60	0.60			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	853	3355			2013	919			1611			1528
v/s Ratio Prot	0.23	0.39			0.37							
v/s Ratio Perm						0.50			0.60			c1.18
v/c Ratio	0.85	0.39			0.62	0.83			0.60			1.18
Uniform Delay, d1	24.1	0.0			8.9	11.2			0.0			35.0
Progression Factor	0.94	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	6.2	0.3			1.5	8.8			1.6			86.4
Delay (s)	28.9	0.3			10.4	20.0			1.6			121.4
Level of Service	C	A			B	B			A			F
Approach Delay (s)		10.4			14.1			1.6			121.4	
Approach LOS		B			B			A			F	

Intersection Summary			
HCM Average Control Delay	39.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	332	462	517	429	21	536	770	15	58	693	285
v/c Ratio	1.04	0.63	0.29	1.08	0.06	0.75	0.54	0.03	0.41	0.87	0.60
Control Delay	91.2	30.1	0.4	107.7	24.2	45.5	26.8	14.7	56.7	52.3	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.2	30.1	0.4	107.7	24.2	45.5	26.8	14.7	56.7	52.3	25.7
Queue Length 50th (ft)	~198	243	0	~328	6	177	220	3	38	240	92
Queue Length 95th (ft)	#419	399	0	#572	28	235	278	17	85	#380	199
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	319	733	1770	398	346	988	1617	603	155	800	474
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	1.04	0.63	0.29	1.08	0.06	0.54	0.48	0.02	0.37	0.87	0.60

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	425	476	3	392	19	493	708	14	53	638	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1473	3204	3539	1337	1652	3303	1550
Flt Permitted	0.14	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	242	1739	1770		1733	1473	3204	3539	1337	1652	3303	1550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	332	462	517	3	426	21	536	770	15	58	693	285
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	5	0	0	98
Lane Group Flow (vph)	332	462	517	0	429	13	536	770	10	58	693	187
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	44.7	44.7	108.3		24.2	24.2	23.0	42.2	42.2	7.0	26.1	26.1
Effective Green, g (s)	45.2	45.2	108.3		24.7	24.7	24.0	43.2	42.2	7.9	27.1	27.1
Actuated g/C Ratio	0.42	0.42	1.00		0.23	0.23	0.22	0.40	0.39	0.07	0.25	0.25
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.9	5.0	5.0
Vehicle Extension (s)	4.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	316	726	1770		395	336	710	1412	521	121	827	388
v/s Ratio Prot	c0.16	0.27					c0.17	0.22		0.04	c0.21	
v/s Ratio Perm	c0.28		0.29		0.25	0.01			0.01			0.12
v/c Ratio	1.05	0.64	0.29		1.09	0.04	0.75	0.55	0.02	0.48	0.84	0.48
Uniform Delay, d1	31.0	25.0	0.0		41.8	32.6	39.4	25.0	20.3	48.2	38.5	34.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	64.5	2.1	0.4		70.4	0.1	4.6	1.0	0.0	3.5	8.6	2.6
Delay (s)	95.5	27.1	0.4		112.2	32.6	44.0	26.0	20.4	51.7	47.1	37.2
Level of Service	F	C	A		F	C	D	C	C	D	D	D
Approach Delay (s)		33.9			108.5			33.2			44.7	
Approach LOS		C			F			C			D	

Intersection Summary			
HCM Average Control Delay	44.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	108.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	29	90	1078	160	1423
v/c Ratio	0.12	0.27	0.28	0.47	0.52
Control Delay	17.9	8.3	3.8	15.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	8.3	3.8	15.5	5.9
Queue Length 50th (ft)	9	4	31	16	81
Queue Length 95th (ft)	22	29	96	#131	258
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	527	649	3836	336	2704
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.14	0.28	0.48	0.53

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	26	1	83	0	950	41	147	1307	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.99		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		0.99		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1570	1400		4918		1619	3470	
Flt Permitted					0.74	1.00		1.00		0.25	1.00	
Satd. Flow (perm)					1220	1400		4918		431	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	28	1	90	0	1033	45	160	1421	2
RTOR Reduction (vph)	0	0	0	0	0	69	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	29	21	0	1073	0	160	1423	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					5.3	5.3		33.1		33.1	33.1	
Effective Green, g (s)					5.3	5.3		33.1		33.1	33.1	
Actuated g/C Ratio					0.11	0.11		0.70		0.70	0.70	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					138	158		3464		304	2444	
v/s Ratio Prot								0.22			c0.41	
v/s Ratio Perm					c0.02	0.01				0.37		
v/c Ratio					0.21	0.13		0.31		0.53	0.58	
Uniform Delay, d1					18.9	18.8		2.6		3.3	3.5	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.8	0.4		0.0		0.8	0.2	
Delay (s)					19.7	19.2		2.6		4.0	3.7	
Level of Service					B	B		A		A	A	
Approach Delay (s)		0.0			19.3			2.6			3.7	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	4.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	47.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	16	346	693	64	41
v/c Ratio	0.15	0.22	0.24	0.42	0.24
Control Delay	53.7	1.6	3.3	55.4	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	53.7	1.6	3.3	55.4	17.1
Queue Length 50th (ft)	7	0	35	44	0
Queue Length 95th (ft)	m19	1	42	85	33
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	169	1602	2840	459	441
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.22	0.24	0.14	0.09

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	15	318	559	78	59	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3474		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3474		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	346	608	85	64	41
RTOR Reduction (vph)	0	0	5	0	0	38
Lane Group Flow (vph)	16	346	688	0	64	3
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	3.1	92.8	85.2		8.2	8.2
Effective Green, g (s)	3.1	92.8	85.2		8.2	8.2
Actuated g/C Ratio	0.03	0.84	0.77		0.07	0.07
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	50	1572	2691		132	118
v/s Ratio Prot	0.01	c0.19	c0.20		c0.04	
v/s Ratio Perm						0.00
v/c Ratio	0.32	0.22	0.26		0.48	0.03
Uniform Delay, d1	52.4	1.7	3.5		48.9	47.2
Progression Factor	1.05	0.68	0.84		1.00	1.00
Incremental Delay, d2	3.4	0.3	0.2		2.8	0.1
Delay (s)	58.4	1.4	3.1		51.7	47.3
Level of Service	E	A	A		D	D
Approach Delay (s)		3.9	3.1		50.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1459	543	2551	554
v/c Ratio	0.60	0.68	0.50	0.76
Control Delay	16.6	16.9	0.4	20.3
Queue Delay	0.0	0.2	0.0	0.0
Total Delay	16.6	17.2	0.4	20.3
Queue Length 50th (ft)	109	144	0	155
Queue Length 95th (ft)	191	232	0	257
Internal Link Dist (ft)	391		249	
Turn Bay Length (ft)				
Base Capacity (vph)	2822	1229	5085	1120
Starvation Cap Reductn	0	196	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.53	0.50	0.49

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1312	30	500	2347	0	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6386		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6386		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1426	33	543	2551	0	554
RTOR Reduction (vph)	4	0	0	0	0	2
Lane Group Flow (vph)	1455	0	543	2551	0	552
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	22.0		25.8	56.8		25.8
Effective Green, g (s)	22.0		25.8	56.8		25.8
Actuated g/C Ratio	0.39		0.45	1.00		0.45
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	2473		804	5085		732
v/s Ratio Prot	0.23		0.31	c0.50		c0.34
v/s Ratio Perm						
v/c Ratio	0.59		0.68	0.50		0.75
Uniform Delay, d1	13.8		12.2	0.0		12.9
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.4		2.3	0.1		4.4
Delay (s)	14.2		14.5	0.1		17.3
Level of Service	B		B	A		B
Approach Delay (s)	14.2			2.6	17.3	
Approach LOS	B			A	B	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	56.8	Sum of lost time (s)	4.5
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	59	173	289	166	1162	27	1471	264	1446	1247	89
v/c Ratio	0.98	0.44	0.90	0.36	0.67	0.38	1.20	0.35	1.28	0.64	0.09
Control Delay	177.5	55.2	85.8	43.6	17.2	80.0	141.6	7.4	172.5	20.9	2.8
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	177.5	55.2	85.8	43.6	17.2	80.0	141.6	7.4	172.5	20.9	2.8
Queue Length 50th (ft)	55	73	257	123	344	24	~597	40	~866	401	0
Queue Length 95th (ft)	#155	102	#555	192	426	58	#695	83	#1004	481	24
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	60	702	320	467	1732	79	1228	750	1126	1943	944
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	0.98	0.25	0.90	0.36	0.67	0.34	1.20	0.35	1.28	0.64	0.09

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	134	25	266	153	1069	25	1353	243	1330	1147	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	2.5	2.5		2.5	2.5	2.5	2.5	1.8	1.8	2.5	1.8	1.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3113		1678	1689	2642	1620	4655	1449	3143	3240	1515
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3113		1678	1689	2642	1620	4655	1449	3143	3240	1515
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	146	27	289	166	1162	27	1471	264	1446	1247	89
RTOR Reduction (vph)	0	12	0	0	0	8	0	0	83	0	0	36
Lane Group Flow (vph)	59	161	0	289	166	1154	27	1471	181	1446	1247	53
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	4.0	15.1		25.9	37.0	91.0	3.5	36.6	62.5	49.5	82.6	82.6
Effective Green, g (s)	5.0	17.1		26.9	39.0	93.0	4.5	38.6	66.5	50.5	84.6	84.6
Actuated g/C Ratio	0.04	0.12		0.19	0.27	0.65	0.03	0.27	0.47	0.35	0.59	0.59
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	3.0	3.0
Lane Grp Cap (vph)	59	374		317	463	1725	51	1262	677	1115	1925	900
v/s Ratio Prot	c0.04	0.05		c0.17	0.10	c0.44	0.02	c0.32	0.12	c0.46	0.38	
v/s Ratio Perm												0.03
v/c Ratio	1.00	0.43		0.91	0.36	0.67	0.53	1.17	0.27	1.30	0.65	0.06
Uniform Delay, d1	68.7	58.1		56.6	41.6	15.2	67.9	51.9	23.1	46.0	19.1	12.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	117.2	1.4		28.6	0.7	1.1	4.5	83.5	0.3	140.3	0.8	0.0
Delay (s)	185.9	59.5		85.2	42.3	16.3	72.4	135.4	23.4	186.3	19.8	12.2
Level of Service	F	E		F	D	B	E	F	C	F	B	B
Approach Delay (s)		91.6			31.3			117.6			106.1	
Approach LOS		F			C			F			F	

Intersection Summary			
HCM Average Control Delay	89.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	11.8
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	145	1726	25	1499	183	28	148	187	124
v/c Ratio	0.59	0.78	0.15	0.81	0.20	0.25	0.64	0.49	0.52
Control Delay	52.1	17.6	52.2	14.5	0.5	50.9	21.2	46.7	28.5
Queue Delay	0.0	3.8	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	52.1	21.5	52.2	14.5	0.5	50.9	21.4	46.7	28.5
Queue Length 50th (ft)	92	249	17	87	0	18	1	62	36
Queue Length 95th (ft)	159	#767	m25	#648	m1	45	60	94	92
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	247	2210	170	1842	898	224	318	462	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	394	0	0	0	0	18	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.95	0.15	0.81	0.20	0.13	0.49	0.40	0.45

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	133	1572	16	23	1379	168	26	2	134	172	42	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	2.0	3.0		2.0	3.0	3.0	2.0	2.0		2.0	2.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.98		1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3174		1620	3209	1435	1678	1431		3143	1474	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3174		1620	3209	1435	1678	1431		3143	1474	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	145	1709	17	25	1499	183	28	2	146	187	46	78
RTOR Reduction (vph)	0	0	0	0	0	77	0	136	0	0	59	0
Lane Group Flow (vph)	145	1726	0	25	1499	106	28	12	0	187	65	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	16.8	70.3		4.0	57.5	57.5	5.9	5.9		11.8	11.8	
Effective Green, g (s)	17.8	71.3		5.0	58.5	58.5	6.9	6.9		12.8	12.8	
Actuated g/C Ratio	0.17	0.68		0.05	0.56	0.56	0.07	0.07		0.12	0.12	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	275	2155		77	1788	800	110	94		383	180	
v/s Ratio Prot	0.09	c0.54		0.02	c0.47		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.07						
v/c Ratio	0.53	0.80		0.32	0.84	0.13	0.25	0.12		0.49	0.36	
Uniform Delay, d1	39.8	11.9		48.4	19.3	11.1	46.6	46.2		43.0	42.3	
Progression Factor	1.00	1.00		1.17	0.52	0.02	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	3.2		0.8	4.2	0.3	0.4	0.2		1.0	1.2	
Delay (s)	40.6	15.1		57.4	14.3	0.5	47.1	46.4		44.0	43.6	
Level of Service	D	B		E	B	A	D	D		D	D	
Approach Delay (s)		17.1			13.4			46.5			43.9	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	1966	398	1584	185	227	147	99
v/c Ratio	0.38	0.84	0.88	0.52	0.77	0.27	0.82	0.51
Control Delay	51.1	21.4	65.4	8.3	65.2	11.9	78.2	43.9
Queue Delay	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	25.3	65.4	8.3	65.2	11.9	78.2	43.9
Queue Length 50th (ft)	22	428	131	147	120	28	96	49
Queue Length 95th (ft)	m29	302	m#190	m169	#205	53	#198	104
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	93	2344	451	3038	275	830	195	210
Starvation Cap Reductn	0	300	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	146	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.96	0.88	0.55	0.67	0.27	0.75	0.47

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	1646	163	366	1403	54	152	18	209	135	60	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	2.0	3.0		2.5	3.0			2.0	2.5	2.0	2.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4506		3143	4745			1807	2807	1562	1535	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4506		3143	4745			1807	2807	1562	1535	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1789	177	398	1525	59	165	20	227	147	65	34
RTOR Reduction (vph)	0	11	0	0	3	0	0	0	67	0	18	0
Lane Group Flow (vph)	33	1955	0	398	1581	0	0	185	160	147	81	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	3.0	53.4		14.1	65.0			12.9	27.0	11.1	11.1	
Effective Green, g (s)	4.0	54.4		15.1	66.0			13.9	29.0	12.1	12.1	
Actuated g/C Ratio	0.04	0.52		0.14	0.63			0.13	0.28	0.12	0.12	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	62	2335		452	2983			239	775	180	177	
v/s Ratio Prot	0.02	c0.43		c0.13	0.33			c0.10	0.03	c0.09	0.05	
v/s Ratio Perm									0.03			
v/c Ratio	0.53	0.84		0.88	0.53			0.77	0.21	0.82	0.46	
Uniform Delay, d1	49.6	21.5		44.1	10.9			44.0	29.2	45.4	43.4	
Progression Factor	0.89	0.84		1.11	0.69			1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.9	2.6		12.8	0.5			13.2	0.0	22.9	0.7	
Delay (s)	47.1	20.6		61.8	7.9			57.3	29.2	68.3	44.1	
Level of Service	D	C		E	A			E	C	E	D	
Approach Delay (s)		21.0			18.8			41.8			58.6	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	671	2150	1355	424	175	684
v/c Ratio	0.19	0.85	0.55	0.35	0.29	1.02
Control Delay	1.9	12.4	6.2	1.2	38.7	71.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.9	12.4	6.2	1.2	38.7	71.4
Queue Length 50th (ft)	20	334	162	0	53	~209
Queue Length 95th (ft)	m25	363	205	21	85	#344
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3604	2533	2445	1217	601	672
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	0.19	0.85	0.55	0.35	0.29	1.02

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	617	1978	0	1247	390	0	0	0	161	0	629
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	671	2150	0	1355	424	0	0	0	175	0	684
RTOR Reduction (vph)	0	0	0	0	0	105	0	0	0	0	0	149
Lane Group Flow (vph)	0	671	2150	0	1355	319	0	0	0	175	0	535
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		4
Permitted Phases			2 4			6				4		
Actuated Green, G (s)		79.0	105.0		79.0	79.0				18.0		18.0
Effective Green, g (s)		80.0	105.0		80.0	79.0				19.0		19.0
Actuated g/C Ratio		0.76	1.00		0.76	0.75				0.18		0.18
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3604	2533		2445	1112				601		523
v/s Ratio Prot		0.14			0.42					0.05		c0.19
v/s Ratio Perm			c0.85			0.22						
v/c Ratio		0.19	0.85		0.55	0.29				0.29		1.02
Uniform Delay, d1		3.5	0.0		5.2	4.1				37.2		43.0
Progression Factor		0.52	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.1	2.4		0.9	0.6				0.4		45.3
Delay (s)		1.9	2.4		6.1	4.8				37.5		88.3
Level of Service		A	A		A	A				D		F
Approach Delay (s)		2.3			5.8			0.0			77.9	
Approach LOS		A			A			A			E	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	3.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	196	26	39	126	374	122
v/c Ratio	0.53	0.07	0.19	0.10	0.36	0.12
Control Delay	25.2	7.7	25.8	4.4	9.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	7.7	25.8	4.4	9.9	2.9
Queue Length 50th (ft)	63	0	13	13	44	0
Queue Length 95th (ft)	105	15	37	35	167	25
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	587	542	216	1242	1034	994
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	0.33	0.05	0.18	0.10	0.36	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	180	24	36	116	344	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1562
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	26	39	126	374	122
RTOR Reduction (vph)	0	20	0	0	0	53
Lane Group Flow (vph)	196	6	39	126	374	69
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	12.2	12.2	2.8	39.8	33.0	33.0
Effective Green, g (s)	13.2	13.2	3.8	40.8	34.0	34.0
Actuated g/C Ratio	0.22	0.22	0.06	0.68	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	369	330	103	1242	966	885
v/s Ratio Prot	c0.12		c0.02	0.07	c0.22	
v/s Ratio Perm		0.00				0.04
v/c Ratio	0.53	0.02	0.38	0.10	0.39	0.08
Uniform Delay, d1	20.7	18.3	27.0	3.3	7.2	5.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0	2.3	0.2	1.2	0.2
Delay (s)	22.1	18.3	29.3	3.5	8.4	6.1
Level of Service	C	B	C	A	A	A
Approach Delay (s)	21.7			9.6	7.8	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	214	242	296	30	1502	72	1292
v/c Ratio	0.52	0.64	0.71	0.25	0.92	0.64	0.79
Control Delay	20.0	25.4	26.2	16.5	26.7	45.6	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.0	25.4	26.2	16.5	26.7	45.6	17.5
Queue Length 50th (ft)	57	71	83	5	238	17	181
Queue Length 95th (ft)	111	136	157	27	#461	#90	#362
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	550	505	552	119	1625	112	1628
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	0.39	0.48	0.54	0.25	0.92	0.64	0.79

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	116	22	130	93	272	28	1299	83	66	1139	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1536			1682	1306	1618	3046		1562	3055	
Flt Permitted		0.84			0.70	1.00	0.13	1.00		0.13	1.00	
Satd. Flow (perm)		1313			1220	1306	224	3046		211	3055	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	126	24	141	101	296	30	1412	90	72	1238	54
RTOR Reduction (vph)	0	8	0	0	0	14	0	7	0	0	4	0
Lane Group Flow (vph)	0	206	0	0	242	282	30	1495	0	72	1288	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		18.1			18.1	18.1	31.1	31.1		31.1	31.1	
Effective Green, g (s)		18.1			18.1	18.1	31.1	31.1		31.1	31.1	
Actuated g/C Ratio		0.31			0.31	0.31	0.53	0.53		0.53	0.53	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		407			378	405	119	1622		112	1627	
v/s Ratio Prot								c0.49			0.42	
v/s Ratio Perm		0.16			0.20	c0.22	0.13			0.34		
v/c Ratio		0.51			0.64	0.70	0.25	0.92		0.64	0.79	
Uniform Delay, d1		16.5			17.3	17.7	7.4	12.5		9.7	11.0	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4			4.1	5.6	1.5	9.2		13.3	2.9	
Delay (s)		17.9			21.4	23.3	8.9	21.8		23.0	13.9	
Level of Service		B			C	C	A	C		C	B	
Approach Delay (s)		17.9			22.5			21.5			14.4	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	9.2
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	28	299	620	185	361	28
v/c Ratio	0.27	0.22	0.55	0.13	1.21	0.10
Control Delay	55.2	5.2	8.2	0.2	161.3	23.1
Queue Delay	0.0	0.0	1.0	0.0	16.2	0.0
Total Delay	55.2	5.2	9.3	0.2	177.6	23.1
Queue Length 50th (ft)	19	59	87	1	~312	7
Queue Length 95th (ft)	49	89	m234	m0	#496	32
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	118	1335	1137	1383	298	270
Starvation Cap Reductn	0	0	278	0	0	0
Spillback Cap Reductn	0	3	0	0	9	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.22	0.72	0.13	1.25	0.10

Intersection Summary

~ 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.

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	26	275	570	170	332	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1574	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1574	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	299	620	185	361	28
RTOR Reduction (vph)	0	0	0	29	0	13
Lane Group Flow (vph)	28	299	620	156	361	15
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	4.7	80.4	71.7	92.7	21.0	21.0
Effective Green, g (s)	4.7	80.4	71.7	92.7	21.0	21.0
Actuated g/C Ratio	0.04	0.73	0.65	0.84	0.19	0.19
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	69	1335	1111	1326	298	258
v/s Ratio Prot	c0.02	0.16	c0.36	0.02	c0.23	
v/s Ratio Perm				0.08		0.01
v/c Ratio	0.41	0.22	0.56	0.12	1.21	0.06
Uniform Delay, d1	51.3	4.8	10.5	1.5	44.5	36.4
Progression Factor	1.00	1.00	0.61	0.20	1.00	1.00
Incremental Delay, d2	3.9	0.4	1.6	0.0	122.1	0.1
Delay (s)	55.2	5.2	8.0	0.3	166.6	36.5
Level of Service	E	A	A	A	F	D
Approach Delay (s)		9.4	6.2		157.2	
Approach LOS		A	A		F	

Intersection Summary			
HCM Average Control Delay	45.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	375	364	367	360	475	274	3
v/c Ratio	0.78	0.55	0.92	0.37	0.83	0.45	0.04
Control Delay	31.4	2.6	69.4	15.3	47.2	16.6	51.3
Queue Delay	2.6	0.1	0.0	0.0	0.9	0.0	0.0
Total Delay	34.0	2.6	69.4	15.3	48.1	16.6	51.3
Queue Length 50th (ft)	151	0	247	127	306	71	2
Queue Length 95th (ft)	m213	m0	#505	231	#479	144	12
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	478	663	400	962	574	604	80
Starvation Cap Reductn	39	12	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	16	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.56	0.92	0.37	0.85	0.45	0.04

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	344	335	338	330	1	434	3	252	2	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.98		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (prot)		1759	1462	1562	1704			1682	1725		1754	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (perm)		1758	1462	1562	1704			1682	1725		1754	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	374	364	367	359	1	472	3	274	2	1	0
RTOR Reduction (vph)	0	0	276	0	0	0	0	0	94	0	0	0
Lane Group Flow (vph)	0	375	88	367	360	0	0	475	180	0	3	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		26.7	26.7	28.2	58.9			37.0	33.0		1.0	
Effective Green, g (s)		26.7	26.7	28.2	58.9			37.0	33.0		1.0	
Actuated g/C Ratio		0.24	0.24	0.26	0.54			0.34	0.30		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		427	355	400	912			566	518		16	
v/s Ratio Prot				c0.23	0.21			c0.28	0.04		c0.00	
v/s Ratio Perm		c0.21	0.06						0.07			
v/c Ratio		0.88	0.25	0.92	0.39			0.84	0.35		0.19	
Uniform Delay, d1		40.1	33.6	39.8	15.1			33.7	30.1		54.1	
Progression Factor		0.58	0.06	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		16.8	1.2	25.4	1.3			10.5	0.4		5.6	
Delay (s)		39.9	3.3	65.2	16.3			44.3	30.5		59.7	
Level of Service		D	A	E	B			D	C		E	
Approach Delay (s)		21.8			41.0			39.2			59.7	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	80	160	27	142	121	676	15	770	139	267	871
v/c Ratio	0.61	0.35	0.07	0.70	0.21	0.95	0.17	0.82	0.33	0.88	0.60
Control Delay	79.9	40.9	14.7	73.1	32.9	42.4	65.4	50.5	25.2	80.2	28.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.9	40.9	14.7	73.1	32.9	42.4	65.4	50.5	25.2	80.2	28.7
Queue Length 50th (ft)	68	109	1	120	75	313	13	328	58	234	274
Queue Length 95th (ft)	#136	184	27	194	130	#602	38	407	117	#423	408
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	149	535	464	265	641	747	149	1115	492	305	1467
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	0.54	0.30	0.06	0.54	0.19	0.90	0.10	0.69	0.28	0.88	0.59

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	147	25	131	111	622	14	708	128	246	752	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1451	1620	1739	1391	1652	3240	1331	1620	3047	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1451	1620	1739	1391	1652	3240	1331	1620	3047	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	160	27	142	121	676	15	770	139	267	817	54
RTOR Reduction (vph)	0	0	18	0	0	249	0	0	36	0	3	0
Lane Group Flow (vph)	80	160	9	142	121	427	15	770	103	267	868	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	8.7	34.5	34.5	16.8	42.6	42.6	3.3	38.8	38.8	24.6	60.1	
Effective Green, g (s)	7.7	34.0	34.0	15.8	42.1	42.1	2.3	38.3	38.3	23.6	59.6	
Actuated g/C Ratio	0.06	0.27	0.27	0.12	0.33	0.33	0.02	0.30	0.30	0.18	0.47	
Clearance Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	100	463	386	200	573	459	30	972	399	299	1422	
v/s Ratio Prot	0.05	0.09		c0.09	0.07		0.01	c0.24		c0.16	0.28	
v/s Ratio Perm			0.01			c0.31			0.08			
v/c Ratio	0.80	0.35	0.02	0.71	0.21	0.93	0.50	0.79	0.26	0.89	0.61	
Uniform Delay, d1	59.2	37.9	34.6	53.7	30.8	41.4	62.1	41.0	33.9	50.8	25.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	36.8	0.6	0.0	11.7	0.3	25.5	16.8	4.7	0.5	27.2	0.9	
Delay (s)	96.0	38.5	34.6	65.5	31.1	66.8	78.9	45.8	34.4	78.0	26.3	
Level of Service	F	D	C	E	C	E	E	D	C	E	C	
Approach Delay (s)		55.3			62.0			44.6			38.4	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	48.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	127.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	39	609	88	1415	1397	177	498	710	220	557	48
v/c Ratio	0.58	0.81	0.28	1.00	0.78	0.96	0.73	0.39	0.79	0.96	0.17
Control Delay	97.9	66.2	12.2	56.6	23.8	127.1	41.8	10.7	82.7	85.1	28.3
Queue Delay	0.0	0.0	0.0	36.0	1.0	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	97.9	66.2	12.2	92.7	24.8	127.1	41.8	10.9	82.7	85.1	28.3
Queue Length 50th (ft)	36	198	0	639	490	129	218	289	103	267	17
Queue Length 95th (ft)	#92	246	49	#824	584	#328	184	26	#165	#386	55
Internal Link Dist (ft)		238			387		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	67	761	315	1418	1799	184	681	1806	279	581	285
Starvation Cap Reductn	0	0	0	130	180	0	0	378	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	0.58	0.80	0.28	1.10	0.86	0.96	0.73	0.50	0.79	0.96	0.17

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	560	81	1302	1052	234	163	458	653	202	512	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3141		1678	3355	2706	3255	3240	1470
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3141		1678	3355	2706	3255	3240	1470
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	609	88	1415	1143	254	177	498	710	220	557	48
RTOR Reduction (vph)	0	0	74	0	14	0	0	0	0	0	0	21
Lane Group Flow (vph)	39	609	14	1415	1383	0	177	498	710	220	557	27
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	4.8	21.1	21.1	61.0	77.3		15.3	26.9	93.4	12.0	23.6	23.6
Effective Green, g (s)	4.8	22.6	22.6	61.0	78.8		15.3	28.4	87.9	12.0	25.1	25.1
Actuated g/C Ratio	0.03	0.16	0.16	0.44	0.56		0.11	0.20	0.63	0.09	0.18	0.18
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	54	751	238	1418	1768		183	681	1699	279	581	264
v/s Ratio Prot	0.02	0.13		c0.43	c0.44		c0.11	c0.15	0.26	0.07	c0.17	
v/s Ratio Perm			0.01									0.02
v/c Ratio	0.72	0.81	0.06	1.00	0.78		0.97	0.73	0.42	0.79	0.96	0.10
Uniform Delay, d1	66.9	56.6	49.7	39.4	23.9		62.1	52.2	13.1	62.8	56.9	48.0
Progression Factor	1.00	1.00	1.00	0.89	0.89		1.17	0.67	0.94	1.00	1.00	1.00
Incremental Delay, d2	39.9	9.3	0.5	21.3	3.0		56.0	4.2	0.2	14.5	27.2	0.2
Delay (s)	106.9	65.9	50.2	56.3	24.2		128.8	39.0	12.6	77.2	84.1	48.2
Level of Service	F	E	D	E	C		F	D	B	E	F	D
Approach Delay (s)		66.2			40.3			37.0			80.2	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM Average Control Delay	48.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	209	1494	254	2057	151	153	85	347
v/c Ratio	1.00	0.57	0.79	0.85	0.62	0.61	0.27	0.92
Control Delay	114.4	20.4	61.2	17.7	64.1	63.7	10.6	62.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.4	20.4	61.2	17.7	64.1	63.7	10.6	62.7
Queue Length 50th (ft)	~197	227	179	245	138	141	0	86
Queue Length 95th (ft)	#371	388	m237	#835	191	191	43	#183
Internal Link Dist (ft)		660		577		351		533
Turn Bay Length (ft)	125		180		200			
Base Capacity (vph)	208	2632	363	2432	402	411	459	377
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	1.00	0.57	0.70	0.85	0.38	0.37	0.19	0.92

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	192	1026	349	234	1845	48	227	52	78	29	116	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.86		1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (prot)	1620	5621		1678	4634		1539	1571	1512		3027	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (perm)	1620	5621		1678	4634		1539	1571	1512		3027	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	209	1115	379	254	2005	52	247	57	85	32	126	189
RTOR Reduction (vph)	0	36	0	0	1	0	0	0	71	0	157	0
Lane Group Flow (vph)	209	1458	0	254	2056	0	151	153	14	0	190	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases									8			
Actuated Green, G (s)	17.1	63.6		25.8	72.3		21.8	21.8	21.8		9.6	
Effective Green, g (s)	18.1	64.6		26.8	73.3		22.4	22.4	22.4		10.2	
Actuated g/C Ratio	0.13	0.46		0.19	0.52		0.16	0.16	0.16		0.07	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	209	2594		321	2426		246	251	242		221	
v/s Ratio Prot	c0.13	0.26		0.15	c0.44		c0.10	0.10			c0.06	
v/s Ratio Perm									0.01			
v/c Ratio	1.00	0.56		0.79	0.85		0.61	0.61	0.06		0.86	
Uniform Delay, d1	61.0	27.4		53.9	28.6		54.8	54.7	49.8		64.2	
Progression Factor	0.85	0.70		0.93	0.48		1.00	1.00	1.00		1.00	
Incremental Delay, d2	60.8	0.8		8.0	2.3		5.1	4.8	0.1		28.0	
Delay (s)	112.8	19.9		58.4	16.0		59.9	59.5	50.0		92.2	
Level of Service	F	B		E	B		E	E	D		F	
Approach Delay (s)		31.3			20.7			57.6			92.2	
Approach LOS		C			C			E			F	

Intersection Summary			
HCM Average Control Delay	32.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	166	1161	334	1610	321	251	186	55	715
v/c Ratio	0.83	0.85	0.82	0.82	0.86	0.24	0.28	0.48	0.91
Control Delay	65.5	34.1	66.9	41.6	82.5	35.3	5.5	80.5	59.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.5	34.1	66.9	41.6	82.5	35.3	5.5	80.5	59.2
Queue Length 50th (ft)	149	378	289	493	149	87	0	25	280
Queue Length 95th (ft)	m#247	m435	#440	561	#226	124	54	50	#384
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	218	1363	408	1954	382	1060	668	114	818
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.85	0.82	0.82	0.84	0.24	0.28	0.48	0.87

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	153	728	340	307	1455	26	295	231	171	51	380	278
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4491		1652	4720		3143	3240	1659	3204	3011	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4491		1652	4720		3143	3240	1659	3204	3011	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	791	370	334	1582	28	321	251	186	55	413	302
RTOR Reduction (vph)	0	59	0	0	1	0	0	0	126	0	96	0
Lane Group Flow (vph)	166	1102	0	334	1609	0	321	251	60	55	619	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	17.4	39.1		34.7	56.4		17.6	45.9	45.9	4.8	33.1	
Effective Green, g (s)	17.3	40.1		34.6	57.4		16.6	45.5	45.5	3.8	32.7	
Actuated g/C Ratio	0.12	0.29		0.25	0.41		0.12	0.32	0.32	0.03	0.23	
Clearance Time (s)	3.9	5.0		3.9	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	200	1286		408	1935		373	1053	539	87	703	
v/s Ratio Prot	0.10	c0.25		0.20	c0.34		c0.10	0.08		0.02	c0.21	
v/s Ratio Perm									0.04			
v/c Ratio	0.83	0.86		0.82	0.83		0.86	0.24	0.11	0.63	0.88	
Uniform Delay, d1	59.9	47.2		49.7	37.0		60.6	34.6	33.1	67.4	51.8	
Progression Factor	0.62	0.63		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	21.3	6.6		12.7	4.3		18.5	0.2	0.1	15.7	12.7	
Delay (s)	58.4	36.4		62.4	41.3		79.1	34.7	33.2	83.1	64.5	
Level of Service	E	D		E	D		E	C	C	F	E	
Approach Delay (s)		39.1			44.9			53.1			65.8	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	48.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	46	68	233	17	977	72	920	1081
v/c Ratio	0.39	0.56	0.51	0.21	0.58	0.09	0.86	0.39
Control Delay	58.6	77.5	10.7	75.1	28.1	5.6	43.0	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	58.6	77.5	10.7	75.1	28.1	5.6	43.0	7.9
Queue Length 50th (ft)	32	60	0	14	391	11	348	149
Queue Length 95th (ft)	73	109	43	m33	528	m50	390	362
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	171	183	570	83	1688	829	1263	2787
Starvation Cap Reductn	0	0	0	0	0	0	0	940
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	0.27	0.37	0.41	0.20	0.58	0.09	0.73	0.59

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	0	10	61	2	214	16	899	66	846	912	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		0.99			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1694			1777	2787	1678	3355	1583	3433	3420	
Flt Permitted		0.70			0.74	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1235			1384	2787	1678	3355	1583	3433	3420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	0	11	66	2	233	17	977	72	920	991	90
RTOR Reduction (vph)	0	8	0	0	0	213	0	0	33	0	4	0
Lane Group Flow (vph)	0	38	0	0	68	20	17	977	39	920	1077	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		12.3			12.3	12.3	3.0	70.4	70.4	43.8	111.2	
Effective Green, g (s)		12.3			12.3	12.3	3.0	70.4	70.4	43.8	111.2	
Actuated g/C Ratio		0.09			0.09	0.09	0.02	0.50	0.50	0.31	0.79	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		109			122	245	36	1687	796	1074	2716	
v/s Ratio Prot							0.01	c0.29		c0.27	0.32	
v/s Ratio Perm		0.03			c0.05	0.01			0.02			
v/c Ratio		0.35			0.56	0.08	0.47	0.58	0.05	0.86	0.40	
Uniform Delay, d1		60.1			61.2	58.7	67.7	24.4	17.7	45.2	4.3	
Progression Factor		1.00			1.00	1.00	1.09	1.02	0.87	0.81	1.65	
Incremental Delay, d2		1.9			5.4	0.1	8.5	1.3	0.1	5.2	0.3	
Delay (s)		62.0			66.7	58.8	82.3	26.1	15.5	41.7	7.5	
Level of Service		E			E	E	F	C	B	D	A	
Approach Delay (s)		62.0			60.6			26.3			23.2	
Approach LOS		E			E			C			C	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	69.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	186	26	68	92	463	32	524	363	603
v/c Ratio	0.54	0.08	0.29	0.22	0.69	0.20	0.64	0.73	0.34
Control Delay	31.0	10.3	27.4	24.4	8.9	40.4	26.9	33.7	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	10.3	27.4	24.4	8.9	40.4	26.9	33.7	9.7
Queue Length 50th (ft)	67	0	23	30	0	13	95	131	51
Queue Length 95th (ft)	156	19	67	80	84	49	194	#309	146
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	653	593	437	798	851	163	1268	743	2293
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.04	0.16	0.12	0.54	0.20	0.41	0.49	0.26

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	94	24	63	85	426	29	404	78	334	525	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1693	1259	1620	1739	1314	1711	2992		1620	3052	
Flt Permitted		0.82	1.00	0.56	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1426	1259	952	1739	1314	1711	2992		1620	3052	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	102	26	68	92	463	32	439	85	363	571	32
RTOR Reduction (vph)	0	0	20	0	0	352	0	16	0	0	4	0
Lane Group Flow (vph)	0	186	6	68	92	111	32	508	0	363	599	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		16.7	16.7	16.7	16.7	16.7	1.9	20.8		20.9	39.8	
Effective Green, g (s)		16.7	16.7	16.7	16.7	16.7	1.9	20.8		20.9	39.8	
Actuated g/C Ratio		0.24	0.24	0.24	0.24	0.24	0.03	0.30		0.30	0.57	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		341	301	227	415	314	47	890		484	1738	
v/s Ratio Prot					0.05		0.02	c0.17		c0.22	0.20	
v/s Ratio Perm		c0.13	0.00	0.07		0.08						
v/c Ratio		0.55	0.02	0.30	0.22	0.35	0.68	0.57		0.75	0.34	
Uniform Delay, d1		23.3	20.3	21.8	21.4	22.1	33.7	20.8		22.1	8.1	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.0	0.7	0.3	0.7	33.6	1.1		6.4	0.2	
Delay (s)		25.1	20.4	22.5	21.6	22.8	67.3	21.8		28.6	8.2	
Level of Service		C	C	C	C	C	E	C		C	A	
Approach Delay (s)		24.5			22.6			24.5			15.9	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	69.9	Sum of lost time (s)	11.5
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	221	285	197	562	203	1073	43	1020
v/c Ratio	0.50	0.78	0.64	0.78	0.79	0.80	0.44	0.40	0.70
Control Delay	66.3	75.1	12.7	79.0	59.2	79.6	20.3	94.2	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	75.1	12.7	79.0	59.2	79.6	20.3	94.2	13.1
Queue Length 50th (ft)	64	194	0	173	247	178	216	40	340
Queue Length 95th (ft)	104	285	89	#272	300	#280	261	84	320
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	302	322	463	278	856	283	2414	116	1455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.69	0.62	0.71	0.66	0.72	0.44	0.37	0.70

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	203	262	181	401	116	187	746	241	40	854	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1305	1770	3408		1652	4450		1770	3403	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1305	1770	3408		1652	4450		1770	3403	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	221	285	197	436	126	203	811	262	43	928	92
RTOR Reduction (vph)	0	0	241	0	20	0	0	38	0	0	5	0
Lane Group Flow (vph)	146	221	44	197	542	0	203	1035	0	43	1015	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	13.3	21.6	21.6	19.9	28.2		21.5	74.1		7.2	59.8	
Effective Green, g (s)	13.3	21.6	21.6	19.9	28.2		21.5	74.1		7.2	59.8	
Actuated g/C Ratio	0.10	0.15	0.15	0.14	0.20		0.15	0.53		0.05	0.43	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	291	285	201	252	686		254	2355		91	1454	
v/s Ratio Prot	0.05	c0.12		0.11	c0.16		c0.12	0.23		0.02	c0.30	
v/s Ratio Perm			0.03									
v/c Ratio	0.50	0.78	0.22	0.78	0.79		0.80	0.44		0.47	0.70	
Uniform Delay, d1	60.2	56.9	51.8	58.0	53.1		57.2	20.2		64.6	32.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.33	0.30	
Incremental Delay, d2	1.9	13.1	0.8	15.3	6.5		16.8	0.6		4.9	2.6	
Delay (s)	62.1	70.0	52.6	73.3	59.6		74.0	20.8		90.5	12.5	
Level of Service	E	E	D	E	E		E	C		F	B	
Approach Delay (s)		60.6			63.2			29.3			15.7	
Approach LOS		E			E			C			B	

Intersection Summary			
HCM Average Control Delay	37.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	71	357	101	1116	16	14	57	57	22
v/c Ratio	0.53	0.30	0.57	0.87	0.14	0.09	0.45	0.30	0.29
Control Delay	63.8	11.9	59.9	27.4	46.9	22.5	57.9	17.2	57.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	11.9	59.9	27.4	46.9	22.5	57.9	17.2	57.1
Queue Length 50th (ft)	47	65	69	565	11	1	39	2	15
Queue Length 95th (ft)	#122	240	124	#1146	32	20	78	40	41
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	250		60		100				
Base Capacity (vph)	134	1201	208	1280	212	273	228	307	77
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.30	0.49	0.87	0.08	0.05	0.25	0.19	0.29

Intersection Summary

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

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	292	37	93	822	205	15	1	12	52	3	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1826		1770	1807		1711	1603		1770	1598	
Flt Permitted	0.95	1.00		0.95	1.00		0.72	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1826		1770	1807		1296	1603		1394	1598	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	317	40	101	893	223	16	1	13	57	3	54
RTOR Reduction (vph)	0	3	0	0	0	0	0	12	0	0	50	0
Lane Group Flow (vph)	71	354	0	101	1116	0	16	2	0	57	7	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.0	68.6		10.9	72.5		8.7	8.7		8.7	8.7	
Effective Green, g (s)	7.0	68.6		10.9	72.5		8.7	8.7		8.7	8.7	
Actuated g/C Ratio	0.06	0.62		0.10	0.66		0.08	0.08		0.08	0.08	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	113	1139		175	1191		103	127		110	126	
v/s Ratio Prot	0.04	0.19		c0.06	c0.62			0.00			0.00	
v/s Ratio Perm							0.01			c0.04		
v/c Ratio	0.63	0.31		0.58	0.94		0.16	0.02		0.52	0.06	
Uniform Delay, d1	50.2	9.7		47.3	16.7		47.2	46.7		48.6	46.9	
Progression Factor	0.99	1.02		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.2	0.7		4.6	14.8		0.7	0.1		4.1	0.2	
Delay (s)	60.1	10.5		51.9	31.5		47.9	46.8		52.7	47.1	
Level of Service	E	B		D	C		D	D		D	D	
Approach Delay (s)		18.8			33.2			47.4			49.9	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR
Lane Configurations	
Volume (vph)	20
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1096
Flt Permitted	1.00
Satd. Flow (perm)	1096
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	22
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	50%
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	9
Actuated Green, G (s)	3.8
Effective Green, g (s)	3.8
Actuated g/C Ratio	0.03
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	38
v/s Ratio Prot	c0.02
v/s Ratio Perm	
v/c Ratio	0.58
Uniform Delay, d1	52.3
Progression Factor	1.00
Incremental Delay, d2	19.6
Delay (s)	71.9
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	92	345	12	961	68	126	14	78	446
v/c Ratio	0.99	0.28	0.19	1.02	1.08	0.25	0.04	0.26	0.87
Control Delay	143.8	9.3	58.7	59.0	178.7	32.7	13.7	34.2	52.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	143.8	9.3	58.7	59.0	178.7	32.7	13.7	34.2	52.7
Queue Length 50th (ft)	66	86	8	~685	~54	69	0	43	273
Queue Length 95th (ft)	#173	162	29	#969	#146	121	16	86	#454
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	93	1226	62	945	63	510	371	300	514
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.28	0.19	1.02	1.08	0.25	0.04	0.26	0.87

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	85	222	96	11	830	54	63	116	13	72	206	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1927		1711	1702		1652	1863	1320	1638	1758	
Flt Permitted	0.95	1.00		0.95	1.00		0.13	1.00	1.00	0.64	1.00	
Satd. Flow (perm)	1711	1927		1711	1702		231	1863	1320	1098	1758	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	92	241	104	12	902	59	68	126	14	78	224	222
RTOR Reduction (vph)	0	13	0	0	2	0	0	0	10	0	33	0
Lane Group Flow (vph)	92	332	0	12	959	0	68	126	4	78	413	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	6.0	69.3		0.8	64.1		30.1	30.1	30.1	30.1	30.1	
Effective Green, g (s)	6.0	69.3		0.8	64.1		30.1	30.1	30.1	30.1	30.1	
Actuated g/C Ratio	0.05	0.61		0.01	0.57		0.27	0.27	0.27	0.27	0.27	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	91	1180		12	964		61	495	351	292	467	
v/s Ratio Prot	c0.05	0.17		0.01	c0.56			0.07			0.23	
v/s Ratio Perm							c0.29		0.00	0.07		
v/c Ratio	1.01	0.28		1.00	0.99		1.11	0.25	0.01	0.27	0.88	
Uniform Delay, d1	53.6	10.3		56.2	24.4		41.5	32.7	30.6	32.8	39.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	97.4	0.2		259.8	27.5		150.2	0.4	0.0	0.7	18.2	
Delay (s)	151.0	10.5		316.0	51.9		191.7	33.1	30.6	33.5	58.0	
Level of Service	F	B		F	D		F	C	C	C	E	
Approach Delay (s)		40.0			55.2			84.8			54.4	
Approach LOS		D			E			F			D	

Intersection Summary			
HCM Average Control Delay	54.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	113.2	Sum of lost time (s)	13.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	189	108	65	236	560	590	13	27	563	349
v/c Ratio	1.03	0.25	0.41	0.68	1.02	0.33	0.02	0.25	0.74	0.57
Control Delay	119.6	9.6	51.1	39.3	77.7	13.8	10.4	51.5	41.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	119.6	9.6	51.1	39.3	77.7	13.8	10.4	51.5	41.2	7.7
Queue Length 50th (ft)	~125	5	37	113	~367	83	1	16	162	0
Queue Length 95th (ft)	#302	46	88	192	#682	186	13	48	257	77
Internal Link Dist (ft)		1442		1508		1609			1977	
Turn Bay Length (ft)	225		90		120		50	120		
Base Capacity (vph)	183	595	177	585	549	1805	805	110	864	653
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.18	0.37	0.40	1.02	0.33	0.02	0.25	0.65	0.53

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	174	10	89	60	121	96	521	543	12	25	518	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1711	1526		1652	1608		1652	3240	1445	1711	3355	1531
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1711	1526		1652	1608		1652	3240	1445	1711	3355	1531
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	189	11	97	65	132	104	560	590	13	27	563	349
RTOR Reduction (vph)	0	75	0	0	30	0	0	0	3	0	0	265
Lane Group Flow (vph)	189	33	0	65	206	0	560	590	10	27	563	84
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	10.1	22.1		7.5	19.5		31.3	52.5	52.5	2.2	23.4	23.4
Effective Green, g (s)	10.1	22.1		7.5	19.5		31.3	52.5	52.5	2.2	23.4	23.4
Actuated g/C Ratio	0.10	0.23		0.08	0.20		0.32	0.54	0.54	0.02	0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	3.5
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	179	348		128	324		534	1757	784	39	811	370
v/s Ratio Prot	c0.11	c0.02		0.04	c0.13		c0.34	0.18		0.02	c0.17	
v/s Ratio Perm									0.01			0.06
v/c Ratio	1.06	0.10		0.51	0.64		1.05	0.34	0.01	0.69	0.69	0.23
Uniform Delay, d1	43.4	29.5		42.9	35.4		32.8	12.4	10.2	47.0	33.4	29.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	82.8	0.2		4.3	4.6		52.3	0.2	0.0	44.5	2.8	0.4
Delay (s)	126.2	29.6		47.1	40.0		85.1	12.5	10.2	91.4	36.2	29.9
Level of Service	F	C		D	D		F	B	B	F	D	C
Approach Delay (s)		91.1			41.5			47.4			35.5	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM Average Control Delay	47.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	96.8	Sum of lost time (s)	15.5
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	38	7	17	1279	1372
v/c Ratio	0.27	0.06	0.06	0.45	0.48
Control Delay	49.5	24.2	3.0	3.0	3.2
Queue Delay	0.0	0.0	0.0	1.0	0.0
Total Delay	49.5	24.2	3.0	4.0	3.2
Queue Length 50th (ft)	26	0	1	84	93
Queue Length 95th (ft)	54	13	9	202	227
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	300	248	286	2874	2846
Starvation Cap Reductn	0	0	0	1230	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.03	0.06	0.78	0.48

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	6	16	1177	1179	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3206	
Flt Permitted	0.95	1.00	0.19	1.00	1.00	
Satd. Flow (perm)	1652	1330	322	3240	3206	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	7	17	1279	1282	90
RTOR Reduction (vph)	0	7	0	0	3	0
Lane Group Flow (vph)	38	0	17	1279	1369	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	7.0	7.0	94.0	94.0	94.0	
Effective Green, g (s)	7.0	7.0	94.0	94.0	94.0	
Actuated g/C Ratio	0.06	0.06	0.85	0.85	0.85	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	105	85	275	2769	2740	
v/s Ratio Prot	c0.02			0.39	c0.43	
v/s Ratio Perm		0.00	0.05			
v/c Ratio	0.36	0.01	0.06	0.46	0.50	
Uniform Delay, d1	49.4	48.2	1.2	1.9	2.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	0.0	0.4	0.6	0.7	
Delay (s)	51.5	48.3	1.7	2.5	2.7	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.5	2.7	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	3.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1068	661	1149	2071	701	880
v/c Ratio	0.58	0.45	0.93	0.98	0.42	1.06
Control Delay	21.5	18.7	46.4	32.0	0.8	94.8
Queue Delay	0.5	0.4	0.0	1.0	0.0	0.0
Total Delay	22.0	19.1	46.4	33.1	0.8	94.8
Queue Length 50th (ft)	263	157	489	939	0	~499
Queue Length 95th (ft)	300	194	m558	m#1128	0	#643
Internal Link Dist (ft)	249			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1837	1466	1286	2121	1686	830
Starvation Cap Reductn	343	337	0	15	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.59	0.89	0.98	0.42	1.06

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	983	608	1057	1905	0	0	0	645	0	0	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2733
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2733
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1068	661	1149	2071	0	0	0	701	0	0	880
RTOR Reduction (vph)	0	0	19	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1068	642	1149	2071	0	0	0	701	0	0	880
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		75.7	75.7	55.3	88.5				140.0			42.5
Effective Green, g (s)		75.7	75.7	55.3	88.5				140.0			42.5
Actuated g/C Ratio		0.54	0.54	0.39	0.63				1.00			0.30
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		1814	1429	1241	2121				1686			830
v/s Ratio Prot		0.32		0.37	c0.62							
v/s Ratio Perm			0.24						0.42			c0.32
v/c Ratio		0.59	0.45	0.93	0.98				0.42			1.06
Uniform Delay, d1		21.7	19.5	40.4	24.7				0.0			48.8
Progression Factor		0.94	0.98	0.97	0.91				1.00			1.00
Incremental Delay, d2		1.3	1.0	6.4	9.2				0.8			48.5
Delay (s)		21.6	20.0	45.7	31.6				0.8			97.2
Level of Service		C	C	D	C				A			F
Approach Delay (s)		21.0			36.6			0.8			97.2	
Approach LOS		C			D			A			F	

Intersection Summary			
HCM Average Control Delay	36.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	595	1124	1735	660	621	1435
v/c Ratio	0.80	0.34	0.81	0.67	0.39	0.94
Control Delay	33.1	0.2	19.8	12.8	0.7	15.0
Queue Delay	0.0	0.0	0.9	0.0	0.0	5.8
Total Delay	33.1	0.2	20.7	12.8	0.7	20.9
Queue Length 50th (ft)	169	0	678	425	0	0
Queue Length 95th (ft)	221	0	842	m189	0	#152
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	786	3355	2133	989	1611	1528
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	168	0	0	76
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.34	0.88	0.67	0.39	0.99

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	547	1034	0	0	1596	607	0	0	571	0	0	1320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	595	1124	0	0	1735	660	0	0	621	0	0	1435
RTOR Reduction (vph)	0	0	0	0	0	16	0	0	0	0	0	0
Lane Group Flow (vph)	595	1124	0	0	1735	644	0	0	621	0	0	1435
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	16.5	70.0			44.5	44.5			70.0			70.0
Effective Green, g (s)	16.5	70.0			44.5	44.5			70.0			70.0
Actuated g/C Ratio	0.24	1.00			0.64	0.64			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	741	3355			2133	973			1611			1528
v/s Ratio Prot	0.19	0.33			0.52							
v/s Ratio Perm						0.42			0.39			c0.94
v/c Ratio	0.80	0.34			0.81	0.66			0.39			0.94
Uniform Delay, d1	25.2	0.0			9.6	8.0			0.0			0.0
Progression Factor	1.00	1.00			1.76	1.36			1.00			1.00
Incremental Delay, d2	5.5	0.2			2.0	2.0			0.7			12.5
Delay (s)	30.7	0.2			19.0	12.9			0.7			12.5
Level of Service	C	A			B	B			A			B
Approach Delay (s)		10.8			17.3			0.7			12.5	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	403	387	458	619	18	842	1074	11	74	922	602
v/c Ratio	1.63	0.54	0.26	1.35	0.05	1.19	0.73	0.02	0.65	1.15	1.09
Control Delay	323.7	24.8	0.4	204.1	20.3	134.2	22.9	11.7	70.2	115.5	87.4
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	323.7	24.8	0.4	204.1	20.3	134.2	22.9	11.7	70.2	115.5	87.4
Queue Length 50th (ft)	~309	173	0	~494	5	~321	243	2	42	~352	~303
Queue Length 95th (ft)	#493	263	0	#702	22	#428	336	m7	m#105	#477	#514
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	247	714	1770	457	394	708	1475	546	113	800	551
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	1.63	0.54	0.26	1.35	0.05	1.19	0.73	0.02	0.65	1.15	1.09

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	371	356	421	2	568	17	775	988	10	68	848	554
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1477	3204	3539	1338	1652	3303	1552
Flt Permitted	0.14	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	240	1739	1770		1737	1477	3204	3539	1338	1652	3303	1552
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	403	387	458	2	617	18	842	1074	11	74	922	602
RTOR Reduction (vph)	0	0	0	0	0	5	0	0	3	0	0	175
Lane Group Flow (vph)	403	387	458	0	619	13	842	1074	8	74	922	427
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	38.5	38.5	95.0		24.5	24.5	20.0	37.7	37.7	4.8	22.0	22.0
Effective Green, g (s)	39.0	39.0	95.0		25.0	25.0	21.0	38.7	37.7	5.3	23.0	23.0
Actuated g/C Ratio	0.41	0.41	1.00		0.26	0.26	0.22	0.41	0.40	0.06	0.24	0.24
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	247	714	1770		457	389	708	1442	531	92	800	376
v/s Ratio Prot	c0.17	0.22					c0.26	0.30		0.04	c0.28	
v/s Ratio Perm	c0.50		0.26		0.36	0.01			0.01			0.28
v/c Ratio	1.63	0.54	0.26		1.35	0.03	1.19	0.74	0.02	0.80	1.15	1.14
Uniform Delay, d1	23.8	21.2	0.0		35.0	26.0	37.0	23.9	17.4	44.3	36.0	36.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.04	0.82	0.80	0.99	0.94	0.89
Incremental Delay, d2	301.9	1.1	0.4		173.4	0.0	98.8	3.5	0.1	38.8	82.7	88.4
Delay (s)	325.8	22.3	0.4		208.4	26.1	137.3	23.0	14.0	82.7	116.7	120.6
Level of Service	F	C	A		F	C	F	C	B	F	F	F
Approach Delay (s)		112.2			203.2			72.9			116.6	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	110.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	14	1	1268	83	2121
v/c Ratio	0.21	0.12	0.01	0.28	0.26	0.67
Control Delay	63.5	25.2	1.0	2.2	1.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	63.5	25.2	1.0	2.2	1.2	1.9
Queue Length 50th (ft)	16	0	0	130	1	10
Queue Length 95th (ft)	39	21	m0	164	m3	m40
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		150	
Base Capacity (vph)	195	236	120	4489	319	3156
Starvation Cap Reductn	0	0	0	0	0	202
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.06	0.01	0.28	0.26	0.72

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	16	1	13	1	1142	25	76	1948	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00	1.00	0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00	1.00	1.00		1.00	1.00	
Frt					1.00	0.85	1.00	1.00		1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1572	1395	1652	4935		1618	3470	
Flt Permitted					0.74	1.00	0.08	1.00		0.21	1.00	
Satd. Flow (perm)					1214	1395	131	4935		350	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	17	1	14	1	1241	27	83	2117	4
RTOR Reduction (vph)	0	0	0	0	0	13	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	18	1	1	1267	0	83	2121	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					7.5	7.5	123.9	123.9		123.9	123.9	
Effective Green, g (s)					7.5	7.5	123.9	123.9		123.9	123.9	
Actuated g/C Ratio					0.05	0.05	0.89	0.89		0.89	0.89	
Clearance Time (s)					4.0	4.0	4.6	4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)					65	75	116	4367		310	3071	
v/s Ratio Prot								0.26			c0.61	
v/s Ratio Perm					c0.01	0.00	0.01			0.24		
v/c Ratio					0.28	0.01	0.01	0.29		0.27	0.69	
Uniform Delay, d1					63.6	62.7	0.9	1.2		1.2	2.4	
Progression Factor					1.00	1.00	0.48	1.26		0.14	0.37	
Incremental Delay, d2					2.3	0.1	0.1	0.1		0.9	0.6	
Delay (s)					66.0	62.8	0.6	1.7		1.1	1.4	
Level of Service					E	E	A	A		A	A	
Approach Delay (s)		0.0			64.6			1.7			1.4	
Approach LOS		A			E			A			A	

Intersection Summary			
HCM Average Control Delay	2.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	71	441	1236	60	62
v/c Ratio	0.45	0.27	0.48	0.41	0.33
Control Delay	55.9	2.5	3.8	55.2	16.5
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay	55.9	2.5	4.0	55.2	16.5
Queue Length 50th (ft)	48	49	62	41	0
Queue Length 95th (ft)	92	90	106	82	40
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	204	1606	2598	378	387
Starvation Cap Reductn	0	0	519	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.27	0.59	0.16	0.16

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	65	406	932	205	55	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3443		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3443		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	71	441	1013	223	60	62
RTOR Reduction (vph)	0	0	10	0	0	57
Lane Group Flow (vph)	71	441	1226	0	60	5
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	8.6	93.0	79.9		8.0	8.0
Effective Green, g (s)	8.6	93.0	79.9		8.0	8.0
Actuated g/C Ratio	0.08	0.85	0.73		0.07	0.07
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	138	1575	2501		129	115
v/s Ratio Prot	c0.04	0.24	c0.36		c0.03	
v/s Ratio Perm						0.00
v/c Ratio	0.51	0.28	0.49		0.47	0.04
Uniform Delay, d1	48.7	1.7	6.4		48.9	47.4
Progression Factor	1.00	1.00	0.45		1.00	1.00
Incremental Delay, d2	3.2	0.4	0.5		2.6	0.1
Delay (s)	51.9	2.2	3.4		51.6	47.6
Level of Service	D	A	A		D	D
Approach Delay (s)		9.1	3.4		49.5	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1549	217	2813	162
v/c Ratio	0.36	0.62	0.55	0.48
Control Delay	4.5	27.5	0.1	24.8
Queue Delay	0.0	0.0	0.1	0.1
Total Delay	4.5	27.5	0.2	24.8
Queue Length 50th (ft)	128	100	0	52
Queue Length 95th (ft)	133	m88	m0	96
Internal Link Dist (ft)	387		249	
Turn Bay Length (ft)				
Base Capacity (vph)	4315	569	5085	535
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	65	0	820	24
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.38	0.66	0.32

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1415	10	200	2588	0	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6401		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6401		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1538	11	217	2813	0	162
RTOR Reduction (vph)	1	0	0	0	0	20
Lane Group Flow (vph)	1548	0	217	2813	0	142
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	47.2		13.8	70.0		13.8
Effective Green, g (s)	47.2		13.8	70.0		13.8
Actuated g/C Ratio	0.67		0.20	1.00		0.20
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	4316		349	5085		318
v/s Ratio Prot	0.24		0.12	c0.55		0.09
v/s Ratio Perm						
v/c Ratio	0.36		0.62	0.55		0.45
Uniform Delay, d1	4.9		25.7	0.0		24.7
Progression Factor	0.83		1.01	1.00		1.00
Incremental Delay, d2	0.2		1.0	0.1		1.0
Delay (s)	4.2		26.9	0.1		25.7
Level of Service	A		C	A		C
Approach Delay (s)	4.2			2.0	25.7	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	3.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	114	183	318	58	1499	46	1243	459	1003	1064	70
v/c Ratio	1.48	0.51	0.50	0.08	0.91	0.72	1.08	0.44	2.00	0.87	0.12
Control Delay	316.7	47.7	38.2	23.6	32.7	117.5	99.0	3.3	486.0	49.6	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
Total Delay	316.7	47.7	38.2	23.6	32.7	117.5	99.0	3.3	486.0	49.6	10.5
Queue Length 50th (ft)	~143	63	215	31	641	42	~463	22	~738	483	9
Queue Length 95th (ft)	#275	93	360	59	798	#111	#560	56	#871	#595	43
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	77	1077	638	739	1648	68	1155	1034	502	1229	607
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	1.48	0.17	0.50	0.08	0.91	0.68	1.08	0.44	2.00	0.87	0.12

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	120	49	293	53	1379	42	1144	422	923	979	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3057		1678	1689	2642	1620	4655	1449	3143	3240	1512
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3057		1678	1689	2642	1620	4655	1449	3143	3240	1512
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	130	53	318	58	1499	46	1243	459	1003	1064	70
RTOR Reduction (vph)	0	43	0	0	0	4	0	0	125	0	0	34
Lane Group Flow (vph)	114	140	0	318	58	1495	46	1243	334	1003	1064	36
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	6.5	14.6		53.6	61.7	88.7	4.7	35.7	89.3	22.5	53.5	53.5
Effective Green, g (s)	6.5	14.6		53.6	61.7	88.7	4.7	35.7	89.3	22.5	53.5	53.5
Actuated g/C Ratio	0.05	0.10		0.38	0.44	0.63	0.03	0.25	0.63	0.16	0.38	0.38
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	4.5	4.5
Lane Grp Cap (vph)	77	315		635	735	1654	54	1173	913	499	1223	571
v/s Ratio Prot	c0.07	0.05		0.19	0.03	c0.57	0.03	c0.27	0.23	c0.32	0.33	
v/s Ratio Perm												0.02
v/c Ratio	1.48	0.44		0.50	0.08	0.90	0.85	1.06	0.37	2.01	0.87	0.06
Uniform Delay, d1	67.6	59.7		33.8	23.4	22.8	68.2	53.0	12.6	59.6	40.9	28.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	273.2	1.7		0.2	0.1	7.5	68.8	43.6	0.3	461.6	7.3	0.1
Delay (s)	340.8	61.5		34.0	23.4	30.3	137.0	96.6	12.9	521.2	48.2	28.2
Level of Service	F	E		C	C	C	F	F	B	F	D	C
Approach Delay (s)		168.7			30.7			75.7			269.5	
Approach LOS		F			C			E			F	

Intersection Summary			
HCM Average Control Delay	134.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	141.7	Sum of lost time (s)	15.3
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	1391	157	1490	634	74	289	896	555
v/c Ratio	1.05	1.06	0.80	1.08	0.68	0.58	0.99	1.07	1.01
Control Delay	130.3	74.6	72.8	66.1	2.9	65.5	66.9	89.0	66.0
Queue Delay	0.0	236.3	0.0	15.1	1.6	0.0	52.4	4.0	0.0
Total Delay	130.3	310.9	72.8	81.2	4.5	65.5	119.3	93.1	66.0
Queue Length 50th (ft)	~132	~560	91	~592	0	49	61	~344	~258
Queue Length 95th (ft)	#270	#698	m127	m#687	m21	#108	#236	#468	#486
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	170	1309	216	1375	934	128	293	838	547
Starvation Cap Reductn	0	0	0	44	150	0	0	0	0
Spillback Cap Reductn	0	438	0	0	0	0	40	8	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	1.60	0.73	1.12	0.81	0.58	1.14	1.08	1.01

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	165	1270	10	144	1371	583	68	3	263	824	57	454
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3175		1620	3209	1435	1678	1431		3143	1420	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3175		1620	3209	1435	1678	1431		3143	1420	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	1380	11	157	1490	634	74	3	286	896	62	493
RTOR Reduction (vph)	0	1	0	0	0	305	0	184	0	0	168	0
Lane Group Flow (vph)	179	1390	0	157	1490	329	74	105	0	896	387	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	11.0	43.3		12.7	45.0	45.0	8.0	8.0		28.0	28.0	
Effective Green, g (s)	11.0	43.3		12.7	45.0	46.0	8.0	8.0		28.0	28.0	
Actuated g/C Ratio	0.10	0.41		0.12	0.43	0.44	0.08	0.08		0.27	0.27	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	170	1309		196	1375	629	128	109		838	379	
v/s Ratio Prot	0.11	c0.44		0.10	c0.46		0.04	c0.07		c0.29	0.27	
v/s Ratio Perm						0.23						
v/c Ratio	1.05	1.06		0.80	1.08	0.52	0.58	0.96		1.07	1.02	
Uniform Delay, d1	47.0	30.9		44.9	30.0	21.5	46.9	48.4		38.5	38.5	
Progression Factor	1.00	1.00		1.20	0.58	0.09	1.00	1.00		1.00	1.00	
Incremental Delay, d2	83.7	43.2		13.1	46.3	2.0	3.9	74.0		51.3	51.8	
Delay (s)	130.7	74.1		66.8	63.7	3.9	50.8	122.4		89.8	90.3	
Level of Service	F	E		E	E	A	D	F		F	F	
Approach Delay (s)		80.5			47.3			107.8			90.0	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	71.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	86	2581	322	1961	366	824	82	54
v/c Ratio	0.57	1.11	0.92	0.75	1.06	0.96	0.92	0.48
Control Delay	40.2	72.5	70.8	16.8	108.3	50.7	126.9	39.4
Queue Delay	0.0	70.8	0.0	0.9	0.0	0.0	0.0	0.2
Total Delay	40.2	143.4	70.8	17.7	108.3	50.7	126.9	39.7
Queue Length 50th (ft)	52	~720	108	311	~272	242	56	14
Queue Length 95th (ft)	m51	m#656	m#152	406	#453	#307	#151	#55
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	170	2320	353	2602	344	859	89	112
Starvation Cap Reductn	0	291	0	186	0	0	0	0
Spillback Cap Reductn	0	0	0	351	0	0	0	2
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	1.27	0.91	0.87	1.06	0.96	0.92	0.49

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	2186	189	296	1665	139	299	38	758	75	19	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4513		3143	4713			1808	2801	1562	1422	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4513		3143	4713			1808	2801	1562	1422	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	2376	205	322	1810	151	325	41	824	82	21	33
RTOR Reduction (vph)	0	9	0	0	9	0	0	0	24	0	31	0
Lane Group Flow (vph)	86	2572	0	322	1952	0	0	366	800	82	23	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	8.8	53.8		11.7	57.2			20.0	31.7	6.0	6.0	
Effective Green, g (s)	8.8	53.8		11.7	57.2			20.0	31.7	6.0	6.0	
Actuated g/C Ratio	0.08	0.51		0.11	0.54			0.19	0.30	0.06	0.06	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	136	2312		350	2567			344	846	89	81	
v/s Ratio Prot	0.05	c0.57		0.10	0.41			c0.20	c0.11	c0.05	0.02	
v/s Ratio Perm									0.18			
v/c Ratio	0.63	1.11		0.92	0.76			1.06	0.95	0.92	0.28	
Uniform Delay, d1	46.5	25.6		46.2	18.6			42.5	35.8	49.3	47.4	
Progression Factor	0.85	0.75		1.10	0.82			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	51.2		17.8	1.2			66.5	18.8	68.9	0.7	
Delay (s)	40.3	70.6		68.7	16.5			109.0	54.6	118.1	48.1	
Level of Service	D	E		E	B			F	D	F	D	
Approach Delay (s)		69.6			23.8			71.3			90.3	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM Average Control Delay	53.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1674	711	2071	537	448	427
v/c Ratio	0.46	0.28	0.85	0.43	0.75	0.76
Control Delay	3.9	0.0	12.8	1.4	49.3	46.0
Queue Delay	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	0.0	12.8	1.4	49.3	46.0
Queue Length 50th (ft)	102	0	406	0	148	139
Queue Length 95th (ft)	m91	m0	530	23	204	#201
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3604	2533	2445	1245	601	562
Starvation Cap Reductn	840	0	0	0	0	0
Spillback Cap Reductn	0	0	1	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.28	0.85	0.43	0.75	0.76

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1540	654	0	1905	494	0	0	0	412	0	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1674	711	0	2071	537	0	0	0	448	0	427
RTOR Reduction (vph)	0	0	0	0	0	133	0	0	0	0	0	39
Lane Group Flow (vph)	0	1674	711	0	2071	404	0	0	0	448	0	388
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		4
Permitted Phases			2 4			6				4		
Actuated Green, G (s)		79.0	105.0		79.0	79.0				18.0		18.0
Effective Green, g (s)		80.0	105.0		80.0	79.0				19.0		19.0
Actuated g/C Ratio		0.76	1.00		0.76	0.75				0.18		0.18
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3604	2533		2445	1112				601		523
v/s Ratio Prot		0.35			c0.65					c0.13		0.13
v/s Ratio Perm			0.28			0.27						
v/c Ratio		0.46	0.28		0.85	0.36				0.75		0.74
Uniform Delay, d1		4.6	0.0		8.4	4.4				40.7		40.7
Progression Factor		0.83	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.0	0.0		3.9	0.9				5.3		6.0
Delay (s)		3.9	0.0		12.3	5.4				46.0		46.6
Level of Service		A	A		B	A				D		D
Approach Delay (s)		2.7			10.8			0.0			46.3	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	612	50	35	260	198	428
v/c Ratio	0.86	0.07	0.35	0.32	0.29	0.49
Control Delay	29.6	3.5	39.2	14.0	17.5	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	3.5	39.2	14.0	17.5	4.5
Queue Length 50th (ft)	196	0	14	67	49	0
Queue Length 95th (ft)	#334	15	39	122	118	60
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	800	742	100	823	684	881
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	0.77	0.07	0.35	0.32	0.29	0.49

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	563	46	32	239	182	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1560
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	612	50	35	260	198	428
RTOR Reduction (vph)	0	29	0	0	0	272
Lane Group Flow (vph)	612	21	35	260	198	156
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	27.7	27.7	1.6	29.3	23.7	23.7
Effective Green, g (s)	27.7	27.7	1.6	29.3	23.7	23.7
Actuated g/C Ratio	0.43	0.43	0.02	0.45	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	715	640	40	824	622	569
v/s Ratio Prot	c0.36		c0.02	c0.14	0.12	
v/s Ratio Perm		0.01				0.10
v/c Ratio	0.86	0.03	0.88	0.32	0.32	0.27
Uniform Delay, d1	16.8	10.9	31.6	11.4	14.8	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.9	0.0	93.6	1.0	1.3	1.2
Delay (s)	26.7	10.9	125.2	12.4	16.2	15.8
Level of Service	C	B	F	B	B	B
Approach Delay (s)	25.5			25.8	15.9	
Approach LOS	C			C	B	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	183	143	14	1346	199	1301
v/c Ratio	0.41	0.53	0.40	0.10	0.76	1.53	0.73
Control Delay	17.6	22.9	15.4	9.9	14.7	294.2	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	22.9	15.4	9.9	14.7	294.2	13.8
Queue Length 50th (ft)	34	50	28	2	142	~92	134
Queue Length 95th (ft)	73	97	65	13	#387	#200	#365
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	594	574	577	146	1769	130	1780
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	0.25	0.32	0.25	0.10	0.76	1.53	0.73

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	80	21	93	75	132	13	1126	112	183	1154	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1529			1684	1305	1618	3030		1561	3058	
Flt Permitted		0.89			0.78	1.00	0.15	1.00		0.14	1.00	
Satd. Flow (perm)		1372			1347	1305	252	3030		224	3058	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	87	23	101	82	143	14	1224	122	199	1254	47
RTOR Reduction (vph)	0	13	0	0	0	26	0	10	0	0	3	0
Lane Group Flow (vph)	0	135	0	0	183	117	14	1336	0	199	1298	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		14.5			14.5	14.5	32.9	32.9		32.9	32.9	
Effective Green, g (s)		14.5			14.5	14.5	32.9	32.9		32.9	32.9	
Actuated g/C Ratio		0.26			0.26	0.26	0.58	0.58		0.58	0.58	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		351			345	334	146	1761		130	1778	
v/s Ratio Prot								0.44			0.42	
v/s Ratio Perm		0.10			c0.14	0.09	0.06			c0.89		
v/c Ratio		0.39			0.53	0.35	0.10	0.76		1.53	0.73	
Uniform Delay, d1		17.4			18.1	17.2	5.3	8.9		11.9	8.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			2.0	0.9	0.4	2.1		273.7	1.6	
Delay (s)		18.3			20.1	18.1	5.6	10.9		285.5	10.3	
Level of Service		B			C	B	A	B		F	B	
Approach Delay (s)		18.3			19.2			10.9			46.8	
Approach LOS		B			B			B			D	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	56.6	Sum of lost time (s)	9.2
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	46	486	347	236	178	26
v/c Ratio	0.36	0.35	0.31	0.18	0.70	0.11
Control Delay	55.2	5.8	12.4	1.1	57.6	13.7
Queue Delay	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	55.2	5.8	12.9	1.1	57.6	13.7
Queue Length 50th (ft)	31	94	97	0	120	0
Queue Length 95th (ft)	68	180	201	23	183	23
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	152	1387	1129	1482	454	411
Starvation Cap Reductn	0	0	393	0	0	0
Spillback Cap Reductn	0	7	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.35	0.47	0.16	0.39	0.06

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	42	447	319	217	164	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.95	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1571	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1571	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	486	347	236	178	26
RTOR Reduction (vph)	0	0	0	43	0	22
Lane Group Flow (vph)	46	486	347	193	178	4
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	7.5	83.5	72.0	89.9	17.9	17.9
Effective Green, g (s)	7.5	83.5	72.0	89.9	17.9	17.9
Actuated g/C Ratio	0.07	0.76	0.65	0.82	0.16	0.16
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	110	1387	1116	1284	254	220
v/s Ratio Prot	0.03	c0.27	0.20	0.02	c0.11	
v/s Ratio Perm				0.10		0.00
v/c Ratio	0.42	0.35	0.31	0.15	0.70	0.02
Uniform Delay, d1	49.2	4.3	8.2	2.1	43.5	38.7
Progression Factor	1.00	1.00	1.19	3.14	1.00	1.00
Incremental Delay, d2	2.6	0.7	0.6	0.0	8.4	0.0
Delay (s)	51.7	5.0	10.5	6.6	52.0	38.7
Level of Service	D	A	B	A	D	D
Approach Delay (s)		9.1	8.9		50.3	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	387	273	175	196	370	621	3
v/c Ratio	0.52	0.35	0.73	0.19	0.75	0.86	0.04
Control Delay	22.2	2.5	62.6	11.5	45.0	26.6	45.7
Queue Delay	0.9	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	2.7	62.6	11.5	45.0	26.6	45.7
Queue Length 50th (ft)	123	0	119	55	233	155	1
Queue Length 95th (ft)	287	18	#218	121	327	291	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	742	775	241	1044	566	719	82
Starvation Cap Reductn	148	96	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	0.65	0.40	0.73	0.19	0.65	0.86	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	356	251	161	179	1	339	2	571	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		0.90	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1759	1465	1562	1704			1682	1727		1538	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)		1759	1465	1562	1704			1682	1727		1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	387	273	175	195	1	368	2	621	1	1	1
RTOR Reduction (vph)	0	0	166	0	0	0	0	0	290	0	1	0
Lane Group Flow (vph)	0	387	107	175	196	0	0	370	331	0	2	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		43.2	43.2	17.0	64.2			32.2	27.7		1.0	
Effective Green, g (s)		43.2	43.2	17.0	64.2			27.7	27.7		1.0	
Actuated g/C Ratio		0.39	0.39	0.15	0.58			0.25	0.25		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		691	575	241	995			424	506		14	
v/s Ratio Prot		c0.22		c0.11	0.12			c0.22	0.07		c0.00	
v/s Ratio Perm			0.07						0.12			
v/c Ratio		0.56	0.19	0.73	0.20			0.87	0.66		0.14	
Uniform Delay, d1		26.0	21.9	44.3	10.8			39.5	36.9		54.1	
Progression Factor		0.75	0.41	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.1	0.7	10.4	0.4			17.6	3.0		4.7	
Delay (s)		22.6	9.6	54.7	11.2			57.1	39.9		58.8	
Level of Service		C	A	D	B			E	D		E	
Approach Delay (s)		17.2			31.7			46.3			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	61	140	25	200	249	423	26	753	116	389	969
v/c Ratio	0.45	0.59	0.11	0.76	0.58	0.64	0.29	0.83	0.29	0.86	0.58
Control Delay	66.5	59.7	17.5	68.0	47.4	8.5	67.2	49.6	25.4	61.2	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	59.7	17.5	68.0	47.4	8.5	67.2	49.6	25.4	61.2	21.1
Queue Length 50th (ft)	48	109	0	156	186	0	21	297	45	296	276
Queue Length 95th (ft)	100	178	26	#289	276	93	55	#413	104	#507	390
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	158	425	373	298	592	751	95	1023	449	510	1764
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	0.39	0.33	0.07	0.67	0.42	0.56	0.27	0.74	0.26	0.76	0.55

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	129	23	184	229	389	24	693	107	358	823	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	3.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1444	1620	1739	1392	1652	3240	1331	1620	3040	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1444	1620	1739	1392	1652	3240	1331	1620	3040	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	140	25	200	249	423	26	753	116	389	895	74
RTOR Reduction (vph)	0	0	21	0	0	320	0	0	30	0	4	0
Lane Group Flow (vph)	61	140	4	200	249	103	26	753	86	389	965	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	7.9	17.0	17.0	19.2	29.2	29.2	4.2	34.8	34.8	33.7	64.3	
Effective Green, g (s)	7.8	16.9	16.9	19.1	29.1	29.1	3.2	34.3	34.3	32.7	63.8	
Actuated g/C Ratio	0.07	0.14	0.14	0.16	0.24	0.24	0.03	0.29	0.29	0.27	0.54	
Clearance Time (s)	3.0	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	108	247	205	260	425	340	44	934	384	445	1630	
v/s Ratio Prot	0.04	0.08		c0.12	c0.14		0.02	c0.23		c0.24	0.32	
v/s Ratio Perm			0.00			0.07			0.06			
v/c Ratio	0.56	0.57	0.02	0.77	0.59	0.30	0.59	0.81	0.22	0.87	0.59	
Uniform Delay, d1	54.0	47.6	43.9	47.8	39.6	36.7	57.3	39.3	32.2	41.2	18.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.0	3.6	0.0	13.6	2.4	0.7	22.4	5.4	0.4	17.5	0.7	
Delay (s)	61.9	51.2	44.0	61.4	42.1	37.4	79.7	44.7	32.6	58.7	19.4	
Level of Service	E	D	D	E	D	D	E	D	C	E	B	
Approach Delay (s)		53.3			44.2			44.2			30.7	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	39.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	119.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	723	113	1164	859	393	836	1198	414	243	20
v/c Ratio	0.57	0.93	0.33	1.09	0.63	1.09	0.96	0.75	0.99	0.43	0.07
Control Delay	79.0	75.8	11.3	98.2	30.9	118.0	63.3	7.2	101.4	54.2	18.7
Queue Delay	0.0	0.0	0.0	38.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	75.8	11.3	136.8	31.6	118.0	63.3	7.2	101.4	54.2	18.7
Queue Length 50th (ft)	65	240	0	~609	288	~397	364	122	196	105	0
Queue Length 95th (ft)	120	#319	56	#750	390	#607	#524	33	#308	150	24
Internal Link Dist (ft)		238			392		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	145	781	342	1070	1362	360	875	1595	419	567	274
Starvation Cap Reductn	0	0	0	82	211	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	0.51	0.93	0.33	1.18	0.75	1.09	0.96	0.75	0.99	0.43	0.07

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	665	104	1071	605	185	362	769	1102	381	224	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1470
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1470
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	723	113	1164	658	201	393	836	1198	414	243	20
RTOR Reduction (vph)	0	0	94	0	20	0	0	0	0	0	0	17
Lane Group Flow (vph)	74	723	19	1164	839	0	393	836	1198	414	243	4
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	10.0	22.0	22.0	46.0	58.0		30.0	35.0	81.0	18.0	23.0	23.0
Effective Green, g (s)	10.0	23.5	23.5	46.0	59.5		30.0	36.5	81.0	18.0	24.5	24.5
Actuated g/C Ratio	0.07	0.17	0.17	0.33	0.42		0.21	0.26	0.58	0.13	0.18	0.18
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	112	781	248	1070	1323		360	875	1566	419	567	257
v/s Ratio Prot	0.05	c0.16		c0.36	0.27		c0.23	c0.25	0.44	c0.13	0.08	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.66	0.93	0.08	1.09	0.63		1.09	0.96	0.77	0.99	0.43	0.01
Uniform Delay, d1	63.3	57.4	49.1	47.0	31.7		55.0	50.9	22.3	60.9	51.5	47.8
Progression Factor	1.00	1.00	1.00	1.01	0.93		0.92	0.86	0.40	1.00	1.00	1.00
Incremental Delay, d2	14.9	18.5	0.6	53.8	2.2		71.0	18.4	2.1	40.5	0.7	0.0
Delay (s)	78.3	75.9	49.7	101.2	31.6		121.5	62.1	11.0	101.4	52.2	47.8
Level of Service	E	E	D	F	C		F	E	B	F	D	D
Approach Delay (s)		72.8			71.6			46.5			82.2	
Approach LOS		E			E			D			F	

Intersection Summary			
HCM Average Control Delay	62.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	400	2274	293	1388	229	233	160	323
v/c Ratio	0.92	0.97	0.81	0.85	0.73	0.74	0.37	0.88
Control Delay	72.0	50.2	62.6	50.2	65.7	65.7	8.4	51.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.0	50.2	62.6	50.2	65.7	65.7	8.4	51.8
Queue Length 50th (ft)	351	~607	199	464	207	211	0	65
Queue Length 95th (ft)	#551	#693	m#391	m#553	287	291	56	#152
Internal Link Dist (ft)		660		577		351		533
Turn Bay Length (ft)	125		180		200			
Base Capacity (vph)	433	2338	363	1630	402	408	514	367
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	0.92	0.97	0.81	0.85	0.57	0.57	0.31	0.88

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	368	1885	207	270	1236	41	376	49	147	73	52	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.86		1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1620	5770		1678	4628		1539	1560	1513		2982	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	1620	5770		1678	4628		1539	1560	1513		2982	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	400	2049	225	293	1343	45	409	53	160	79	57	187
RTOR Reduction (vph)	0	13	0	0	3	0	0	0	128	0	175	0
Lane Group Flow (vph)	400	2261	0	293	1385	0	229	233	32	0	148	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases									8			
Actuated Green, G (s)	36.4	55.5		29.2	48.3		27.7	27.7	27.7		8.4	
Effective Green, g (s)	37.4	56.5		30.2	49.3		28.3	28.3	28.3		9.0	
Actuated g/C Ratio	0.27	0.40		0.22	0.35		0.20	0.20	0.20		0.06	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	433	2329		362	1630		311	315	306		192	
v/s Ratio Prot	0.25	c0.39		0.17	c0.30		0.15	c0.15			c0.05	
v/s Ratio Perm									0.02			
v/c Ratio	0.92	0.97		0.81	0.85		0.74	0.74	0.11		0.77	
Uniform Delay, d1	49.9	40.9		52.2	41.9		52.4	52.4	45.5		64.5	
Progression Factor	0.95	0.94		0.90	1.07		1.00	1.00	1.00		1.00	
Incremental Delay, d2	22.1	11.3		10.8	4.7		9.3	9.4	0.2		18.2	
Delay (s)	69.7	49.9		58.0	49.5		61.7	61.7	45.7		82.7	
Level of Service	E	D		E	D		E	E	D		F	
Approach Delay (s)		52.9			51.0			57.6			82.7	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM Average Control Delay	54.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	208	1960	141	738	503	272	536	95	703
v/c Ratio	0.62	1.00	0.93	0.51	1.02	0.25	0.77	0.69	0.99
Control Delay	22.6	20.6	118.3	41.1	102.6	34.5	32.9	91.2	84.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	20.6	118.3	41.1	102.6	34.5	32.9	91.2	84.3
Queue Length 50th (ft)	135	~28	130	201	~249	94	276	44	331
Queue Length 95th (ft)	m149	m#704	#264	245	#364	132	429	#87	#469
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	334	1951	152	1448	494	1088	698	137	709
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	1.00	0.93	0.51	1.02	0.25	0.77	0.69	0.99

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	1182	621	130	657	22	463	250	493	87	522	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4471		1652	4708		3143	3240	1659	3204	3134	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4471		1652	4708		3143	3240	1659	3204	3134	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	208	1285	675	141	714	24	503	272	536	95	567	136
RTOR Reduction (vph)	0	68	0	0	3	0	0	0	141	0	15	0
Lane Group Flow (vph)	208	1892	0	141	735	0	503	272	395	95	688	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	29.0	58.0		13.0	42.0		23.0	47.4	47.4	7.0	31.4	
Effective Green, g (s)	28.9	59.0		12.9	43.0		22.0	47.0	47.0	6.0	31.0	
Actuated g/C Ratio	0.21	0.42		0.09	0.31		0.16	0.34	0.34	0.04	0.22	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	334	1884		152	1446		494	1088	557	137	694	
v/s Ratio Prot	0.13	c0.42		c0.09	0.16		c0.16	0.08		0.03	c0.22	
v/s Ratio Perm									0.24			
v/c Ratio	0.62	1.00		0.93	0.51		1.02	0.25	0.71	0.69	0.99	
Uniform Delay, d1	50.6	40.5		63.1	39.8		59.0	33.7	40.5	66.1	54.4	
Progression Factor	0.38	0.13		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	13.7		51.9	1.3		45.2	0.2	4.4	15.2	32.0	
Delay (s)	20.4	18.8		115.0	41.1		104.2	33.9	45.0	81.2	86.3	
Level of Service	C	B		F	D		F	C	D	F	F	
Approach Delay (s)		18.9			53.0			65.4			85.7	
Approach LOS		B			D			E			F	

Intersection Summary			
HCM Average Control Delay	46.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	94	296	966	3	1266	216	543	872
v/c Ratio	0.42	0.87	0.86	0.04	0.82	0.26	0.88	0.38
Control Delay	41.1	74.1	29.8	68.7	26.6	3.8	68.9	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	74.1	29.8	68.7	26.6	3.8	68.9	7.1
Queue Length 50th (ft)	58	254	229	2	602	22	203	98
Queue Length 95th (ft)	116	#410	333	m3	696	m41	#304	280
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	234	358	1155	72	1546	818	650	2265
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	0.40	0.83	0.84	0.04	0.82	0.26	0.84	0.38

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	3	27	272	0	889	3	1165	199	500	758	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.96			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1688			1770	2787	1678	3355	1583	3433	3437	
Flt Permitted		0.46			0.70	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		806			1299	2787	1678	3355	1583	3433	3437	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	3	29	296	0	966	3	1266	216	543	824	48
RTOR Reduction (vph)	0	12	0	0	0	394	0	0	88	0	3	0
Lane Group Flow (vph)	0	82	0	0	296	572	3	1266	128	543	869	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		36.7			36.7	36.7	1.2	64.6	64.6	25.2	88.6	
Effective Green, g (s)		36.7			36.7	36.7	1.2	64.6	64.6	25.2	88.6	
Actuated g/C Ratio		0.26			0.26	0.26	0.01	0.46	0.46	0.18	0.63	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		211			341	731	14	1548	730	618	2175	
v/s Ratio Prot							0.00	c0.38		c0.16	0.25	
v/s Ratio Perm		0.10			c0.23	0.21			0.08			
v/c Ratio		0.39			0.87	0.78	0.21	0.82	0.18	0.88	0.40	
Uniform Delay, d1		42.4			49.3	47.9	68.9	32.6	22.1	55.9	12.6	
Progression Factor		1.00			1.00	1.00	1.06	0.68	0.48	0.98	0.57	
Incremental Delay, d2		1.2			20.1	5.5	5.3	3.5	0.4	12.0	0.5	
Delay (s)		43.6			69.5	53.4	78.0	25.6	10.9	66.6	7.7	
Level of Service		D			E	D	E	C	B	E	A	
Approach Delay (s)		43.6			57.2			23.6			30.3	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	36.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	38	178	145	457	50	597	503	646
v/c Ratio	0.31	0.12	0.66	0.36	0.70	0.34	0.76	0.85	0.36
Control Delay	29.8	9.8	42.5	30.2	9.3	47.7	33.8	41.1	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	9.8	42.5	30.2	9.3	47.7	33.8	41.1	10.6
Queue Length 50th (ft)	53	0	91	68	0	27	144	249	95
Queue Length 95th (ft)	102	24	165	123	87	67	224	#461	150
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	544	455	393	594	748	157	946	744	2045
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.08	0.45	0.24	0.61	0.32	0.63	0.68	0.32

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	81	35	164	133	420	46	381	168	463	519	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.95		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715	1258	1620	1739	1311	1711	2915		1620	3015	
Flt Permitted		0.92	1.00	0.67	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1593	1258	1151	1739	1311	1711	2915		1620	3015	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	88	38	178	145	457	50	414	183	503	564	82
RTOR Reduction (vph)	0	0	29	0	0	351	0	50	0	0	11	0
Lane Group Flow (vph)	0	114	9	178	145	106	50	547	0	503	635	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		18.9	18.9	18.9	18.9	18.9	3.6	21.9		29.3	47.6	
Effective Green, g (s)		18.9	18.9	18.9	18.9	18.9	3.6	21.9		29.3	47.6	
Actuated g/C Ratio		0.23	0.23	0.23	0.23	0.23	0.04	0.27		0.36	0.58	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		369	291	267	403	304	75	782		582	1759	
v/s Ratio Prot					0.08		0.03	c0.19		c0.31	0.21	
v/s Ratio Perm		0.07	0.01	c0.15		0.08						
v/c Ratio		0.31	0.03	0.67	0.36	0.35	0.67	0.70		0.86	0.36	
Uniform Delay, d1		25.9	24.3	28.5	26.3	26.2	38.4	26.9		24.3	9.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5	0.0	6.2	0.6	0.7	20.1	3.0		12.7	0.2	
Delay (s)		26.4	24.3	34.7	26.8	26.9	58.6	29.8		37.0	9.1	
Level of Service		C	C	C	C	C	E	C		D	A	
Approach Delay (s)		25.9			28.7			32.1			21.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	81.6	Sum of lost time (s)	11.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	351	505	212	141	659	257	1291	92	925
v/c Ratio	0.75	0.94	0.44	0.93	0.84	0.90	0.69	0.59	0.83
Control Delay	67.6	73.8	16.8	118.7	60.5	88.3	35.6	90.3	31.1
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	67.6	73.8	16.8	118.7	60.6	88.3	35.7	90.3	31.1
Queue Length 50th (ft)	158	442	49	130	294	230	351	86	191
Queue Length 95th (ft)	#241	#649	126	#265	358	#386	411	m134	#486
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	469	559	492	152	881	296	1872	177	1110
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	7	0	4	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.90	0.43	0.93	0.75	0.87	0.69	0.52	0.83

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	323	465	195	130	495	111	236	968	220	85	758	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1305	1770	3432		1652	4499		1770	3394	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1305	1770	3432		1652	4499		1770	3394	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	351	505	212	141	538	121	257	1052	239	92	824	101
RTOR Reduction (vph)	0	0	98	0	14	0	0	25	0	0	7	0
Lane Group Flow (vph)	351	505	114	141	645	0	257	1266	0	92	918	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	21.5	41.0	41.0	12.0	31.5		24.3	57.4		12.4	45.5	
Effective Green, g (s)	21.5	41.0	41.0	12.0	31.5		24.3	57.4		12.4	45.5	
Actuated g/C Ratio	0.15	0.29	0.29	0.09	0.22		0.17	0.41		0.09	0.32	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	470	540	382	152	772		287	1845		157	1103	
v/s Ratio Prot	0.11	c0.27		0.08	c0.19		c0.16	0.28		0.05	c0.27	
v/s Ratio Perm			0.09									
v/c Ratio	0.75	0.94	0.30	0.93	0.84		0.90	0.69		0.59	0.83	
Uniform Delay, d1	56.6	48.2	38.3	63.6	51.8		56.6	33.9		61.3	43.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.25	0.55	
Incremental Delay, d2	6.8	23.9	0.6	51.9	8.1		28.4	2.1		5.7	6.6	
Delay (s)	63.4	72.1	38.9	115.5	59.9		85.0	36.0		82.5	30.5	
Level of Service	E	E	D	F	E		F	D		F	C	
Approach Delay (s)		62.7			69.7			44.1			35.2	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	51.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.8
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	64	792	22	711	88	73	312	144	48
v/c Ratio	0.61	0.79	0.23	0.79	0.31	0.16	0.90	0.28	0.59
Control Delay	75.6	26.5	55.6	32.8	36.2	9.3	69.1	7.1	76.3
Queue Delay	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.6	28.2	55.6	32.8	36.2	9.3	69.1	7.1	76.3
Queue Length 50th (ft)	44	475	15	457	48	2	204	1	31
Queue Length 95th (ft)	m#82	#672	42	593	98	38	#390	50	#91
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	250		60		100				
Base Capacity (vph)	105	999	97	942	290	475	351	527	81
Starvation Cap Reductn	0	87	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.87	0.23	0.75	0.30	0.15	0.89	0.27	0.59

Intersection Summary

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.

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	715	14	20	548	106	81	3	64	287	1	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.86		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1857		1770	1818		1711	1595		1770	1585	
Flt Permitted	0.95	1.00		0.95	1.00		0.61	1.00		0.71	1.00	
Satd. Flow (perm)	1770	1857		1770	1818		1092	1595		1322	1585	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	777	15	22	596	115	88	3	70	312	1	143
RTOR Reduction (vph)	0	0	0	0	0	0	0	52	0	0	105	0
Lane Group Flow (vph)	64	792	0	22	711	0	88	21	0	312	39	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.3	55.5		2.4	52.6		28.9	28.9		28.9	28.9	
Effective Green, g (s)	5.3	55.5		2.4	52.6		28.9	28.9		28.9	28.9	
Actuated g/C Ratio	0.05	0.50		0.02	0.48		0.26	0.26		0.26	0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	85	937		39	869		287	419		347	416	
v/s Ratio Prot	c0.04	c0.43		0.01	0.39			0.01			0.02	
v/s Ratio Perm							0.08			c0.24		
v/c Ratio	0.75	0.84		0.56	0.82		0.31	0.05		0.90	0.09	
Uniform Delay, d1	51.7	23.5		53.3	24.6		32.5	30.3		39.1	30.6	
Progression Factor	1.11	0.91		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.1	7.4		17.3	8.4		0.6	0.1		24.7	0.1	
Delay (s)	82.4	28.7		70.6	33.0		33.1	30.4		63.8	30.7	
Level of Service	F	C		E	C		C	C		E	C	
Approach Delay (s)		32.7			34.2			31.9			53.4	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	38.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR	SWR2
Lane Configurations		
Volume (vph)	40	5
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)	4.5	
Lane Util. Factor	1.00	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.86	
Flt Protected	1.00	
Satd. Flow (prot)	1340	
Flt Permitted	1.00	
Satd. Flow (perm)	1340	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	43	5
RTOR Reduction (vph)	4	0
Lane Group Flow (vph)	44	0
Confl. Peds. (#/hr)		
Heavy Vehicles (%)	25%	2%
Parking (#/hr)		
Turn Type	custom	
Protected Phases	9	
Permitted Phases	9	
Actuated Green, G (s)	5.2	
Effective Green, g (s)	5.2	
Actuated g/C Ratio	0.05	
Clearance Time (s)	4.5	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	63	
v/s Ratio Prot	c0.03	
v/s Ratio Perm		
v/c Ratio	0.70	
Uniform Delay, d1	51.6	
Progression Factor	1.00	
Incremental Delay, d2	29.7	
Delay (s)	81.3	
Level of Service	F	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	178	1100	7	595	59	110	13	41	374
v/c Ratio	0.70	0.99	0.07	0.93	0.45	0.22	0.03	0.13	0.71
Control Delay	45.3	43.0	33.7	45.2	31.2	18.9	8.8	18.1	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.3	43.0	33.7	45.2	31.2	18.9	8.8	18.1	26.2
Queue Length 50th (ft)	69	359	3	219	20	34	0	12	116
Queue Length 95th (ft)	#181	#915	15	#499	53	68	11	33	198
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	260	1113	104	642	196	768	554	489	765
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.99	0.07	0.93	0.30	0.14	0.02	0.08	0.49

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	164	745	267	6	476	72	54	101	12	38	203	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1939		1711	1680		1652	1863	1325	1643	1783	
Flt Permitted	0.95	1.00		0.95	1.00		0.27	1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1711	1939		1711	1680		476	1863	1325	1186	1783	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	178	810	290	7	517	78	59	110	13	41	221	153
RTOR Reduction (vph)	0	13	0	0	7	0	0	0	10	0	38	0
Lane Group Flow (vph)	178	1087	0	7	588	0	59	110	3	41	336	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	9.9	37.6		0.7	28.4		18.2	18.2	18.2	18.2	18.2	
Effective Green, g (s)	9.9	37.6		0.7	28.4		18.2	18.2	18.2	18.2	18.2	
Actuated g/C Ratio	0.14	0.54		0.01	0.41		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	244	1049		17	687		125	488	347	311	467	
v/s Ratio Prot	c0.10	c0.56		0.00	0.35			0.06			c0.19	
v/s Ratio Perm							0.12		0.00	0.03		
v/c Ratio	0.73	1.04		0.41	0.86		0.47	0.23	0.01	0.13	0.72	
Uniform Delay, d1	28.5	15.9		34.2	18.7		21.6	20.1	19.0	19.6	23.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.1	37.5		20.6	10.6		3.8	0.3	0.0	0.3	5.6	
Delay (s)	39.6	53.4		54.8	29.3		25.4	20.4	19.0	19.9	28.9	
Level of Service	D	D		D	C		C	C	B	B	C	
Approach Delay (s)		51.5			29.6			21.9			28.0	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	40.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	69.5	Sum of lost time (s)	13.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	370	467	11	62	305	721	296	96	676	315
v/c Ratio	1.15	0.61	0.12	0.23	0.91	0.52	0.43	0.83	0.69	0.47
Control Delay	128.3	10.1	43.4	19.2	65.9	18.9	11.5	89.5	29.1	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	128.3	10.1	43.4	19.2	65.9	18.9	11.5	89.5	29.1	5.8
Queue Length 50th (ft)	~193	45	5	14	133	113	43	43	134	0
Queue Length 95th (ft)	#507	151	25	44	#402	252	152	#173	272	64
Internal Link Dist (ft)		1442		914		1609			1977	
Turn Bay Length (ft)	225		90		120		50	120		
Base Capacity (vph)	323	1031	89	729	334	1596	777	115	1199	750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.45	0.12	0.09	0.91	0.45	0.38	0.83	0.56	0.42

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	69	361	10	30	27	284	663	272	88	622	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.87		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1711	1543		1652	1601		1652	3240	1450	1711	3355	1531
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1711	1543		1652	1601		1652	3240	1450	1711	3355	1531
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	75	392	11	33	29	305	721	296	96	676	315
RTOR Reduction (vph)	0	210	0	0	24	0	0	0	77	0	0	226
Lane Group Flow (vph)	370	257	0	11	38	0	305	721	219	96	676	89
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	14.3	27.6		0.6	13.9		15.4	32.4	32.4	5.1	22.1	22.1
Effective Green, g (s)	14.3	27.6		0.6	13.9		15.4	32.4	32.4	5.1	22.1	22.1
Actuated g/C Ratio	0.18	0.35		0.01	0.18		0.20	0.41	0.41	0.07	0.28	0.28
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	3.5
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	313	545		13	285		325	1342	601	112	948	433
v/s Ratio Prot	c0.22	c0.17		0.01	0.02		c0.18	0.22		0.06	c0.20	
v/s Ratio Perm									0.15			0.06
v/c Ratio	1.18	0.47		0.85	0.13		0.94	0.54	0.36	0.86	0.71	0.21
Uniform Delay, d1	32.0	19.6		38.8	27.1		30.9	17.3	15.8	36.2	25.2	21.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	109.8	0.9		170.6	0.3		34.1	0.5	0.5	44.9	2.7	0.3
Delay (s)	141.8	20.5		209.3	27.4		65.1	17.8	16.3	81.1	27.9	21.7
Level of Service	F	C		F	C		E	B	B	F	C	C
Approach Delay (s)		74.1			54.8			28.4			30.8	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	9.5
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	73	26	5	1340	1286
v/c Ratio	0.48	0.18	0.02	0.48	0.47
Control Delay	56.7	18.5	2.4	3.5	3.4
Queue Delay	0.0	0.0	0.0	1.7	0.0
Total Delay	56.7	18.5	2.4	5.2	3.4
Queue Length 50th (ft)	50	0	0	110	102
Queue Length 95th (ft)	94	26	3	180	167
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	360	311	299	2763	2755
Starvation Cap Reductn	0	0	0	1181	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.08	0.02	0.85	0.47

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	67	24	5	1233	1157	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3229	
Flt Permitted	0.95	1.00	0.20	1.00	1.00	
Satd. Flow (perm)	1652	1330	350	3240	3229	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	26	5	1340	1258	28
RTOR Reduction (vph)	0	24	0	0	1	0
Lane Group Flow (vph)	73	2	5	1340	1285	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	9.0	9.0	92.0	92.0	92.0	
Effective Green, g (s)	9.0	9.0	92.0	92.0	92.0	
Actuated g/C Ratio	0.08	0.08	0.84	0.84	0.84	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	135	109	293	2710	2701	
v/s Ratio Prot	c0.04			c0.41	0.40	
v/s Ratio Perm		0.00	0.01			
v/c Ratio	0.54	0.02	0.02	0.49	0.48	
Uniform Delay, d1	48.5	46.4	1.5	2.5	2.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.4	0.1	0.1	0.6	0.6	
Delay (s)	52.9	46.5	1.6	3.2	3.0	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.2			3.2	3.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	4.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1691	1211	670	1672	848	892
v/c Ratio	0.72	0.65	0.89	0.86	0.50	0.92
Control Delay	10.9	8.8	77.0	17.3	1.1	59.2
Queue Delay	30.0	3.5	0.0	0.1	0.0	0.0
Total Delay	40.9	12.3	77.0	17.4	1.1	59.2
Queue Length 50th (ft)	440	53	320	341	0	441
Queue Length 95th (ft)	471	61	389	483	0	#584
Internal Link Dist (ft)	250			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	2364	1877	797	1953	1686	966
Starvation Cap Reductn	763	555	0	0	0	0
Spillback Cap Reductn	0	0	0	20	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.92	0.84	0.86	0.50	0.92

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1556	1114	616	1538	0	0	0	780	0	0	821
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2733
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2733
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1691	1211	670	1672	0	0	0	848	0	0	892
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1691	1195	670	1672	0	0	0	848	0	0	892
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		97.6	97.6	33.4	81.5				140.0			49.5
Effective Green, g (s)		97.6	97.6	33.4	81.5				140.0			49.5
Actuated g/C Ratio		0.70	0.70	0.24	0.58				1.00			0.35
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		2339	1842	750	1953				1686			966
v/s Ratio Prot		0.50		0.21	c0.50							
v/s Ratio Perm			0.45						0.50			c0.33
v/c Ratio		0.72	0.65	0.89	0.86				0.50			0.92
Uniform Delay, d1		12.9	11.7	51.6	24.4				0.0			43.4
Progression Factor		0.74	0.69	1.27	0.54				1.00			1.00
Incremental Delay, d2		1.3	1.2	9.9	3.8				1.1			15.5
Delay (s)		10.9	9.2	75.5	17.0				1.1			58.9
Level of Service		B	A	E	B				A			E
Approach Delay (s)		10.2			33.7			1.1			58.9	
Approach LOS		B			C			A			E	

Intersection Summary			
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	772	1767	1202	647	1098	1132
v/c Ratio	0.82	0.53	0.63	0.72	0.68	0.74
Control Delay	23.8	0.5	12.3	19.6	2.4	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	0.5	12.3	19.6	2.4	3.3
Queue Length 50th (ft)	180	0	139	563	0	0
Queue Length 95th (ft)	242	0	208	m688	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	1010	3355	1917	893	1611	1528
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	0.76	0.53	0.63	0.72	0.68	0.74

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	710	1626	0	0	1106	595	0	0	1010	0	0	1041
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	772	1767	0	0	1202	647	0	0	1098	0	0	1132
RTOR Reduction (vph)	0	0	0	0	0	18	0	0	0	0	0	0
Lane Group Flow (vph)	772	1767	0	0	1202	629	0	0	1098	0	0	1132
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	21.0	70.0			40.0	40.0			70.0			70.0
Effective Green, g (s)	21.0	70.0			40.0	40.0			70.0			70.0
Actuated g/C Ratio	0.30	1.00			0.57	0.57			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	943	3355			1917	875			1611			1528
v/s Ratio Prot	0.25	0.53			0.36							
v/s Ratio Perm						0.41			0.68			c0.74
v/c Ratio	0.82	0.53			0.63	0.72			0.68			0.74
Uniform Delay, d1	22.7	0.0			10.0	10.9			0.0			0.0
Progression Factor	0.78	1.00			1.09	1.52			1.00			1.00
Incremental Delay, d2	4.3	0.5			0.9	3.0			2.4			3.3
Delay (s)	22.1	0.5			11.9	19.5			2.4			3.3
Level of Service	C	A			B	B			A			A
Approach Delay (s)		7.0			14.6			2.4			3.3	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	523	796	950	298	55	300	876	18	100	1035	228
v/c Ratio	1.19	0.98	0.54	0.77	0.14	0.94	0.76	0.04	0.67	1.01	0.42
Control Delay	129.6	53.5	1.2	50.1	12.7	82.6	35.6	17.0	66.2	65.2	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	129.6	53.5	1.2	50.1	12.7	82.6	35.6	17.0	66.2	65.2	18.6
Queue Length 50th (ft)	~311	481	0	177	5	99	262	4	63	~351	65
Queue Length 95th (ft)	#517	#746	0	#304	36	#181	336	20	#137	#494	133
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	439	816	1770	386	398	320	1147	427	152	1027	546
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	1.19	0.98	0.54	0.77	0.14	0.94	0.76	0.04	0.66	1.01	0.42

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	481	732	874	6	268	51	276	806	17	92	952	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	3.6	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1737	1476	3204	3539	1337	1652	3303	1551
Flt Permitted	0.28	1.00	1.00		0.90	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	482	1739	1770		1562	1476	3204	3539	1337	1652	3303	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	523	796	950	7	291	55	300	876	18	100	1035	228
RTOR Reduction (vph)	0	0	0	0	0	33	0	0	6	0	0	63
Lane Group Flow (vph)	523	796	950	0	298	22	300	876	12	100	1035	165
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	46.4	46.4	100.0		24.2	24.2	9.0	31.4	31.4	8.2	30.1	30.1
Effective Green, g (s)	46.9	46.9	100.0		24.7	24.7	10.0	32.4	31.4	9.1	31.1	31.1
Actuated g/C Ratio	0.47	0.47	1.00		0.25	0.25	0.10	0.32	0.31	0.09	0.31	0.31
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	439	816	1770		386	365	320	1147	420	150	1027	482
v/s Ratio Prot	c0.22	0.46					c0.09	0.25		0.06	c0.31	
v/s Ratio Perm	c0.34		c0.54		0.19	0.01			0.01			0.11
v/c Ratio	1.19	0.98	0.54		0.77	0.06	0.94	0.76	0.03	0.67	1.01	0.34
Uniform Delay, d1	21.9	26.0	0.0		35.0	28.8	44.7	30.4	23.7	44.0	34.5	26.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	106.7	25.4	1.2		9.8	0.1	33.9	4.9	0.1	11.1	30.0	1.9
Delay (s)	128.7	51.4	1.2		44.8	28.9	78.6	35.2	23.9	55.1	64.5	28.5
Level of Service	F	D	A		D	C	E	D	C	E	E	C
Approach Delay (s)		48.2			42.3			46.0			57.7	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	49.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	90	2311	141	1519
v/c Ratio	0.43	0.63	0.55	1.64	0.52
Control Delay	70.7	66.0	5.3	336.3	2.1
Queue Delay	0.0	0.0	0.3	0.0	1.0
Total Delay	70.7	66.0	5.6	336.3	3.1
Queue Length 50th (ft)	42	62	183	~187	13
Queue Length 95th (ft)	82	118	396	m#221	m112
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	200	241	4199	86	2948
Starvation Cap Reductn	0	0	1015	0	1065
Spillback Cap Reductn	0	0	115	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.37	0.73	1.64	0.81

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	44	0	83	0	2092	34	130	1397	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		1.00		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1562	1393		4940		1620	3471	
Flt Permitted					0.76	1.00		1.00		0.06	1.00	
Satd. Flow (perm)					1245	1393		4940		101	3471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	48	0	90	0	2274	37	141	1518	1
RTOR Reduction (vph)	0	0	0	0	0	18	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	72	0	2310	0	141	1519	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					12.5	12.5		118.9		118.9	118.9	
Effective Green, g (s)					12.5	12.5		118.9		118.9	118.9	
Actuated g/C Ratio					0.09	0.09		0.85		0.85	0.85	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					111	124		4195		86	2948	
v/s Ratio Prot								0.47			0.44	
v/s Ratio Perm					0.04	c0.05				c1.39		
v/c Ratio					0.43	0.58		0.55		1.64	0.52	
Uniform Delay, d1					60.4	61.2		3.0		10.5	2.8	
Progression Factor					1.00	1.00		1.50		1.87	0.56	
Incremental Delay, d2					2.7	6.4		0.3		312.5	0.3	
Delay (s)					63.1	67.6		4.8		332.3	1.9	
Level of Service					E	E		A		F	A	
Approach Delay (s)		0.0			66.0			4.8			30.0	
Approach LOS		A			E			A			C	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	64	814	913	314	130
v/c Ratio	0.45	0.63	0.44	0.79	0.29
Control Delay	58.4	13.1	9.5	54.2	7.0
Queue Delay	0.0	2.0	0.0	0.0	0.0
Total Delay	58.4	15.0	9.5	54.2	7.0
Queue Length 50th (ft)	44	280	88	210	0
Queue Length 95th (ft)	88	501	163	286	44
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	158	1292	2065	523	559
Starvation Cap Reductn	0	316	0	0	0
Spillback Cap Reductn	0	16	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.83	0.44	0.60	0.23

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	59	749	734	106	289	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3472		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3472		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	814	798	115	314	130
RTOR Reduction (vph)	0	0	8	0	0	101
Lane Group Flow (vph)	64	814	905	0	314	29
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	7.5	76.3	64.3		24.7	24.7
Effective Green, g (s)	7.5	76.3	64.3		24.7	24.7
Actuated g/C Ratio	0.07	0.69	0.58		0.22	0.22
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	121	1292	2030		397	355
v/s Ratio Prot	0.04	c0.44	0.26		c0.18	
v/s Ratio Perm						0.02
v/c Ratio	0.53	0.63	0.45		0.79	0.08
Uniform Delay, d1	49.5	9.2	12.8		40.2	33.7
Progression Factor	1.00	1.00	0.64		1.00	1.00
Incremental Delay, d2	4.1	2.3	0.6		10.3	0.1
Delay (s)	53.7	11.5	8.8		50.5	33.8
Level of Service	D	B	A		D	C
Approach Delay (s)		14.6	8.8		45.6	
Approach LOS		B	A		D	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	2368	489	2023	501
v/c Ratio	0.74	0.74	0.40	0.83
Control Delay	13.7	22.5	0.1	32.8
Queue Delay	0.5	2.7	0.0	0.0
Total Delay	14.2	25.2	0.1	32.8
Queue Length 50th (ft)	231	172	0	180
Queue Length 95th (ft)	m332	m233	0	#296
Internal Link Dist (ft)	392		250	
Turn Bay Length (ft)				
Base Capacity (vph)	3193	746	5085	680
Starvation Cap Reductn	0	153	0	0
Spillback Cap Reductn	374	0	86	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.84	0.82	0.40	0.74

Intersection Summary

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.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2148	30	450	1861	0	461
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6394		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6394		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2335	33	489	2023	0	501
RTOR Reduction (vph)	3	0	0	0	0	1
Lane Group Flow (vph)	2365	0	489	2023	0	500
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	34.9		26.1	70.0		26.1
Effective Green, g (s)	34.9		26.1	70.0		26.1
Actuated g/C Ratio	0.50		0.37	1.00		0.37
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	3188		660	5085		601
v/s Ratio Prot	c0.37		0.28	0.40		c0.31
v/s Ratio Perm						
v/c Ratio	0.74		0.74	0.40		0.83
Uniform Delay, d1	14.0		19.0	0.0		20.0
Progression Factor	0.88		1.02	1.00		1.00
Incremental Delay, d2	0.8		2.1	0.1		9.6
Delay (s)	13.1		21.5	0.1		29.6
Level of Service	B		C	A		C
Approach Delay (s)	13.1			4.3	29.6	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	10.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	96	221	262	205	1051	36	904	208	732	649	54
v/c Ratio	1.03	0.57	0.49	0.32	0.65	0.49	0.79	0.23	1.14	0.48	0.08
Control Delay	163.8	56.3	42.6	31.2	18.5	87.6	54.0	1.7	129.3	31.6	7.0
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	163.8	56.3	42.6	31.2	18.5	87.6	54.0	1.7	129.3	31.6	7.0
Queue Length 50th (ft)	~98	92	187	128	318	33	285	1	~417	234	0
Queue Length 95th (ft)	#218	126	308	195	396	72	340	19	#543	297	29
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	93	1053	533	698	1620	89	1209	921	641	1355	664
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	1.03	0.21	0.49	0.29	0.65	0.40	0.75	0.23	1.14	0.48	0.08

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	162	41	241	189	967	33	832	191	673	597	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		1.00	1.00	0.88	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3093		1678	1689	2642	1620	4655	1449	3143	3240	1513
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3093		1678	1689	2642	1620	4655	1449	3143	3240	1513
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	96	176	45	262	205	1051	36	904	208	732	649	54
RTOR Reduction (vph)	0	21	0	0	0	16	0	0	89	0	0	32
Lane Group Flow (vph)	96	200	0	262	205	1035	36	904	119	732	649	22
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	7.5	16.0		43.1	51.6	83.8	5.2	34.2	77.3	27.7	56.7	56.7
Effective Green, g (s)	7.5	16.0		43.1	51.6	83.8	5.2	34.2	77.3	27.7	56.7	56.7
Actuated g/C Ratio	0.06	0.12		0.32	0.38	0.61	0.04	0.25	0.57	0.20	0.42	0.42
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	3.0		2.0	3.0	3.0
Lane Grp Cap (vph)	92	363		531	639	1624	62	1168	822	639	1348	629
v/s Ratio Prot	c0.06	0.06		0.16	0.12	c0.39	0.02	c0.19	0.08	c0.23	0.20	
v/s Ratio Perm												0.01
v/c Ratio	1.04	0.55		0.49	0.32	0.64	0.58	0.77	0.15	1.15	0.48	0.04
Uniform Delay, d1	64.4	56.8		37.8	30.0	16.6	64.5	47.5	13.9	54.3	29.1	23.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	106.1	2.6		0.3	0.4	0.9	8.6	3.3	0.1	83.0	0.3	0.0
Delay (s)	170.5	59.4		38.0	30.4	17.6	73.1	50.7	14.0	137.3	29.3	23.6
Level of Service	F	E		D	C	B	E	D	B	F	C	C
Approach Delay (s)		93.1			22.8			44.8			84.2	
Approach LOS		F			C			D			F	

Intersection Summary			
HCM Average Control Delay	53.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	136.3	Sum of lost time (s)	15.3
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	1120	108	1559	786	53	235	564	281
v/c Ratio	0.94	0.66	0.66	0.92	0.73	0.46	0.89	0.93	0.65
Control Delay	110.8	23.3	81.2	20.6	5.5	66.4	48.6	71.2	22.7
Queue Delay	0.0	89.0	0.0	3.8	2.3	0.0	17.1	0.0	0.0
Total Delay	110.8	112.3	81.2	24.4	7.8	66.4	65.8	71.2	22.7
Queue Length 50th (ft)	121	318	87	578	2	40	42	226	60
Queue Length 95th (ft)	#255	423	m104	m#705	m3	83	#177	#342	161
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	163	1685	203	1703	1073	140	284	606	430
Starvation Cap Reductn	0	0	0	94	166	0	0	0	0
Spillback Cap Reductn	0	745	0	0	0	0	42	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.19	0.53	0.97	0.87	0.38	0.97	0.93	0.65

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	142	1016	15	99	1434	723	49	8	208	519	41	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97	1.00	0.99		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3171		1620	3209	1434	1678	1438		3143	1424	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3171		1620	3209	1434	1678	1438		3143	1424	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	1104	16	108	1559	786	53	9	226	564	45	236
RTOR Reduction (vph)	0	1	0	0	0	312	0	167	0	0	156	0
Lane Group Flow (vph)	154	1119	0	108	1559	474	53	68	0	564	125	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	12.1	63.8		12.0	63.7	63.7	8.1	8.1		23.1	23.1	
Effective Green, g (s)	12.1	63.8		12.0	63.7	63.7	8.1	8.1		23.1	23.1	
Actuated g/C Ratio	0.10	0.53		0.10	0.53	0.53	0.07	0.07		0.19	0.19	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	163	1686		162	1703	761	113	97		605	274	
v/s Ratio Prot	c0.10	0.35		0.07	c0.49		0.03	c0.05		c0.18	0.09	
v/s Ratio Perm						0.33						
v/c Ratio	0.94	0.66		0.67	0.92	0.62	0.47	0.70		0.93	0.46	
Uniform Delay, d1	53.6	20.3		52.1	25.7	19.7	53.9	54.8		47.7	42.9	
Progression Factor	1.00	1.00		1.33	0.53	0.82	1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.5	2.1		4.8	6.0	2.3	1.1	17.1		21.4	1.2	
Delay (s)	107.1	22.4		73.9	19.6	18.5	55.0	71.8		69.0	44.1	
Level of Service	F	C		E	B	B	D	E		E	D	
Approach Delay (s)		32.7			21.7			68.7			60.8	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	2020	670	2213	316	559	70	58
v/c Ratio	0.48	1.01	0.97	0.77	1.00	0.50	0.90	0.56
Control Delay	61.9	51.1	67.7	16.7	100.5	20.3	133.4	50.2
Queue Delay	0.0	53.8	0.0	1.4	0.0	0.0	0.0	0.4
Total Delay	61.9	104.9	67.7	18.0	100.5	20.3	133.4	50.6
Queue Length 50th (ft)	44	~589	261	403	247	139	55	19
Queue Length 95th (ft)	m63	m#699	m#344	498	#435	186	#148	#75
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	135	2008	689	2865	316	1119	78	103
Starvation Cap Reductn	0	239	0	418	0	0	0	0
Spillback Cap Reductn	0	0	0	339	0	0	0	2
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.14	0.97	0.90	1.00	0.50	0.90	0.57

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	1689	169	616	1913	123	259	31	514	64	23	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.91			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4505		3143	4726			1807	2808	1562	1428	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4505		3143	4726			1807	2808	1562	1428	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	1836	184	670	2079	134	282	34	559	70	25	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	0	23	0	31	0
Lane Group Flow (vph)	57	2010	0	670	2207	0	0	316	536	70	27	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	8.0	53.2		26.3	72.0			21.0	47.3	6.0	6.0	
Effective Green, g (s)	8.0	53.2		26.3	72.0			21.0	47.3	6.0	6.0	
Actuated g/C Ratio	0.07	0.44		0.22	0.60			0.18	0.39	0.05	0.05	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	108	1997		689	2836			316	1107	78	71	
v/s Ratio Prot	0.04	c0.45		c0.21	0.47			c0.17	0.11	c0.04	0.02	
v/s Ratio Perm									0.08			
v/c Ratio	0.53	1.01		0.97	0.78			1.00	0.48	0.90	0.38	
Uniform Delay, d1	54.2	33.4		46.5	18.0			49.5	27.2	56.7	55.2	
Progression Factor	0.99	0.99		1.03	0.84			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	18.5		18.7	1.2			50.6	0.1	66.4	1.2	
Delay (s)	55.0	51.4		66.5	16.4			100.1	27.3	123.1	56.4	
Level of Service	D	D		E	B			F	C	F	E	
Approach Delay (s)		51.5			28.0			53.6			92.9	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	1236	1516	2066	797	611	605
v/c Ratio	0.36	0.60	0.89	0.62	0.82	0.89
Control Delay	7.1	1.4	19.0	2.7	54.3	58.4
Queue Delay	0.0	0.0	0.7	0.0	0.0	0.1
Total Delay	7.1	1.4	19.7	2.7	54.3	58.5
Queue Length 50th (ft)	123	0	573	0	233	244
Queue Length 95th (ft)	m129	m0	720	32	#304	#355
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3429	2533	2327	1285	747	681
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	72	0	0	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.60	0.92	0.62	0.82	0.89

Intersection Summary

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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1137	1395	0	1901	733	0	0	0	562	0	557
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0		3.0
Lane Util. Factor		0.91	0.88		0.95	1.00				0.97		0.88
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00		1.00
Frt		1.00	0.85		1.00	0.85				1.00		0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (prot)		4730	2533		3209	1478				3319		2888
Flt Permitted		1.00	1.00		1.00	1.00				0.95		1.00
Satd. Flow (perm)		4730	2533		3209	1478				3319		2888
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1236	1516	0	2066	797	0	0	0	611	0	605
RTOR Reduction (vph)	0	0	0	0	0	226	0	0	0	0	0	31
Lane Group Flow (vph)	0	1236	1516	0	2066	571	0	0	0	611	0	574
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Perm				custom		custom
Protected Phases		2			6					4		
Permitted Phases			2 4			6				4		4
Actuated Green, G (s)		86.0	120.0		86.0	86.0				26.0		26.0
Effective Green, g (s)		87.0	120.0		87.0	86.0				27.0		27.0
Actuated g/C Ratio		0.72	1.00		0.72	0.72				0.22		0.22
Clearance Time (s)		4.0			4.0	4.0				4.0		4.0
Vehicle Extension (s)		3.0			4.5	4.5				4.0		4.0
Lane Grp Cap (vph)		3429	2533		2327	1059				747		650
v/s Ratio Prot		0.26			c0.64					0.18		
v/s Ratio Perm			0.60			0.39						c0.20
v/c Ratio		0.36	0.60		0.89	0.54				0.82		0.88
Uniform Delay, d1		6.1	0.0		12.7	7.9				44.2		45.0
Progression Factor		1.12	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.2	0.3		5.5	2.0				7.3		13.8
Delay (s)		7.0	0.3		18.3	9.8				51.5		58.8
Level of Service		A	A		B	A				D		E
Approach Delay (s)		3.3			15.9			0.0			55.1	
Approach LOS		A			B			A			E	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

5: Westgate Shopping Center Drwy & Westgate Pkwy

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	59	63	260	248	428
v/c Ratio	0.79	0.08	0.41	0.40	0.53	0.58
Control Delay	22.1	3.5	37.5	13.8	21.7	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	3.5	37.5	13.8	21.7	5.9
Queue Length 50th (ft)	159	0	21	59	73	0
Queue Length 95th (ft)	#348	16	#73	110	136	57
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	1072	980	154	1085	689	884
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	0.06	0.41	0.24	0.36	0.48

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	556	54	58	239	228	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1559
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	59	63	260	248	428
RTOR Reduction (vph)	0	33	0	0	0	314
Lane Group Flow (vph)	604	26	63	260	248	114
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	21.5	21.5	1.9	18.7	12.8	12.8
Effective Green, g (s)	21.5	21.5	1.9	18.7	12.8	12.8
Actuated g/C Ratio	0.45	0.45	0.04	0.39	0.27	0.27
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	748	670	64	709	453	414
v/s Ratio Prot	c0.36		c0.04	0.14	c0.15	
v/s Ratio Perm		0.02				0.07
v/c Ratio	0.81	0.04	0.98	0.37	0.55	0.27
Uniform Delay, d1	11.6	7.5	23.1	10.5	15.2	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.4	0.0	106.4	0.3	1.4	0.4
Delay (s)	18.0	7.6	129.5	10.8	16.6	14.4
Level of Service	B	A	F	B	B	B
Approach Delay (s)	17.0			34.0	15.2	
Approach LOS	B			C	B	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	85	125	138	26	1140	71	698
v/c Ratio	0.24	0.36	0.37	0.06	0.58	0.33	0.36
Control Delay	15.1	18.7	12.9	7.4	9.6	13.8	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.1	18.7	12.9	7.4	9.6	13.8	7.2
Queue Length 50th (ft)	17	30	19	3	90	9	44
Queue Length 95th (ft)	45	68	55	17	254	56	129
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	738	728	727	447	2098	234	2105
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	0.12	0.17	0.19	0.06	0.54	0.30	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	44	10	63	52	127	24	972	76	65	613	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.97	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1531			1685	1306	1616	3039		1561	3053	
Flt Permitted		0.88			0.78	1.00	0.38	1.00		0.21	1.00	
Satd. Flow (perm)		1365			1357	1306	650	3039		339	3053	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	48	11	68	57	138	26	1057	83	71	666	32
RTOR Reduction (vph)	0	9	0	0	0	45	0	7	0	0	4	0
Lane Group Flow (vph)	0	76	0	0	125	93	26	1133	0	71	694	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		9.9			9.9	9.9	28.9	28.9		28.9	28.9	
Effective Green, g (s)		9.9			9.9	9.9	28.9	28.9		28.9	28.9	
Actuated g/C Ratio		0.21			0.21	0.21	0.60	0.60		0.60	0.60	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		282			280	269	391	1830		204	1838	
v/s Ratio Prot								c0.37			0.23	
v/s Ratio Perm		0.06			c0.09	0.07	0.04			0.21		
v/c Ratio		0.27			0.45	0.34	0.07	0.62		0.35	0.38	
Uniform Delay, d1		16.0			16.7	16.3	4.0	6.1		4.8	4.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			1.5	1.1	0.1	0.7		1.4	0.2	
Delay (s)		16.7			18.2	17.3	4.1	6.8		6.2	5.1	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		16.7			17.7			6.7			5.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	20	210	368	180	168	34
v/c Ratio	0.07	0.24	0.50	0.15	0.38	0.08
Control Delay	19.8	6.9	12.2	0.6	15.8	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	6.9	12.2	0.6	15.8	6.9
Queue Length 50th (ft)	3	20	39	0	20	0
Queue Length 95th (ft)	25	62	179	10	102	18
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	464	1827	1642	1524	1245	1083
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	0.04	0.11	0.22	0.12	0.13	0.03

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	18	193	339	166	155	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	10	14	9	9
Total Lost time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1620	1827	1705	1618	1562	1362
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1618	1562	1362
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	210	368	180	168	34
RTOR Reduction (vph)	0	0	0	59	0	25
Lane Group Flow (vph)	20	210	368	121	168	9
Confl. Peds. (#/hr)				14		5
Confl. Bikes (#/hr)				5		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type	Prot			pm+ov		Perm
Protected Phases	5	2	6	4	4	
Permitted Phases				6		4
Actuated Green, G (s)	0.9	21.5	16.6	27.5	10.9	10.9
Effective Green, g (s)	0.9	21.5	16.6	27.5	10.9	10.9
Actuated g/C Ratio	0.02	0.52	0.40	0.67	0.27	0.27
Clearance Time (s)	4.0	4.6	4.6	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	36	958	690	1085	415	362
v/s Ratio Prot	0.01	c0.11	c0.22	0.03	c0.11	
v/s Ratio Perm				0.05		0.01
v/c Ratio	0.56	0.22	0.53	0.11	0.40	0.02
Uniform Delay, d1	19.9	5.2	9.3	2.4	12.4	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.3	0.1	0.8	0.0	0.6	0.0
Delay (s)	37.1	5.4	10.1	2.4	13.0	11.2
Level of Service	D	A	B	A	B	B
Approach Delay (s)		8.1	7.6		12.7	
Approach LOS		A	A		B	

Intersection Summary			
HCM Average Control Delay	8.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	41.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR
Lane Group Flow (vph)	217	163	341	299	310	241
v/c Ratio	0.61	0.38	0.72	0.32	0.54	0.41
Control Delay	43.0	8.7	39.0	12.1	30.2	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.0	8.7	39.0	12.1	30.2	13.8
Queue Length 50th (ft)	111	0	168	84	139	41
Queue Length 95th (ft)	232	55	341	165	287	124
Internal Link Dist (ft)	328			4916	905	
Turn Bay Length (ft)		350	75			100
Base Capacity (vph)	756	722	720	1468	712	716
Starvation Cap Reductn	5	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	0.29	0.23	0.47	0.20	0.44	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	199	150	314	274	1	283	2	222	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5			
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.98			
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00			
Frt		1.00	0.85	1.00	1.00			1.00	0.85			
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (prot)		1758	1460	1562	1704			1682	1724			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		1756	1460	1562	1704			1682	1724			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	216	163	341	298	1	308	2	241	0	0	0
RTOR Reduction (vph)	0	0	129	0	0	0	0	0	97	0	0	0
Lane Group Flow (vph)	0	217	34	341	299	0	0	310	144	0	0	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		18.3	18.3	27.6	49.9			30.0	26.0			
Effective Green, g (s)		18.3	18.3	27.6	49.9			30.0	26.0			
Actuated g/C Ratio		0.21	0.21	0.31	0.56			0.34	0.29			
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0			
Lane Grp Cap (vph)		361	300	484	955			567	504			
v/s Ratio Prot				c0.22	0.18			c0.18	0.03			
v/s Ratio Perm		c0.12	0.02						0.06			
v/c Ratio		0.60	0.11	0.70	0.31			0.55	0.29			
Uniform Delay, d1		32.0	28.7	27.1	10.4			24.0	24.3			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Incremental Delay, d2		2.8	0.2	4.6	0.2			1.1	0.3			
Delay (s)		34.9	28.9	31.7	10.6			25.1	24.6			
Level of Service		C	C	C	B			C	C			
Approach Delay (s)		32.3			21.9			24.9			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	166	408	64	245	386	716	24	555	143	271	688
v/c Ratio	0.76	0.78	0.14	0.84	0.63	0.96	0.30	0.81	0.43	0.92	0.60
Control Delay	77.6	53.6	24.0	76.0	41.3	43.7	72.6	59.2	28.5	90.3	35.9
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	77.6	53.6	24.0	76.0	41.3	43.7	72.6	59.2	28.5	90.3	35.9
Queue Length 50th (ft)	143	331	25	209	283	341	21	244	56	243	264
Queue Length 95th (ft)	#247	464	62	#342	401	#635	53	314	124	#431	335
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	247	562	487	331	656	772	84	789	375	293	1155
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	0.67	0.73	0.13	0.74	0.59	0.93	0.29	0.70	0.38	0.92	0.60

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	153	375	59	225	355	659	22	511	132	249	526	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
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	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1452	1620	1739	1391	1652	3240	1331	1620	2994	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1452	1620	1739	1391	1652	3240	1331	1620	2994	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	408	64	245	386	716	24	555	143	271	572	116
RTOR Reduction (vph)	0	0	18	0	0	260	0	0	52	0	12	0
Lane Group Flow (vph)	166	408	46	245	386	456	24	555	91	271	676	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	17.1	38.9	38.9	23.4	45.2	45.2	4.2	29.0	29.0	24.3	49.1	
Effective Green, g (s)	17.0	38.8	38.8	23.3	45.1	45.1	3.2	28.5	28.5	23.3	48.6	
Actuated g/C Ratio	0.13	0.30	0.30	0.18	0.35	0.35	0.02	0.22	0.22	0.18	0.37	
Clearance Time (s)	3.9	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	216	519	434	291	604	483	41	711	292	291	1120	
v/s Ratio Prot	0.10	0.23		c0.15	0.22		0.01	c0.17		c0.17	0.23	
v/s Ratio Perm			0.03			c0.33			0.07			
v/c Ratio	0.77	0.79	0.11	0.84	0.64	0.94	0.59	0.78	0.31	0.93	0.60	
Uniform Delay, d1	54.5	41.7	33.0	51.5	35.6	41.2	62.7	47.8	42.5	52.5	32.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	15.9	8.1	0.1	20.0	2.5	27.6	22.8	5.9	0.8	35.3	1.1	
Delay (s)	70.5	49.9	33.1	71.5	38.1	68.8	85.5	53.6	43.3	87.8	33.9	
Level of Service	E	D	C	E	D	E	F	D	D	F	C	
Approach Delay (s)		53.6			60.5			52.6			49.2	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	54.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	129.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	612	102	1346	1206	208	332	621	193	239	15
v/c Ratio	0.38	0.66	0.27	1.06	0.72	1.20	0.53	0.39	0.58	0.40	0.05
Control Delay	67.7	51.0	10.0	79.5	26.8	177.6	49.6	8.5	63.2	47.0	18.1
Queue Delay	0.0	0.0	0.0	94.1	3.9	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.7	51.0	10.0	173.6	30.7	177.6	49.6	8.5	63.2	47.0	18.1
Queue Length 50th (ft)	37	171	0	~643	401	~212	132	86	79	91	0
Queue Length 95th (ft)	85	230	49	#890	548	#410	187	126	129	135	19
Internal Link Dist (ft)		238			388		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	136	1117	432	1274	1726	174	854	1767	370	855	400
Starvation Cap Reductn	0	0	0	218	426	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	0.35	0.55	0.24	1.27	0.93	1.20	0.39	0.35	0.52	0.28	0.04

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	563	94	1238	848	261	191	305	571	178	220	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	3.1	4.0	4.0	3.1	4.0		4.0	4.0	3.1	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1471
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3113		1678	3355	2706	3255	3240	1471
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	612	102	1346	922	284	208	332	621	193	239	15
RTOR Reduction (vph)	0	0	81	0	19	0	0	0	0	0	0	12
Lane Group Flow (vph)	47	612	21	1346	1187	0	208	332	621	193	239	3
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	7.5	24.3	24.3	48.4	65.2		13.1	22.2	70.6	12.8	21.9	21.9
Effective Green, g (s)	8.4	25.8	25.8	49.3	66.7		13.1	23.7	72.4	12.8	23.4	23.4
Actuated g/C Ratio	0.07	0.20	0.20	0.39	0.53		0.10	0.19	0.57	0.10	0.18	0.18
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	104	948	301	1267	1639		173	628	1546	329	598	272
v/s Ratio Prot	0.03	0.13		c0.41	c0.38		c0.12	c0.10	0.23	c0.06	0.07	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.45	0.65	0.07	1.06	0.72		1.20	0.53	0.40	0.59	0.40	0.01
Uniform Delay, d1	56.9	46.3	40.7	38.7	23.0		56.8	46.5	15.1	54.4	45.5	42.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	1.7	0.1	43.6	1.7		133.3	1.0	0.2	3.1	0.6	0.0
Delay (s)	61.1	48.0	40.9	82.3	24.7		190.1	47.5	15.3	57.6	46.1	42.2
Level of Service	E	D	D	F	C		F	D	B	E	D	D
Approach Delay (s)		47.8			55.1			55.8			50.9	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM Average Control Delay	53.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	126.7	Sum of lost time (s)	11.1
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	301	2380	203	1375	224	226	122	143
v/c Ratio	0.85	0.83	0.87	0.71	0.72	0.72	0.30	0.77
Control Delay	71.2	31.5	88.7	35.2	62.0	61.4	8.8	59.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	31.5	88.7	35.2	62.0	61.4	8.8	59.0
Queue Length 50th (ft)	238	477	169	358	186	188	0	32
Queue Length 95th (ft)	#419	615	#344	472	281	282	50	#95
Internal Link Dist (ft)		660		577		351		533
Turn Bay Length (ft)	125		180		200			
Base Capacity (vph)	388	2860	234	1939	435	442	516	185
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	0.78	0.83	0.87	0.71	0.51	0.51	0.24	0.77

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	277	1810	380	187	1228	37	355	59	112	22	44	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.86		1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	5698		1678	4631		1539	1564	1514		3026	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1620	5698		1678	4631		1539	1564	1514		3026	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	1967	413	203	1335	40	386	64	122	24	48	71
RTOR Reduction (vph)	0	25	0	0	2	0	0	0	97	0	68	0
Lane Group Flow (vph)	301	2355	0	203	1373	0	224	226	25	0	75	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot			Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases									8			
Actuated Green, G (s)	27.4	63.7		17.0	53.3		25.5	25.5	25.5		4.4	
Effective Green, g (s)	28.4	64.7		18.0	54.3		26.1	26.1	26.1		5.0	
Actuated g/C Ratio	0.22	0.50		0.14	0.42		0.20	0.20	0.20		0.04	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0		4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	354	2840		233	1937		309	314	304		117	
v/s Ratio Prot	c0.19	c0.41		0.12	0.30		c0.15	0.14			c0.02	
v/s Ratio Perm									0.02			
v/c Ratio	0.85	0.83		0.87	0.71		0.72	0.72	0.08		0.64	
Uniform Delay, d1	48.7	27.8		54.8	31.2		48.5	48.4	42.1		61.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	18.0	2.5		28.6	1.8		8.7	8.2	0.2		12.2	
Delay (s)	66.7	30.3		83.4	33.0		57.2	56.6	42.3		73.7	
Level of Service	E	C		F	C		E	E	D		E	
Approach Delay (s)		34.4			39.5			53.8			73.7	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	39.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	129.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	185	1668	233	997	267	184	300	27	290
v/c Ratio	0.73	0.85	0.95	0.51	0.82	0.21	0.45	0.24	0.51
Control Delay	54.3	28.3	86.4	21.9	61.0	25.2	5.4	49.7	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	28.3	86.4	21.9	61.0	25.2	5.4	49.7	23.0
Queue Length 50th (ft)	92	263	123	141	72	38	0	7	46
Queue Length 95th (ft)	#235	#510	#334	251	#176	70	56	24	82
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	278	1955	245	1941	326	1365	873	111	1141
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.85	0.95	0.51	0.82	0.13	0.34	0.24	0.25

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	1129	406	214	901	17	246	169	276	25	165	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4535		1652	4719		3143	3240	1660	3204	3032	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4535		1652	4719		3143	3240	1660	3204	3032	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	1227	441	233	979	18	267	184	300	27	179	111
RTOR Reduction (vph)	0	57	0	0	2	0	0	0	219	0	92	0
Lane Group Flow (vph)	185	1611	0	233	995	0	267	184	81	27	198	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	13.8	35.7		13.1	35.0		10.1	24.5	24.5	1.5	15.9	
Effective Green, g (s)	13.7	36.7		13.0	36.0		9.1	24.1	24.1	0.5	15.5	
Actuated g/C Ratio	0.15	0.41		0.15	0.40		0.10	0.27	0.27	0.01	0.17	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	248	1862		240	1900		320	873	447	18	526	
v/s Ratio Prot	0.11	c0.36		c0.14	0.21		c0.08	0.06		0.01	c0.07	
v/s Ratio Perm									0.05			
v/c Ratio	0.75	0.87		0.97	0.52		0.83	0.21	0.18	1.50	0.38	
Uniform Delay, d1	36.2	24.1		38.0	20.2		39.4	25.3	25.1	44.5	32.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.5	4.6		49.8	0.3		17.5	0.2	0.3	395.6	0.6	
Delay (s)	47.7	28.7		87.9	20.6		56.9	25.5	25.3	440.1	33.3	
Level of Service	D	C		F	C		E	C	C	F	C	
Approach Delay (s)		30.6			33.3			36.6			67.9	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	35.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	11.1
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	215	343	5	824	276	667	785
v/c Ratio	0.07	0.78	0.40	0.05	0.57	0.33	0.82	0.33
Control Delay	26.7	59.2	4.9	48.0	20.7	3.0	48.5	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	59.2	4.9	48.0	20.7	3.0	48.5	8.5
Queue Length 50th (ft)	9	143	0	3	143	6	229	98
Queue Length 95th (ft)	29	217	37	m9	184	20	286	201
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			350	
Base Capacity (vph)	370	354	994	93	1448	840	927	2372
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	0.06	0.61	0.35	0.05	0.57	0.33	0.72	0.33

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	0	5	196	2	316	5	758	254	614	675	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697			1775	2787	1678	3355	1583	3433	3432	
Flt Permitted		0.78			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1374			1328	2787	1678	3355	1583	3433	3432	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	0	5	213	2	343	5	824	276	667	734	51
RTOR Reduction (vph)	0	4	0	0	0	271	0	0	157	0	3	0
Lane Group Flow (vph)	0	17	0	0	215	72	5	824	119	667	782	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		23.0			23.0	23.0	1.2	47.4	47.4	26.1	72.3	
Effective Green, g (s)		23.0			23.0	23.0	1.2	47.4	47.4	26.1	72.3	
Actuated g/C Ratio		0.21			0.21	0.21	0.01	0.43	0.43	0.24	0.66	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		287			278	583	18	1446	682	815	2256	
v/s Ratio Prot							0.00	c0.25		c0.19	0.23	
v/s Ratio Perm		0.01			c0.16	0.03			0.08			
v/c Ratio		0.06			0.77	0.12	0.28	0.57	0.17	0.82	0.35	
Uniform Delay, d1		34.8			41.0	35.3	54.0	23.6	19.3	39.7	8.4	
Progression Factor		1.00			1.00	1.00	0.95	0.74	0.62	1.00	1.00	
Incremental Delay, d2		0.1			12.6	0.1	7.7	1.5	0.5	6.4	0.4	
Delay (s)		34.9			53.6	35.4	58.9	19.1	12.4	46.1	8.8	
Level of Service		C			D	D	E	B	B	D	A	
Approach Delay (s)		34.9			42.4			17.6			25.9	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM Average Control Delay	26.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	210	67	116	126	300	60	492	229	413
v/c Ratio	0.52	0.17	0.45	0.27	0.52	0.27	0.59	0.58	0.29
Control Delay	25.6	7.0	26.7	20.8	6.6	33.5	22.4	29.0	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	7.0	26.7	20.8	6.6	33.5	22.4	29.0	12.1
Queue Length 50th (ft)	60	0	32	33	0	19	69	68	47
Queue Length 95th (ft)	160	29	101	96	57	71	167	184	105
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	797	715	514	944	848	278	1489	791	2365
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.09	0.23	0.13	0.35	0.22	0.33	0.29	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	123	62	107	116	276	55	348	105	211	333	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1703	1260	1620	1739	1316	1711	2955		1620	3018	
Flt Permitted		0.85	1.00	0.56	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1472	1260	947	1739	1316	1711	2955		1620	3018	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	134	67	116	126	300	60	378	114	229	362	51
RTOR Reduction (vph)	0	0	49	0	0	219	0	29	0	0	12	0
Lane Group Flow (vph)	0	210	18	116	126	81	60	463	0	229	401	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		16.5	16.5	16.5	16.5	16.5	4.4	18.2		14.8	28.6	
Effective Green, g (s)		16.5	16.5	16.5	16.5	16.5	4.4	18.2		14.8	28.6	
Actuated g/C Ratio		0.27	0.27	0.27	0.27	0.27	0.07	0.30		0.24	0.47	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		398	341	256	470	356	123	882		393	1415	
v/s Ratio Prot					0.07		0.04	c0.16		c0.14	0.13	
v/s Ratio Perm		c0.14	0.01	0.12		0.06						
v/c Ratio		0.53	0.05	0.45	0.27	0.23	0.49	0.53		0.58	0.28	
Uniform Delay, d1		18.9	16.5	18.5	17.5	17.3	27.2	17.8		20.4	9.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3	0.1	1.3	0.3	0.3	3.0	0.7		2.2	0.2	
Delay (s)		20.2	16.5	19.8	17.8	17.6	30.2	18.5		22.6	10.1	
Level of Service		C	B	B	B	B	C	B		C	B	
Approach Delay (s)		19.3			18.1			19.8			14.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	200	117	146	462	152	844	82	873
v/c Ratio	0.48	0.66	0.38	0.65	0.63	0.67	0.39	0.48	0.62
Control Delay	50.5	53.4	10.4	56.7	38.8	59.5	20.2	56.7	27.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	53.4	10.4	56.7	38.8	59.5	20.2	56.7	27.6
Queue Length 50th (ft)	56	134	0	102	117	102	139	45	281
Queue Length 95th (ft)	87	200	47	167	193	171	196	m100	377
Internal Link Dist (ft)		2946			522		956		727
Turn Bay Length (ft)	240		200	205		200		370	
Base Capacity (vph)	473	409	381	257	833	250	2179	186	1416
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.49	0.31	0.57	0.55	0.61	0.39	0.44	0.62

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	148	184	108	134	240	185	140	651	125	75	711	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95		1.00	0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3060	1845	1306	1770	3287		1652	4524		1770	3392	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3060	1845	1306	1770	3287		1652	4524		1770	3392	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	161	200	117	146	261	201	152	708	136	82	773	100
RTOR Reduction (vph)	0	0	98	0	132	0	0	22	0	0	8	0
Lane Group Flow (vph)	161	200	19	146	330	0	152	822	0	82	865	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8									
Actuated Green, G (s)	12.0	18.0	18.0	14.0	20.0		15.1	51.7		9.1	45.7	
Effective Green, g (s)	12.0	18.0	18.0	14.0	20.0		15.1	51.7		9.1	45.7	
Actuated g/C Ratio	0.11	0.16	0.16	0.13	0.18		0.14	0.47		0.08	0.42	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6		4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	334	302	214	225	598		227	2126		146	1409	
v/s Ratio Prot	0.05	c0.11		c0.08	0.10		c0.09	0.18		0.05	c0.25	
v/s Ratio Perm			0.01									
v/c Ratio	0.48	0.66	0.09	0.65	0.55		0.67	0.39		0.56	0.61	
Uniform Delay, d1	46.1	43.1	39.0	45.7	40.9		45.1	18.9		48.5	25.2	
Progression Factor	1.00	1.00	1.00	0.96	1.33		1.00	1.00		1.02	0.95	
Incremental Delay, d2	1.5	5.9	0.2	6.9	1.3		8.0	0.5		5.5	1.9	
Delay (s)	47.6	49.0	39.3	50.6	55.8		53.1	19.4		55.1	25.8	
Level of Service	D	D	D	D	E		D	B		E	C	
Approach Delay (s)		46.2			54.5			24.6			28.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	35.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	16	322	34	605	11	11	61	79	11
v/c Ratio	0.15	0.23	0.27	0.42	0.09	0.02	0.47	0.37	0.16
Control Delay	59.5	5.0	53.4	8.6	45.4	0.0	58.3	15.9	53.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	5.0	53.4	8.6	45.4	0.0	58.3	15.9	53.2
Queue Length 50th (ft)	12	37	23	83	7	0	42	2	8
Queue Length 95th (ft)	36	199	55	387	24	0	82	46	26
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	250		60		100				
Base Capacity (vph)	112	1402	133	1431	210	784	235	331	72
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.23	0.26	0.42	0.05	0.01	0.26	0.24	0.15

Intersection Summary

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	283	13	31	478	78	10	0	10	56	3	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.85		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1849		1770	1823		1711	1583		1770	1594	
Flt Permitted	0.95	1.00		0.95	1.00		0.69	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1849		1770	1823		1251	1583		1398	1594	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	308	14	34	520	85	11	0	11	61	3	76
RTOR Reduction (vph)	0	1	0	0	0	0	0	10	0	0	70	0
Lane Group Flow (vph)	16	321	0	34	605	0	11	1	0	61	9	0
Confl. Peds. (#/hr)			2									
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.1	76.0		5.2	78.1		9.0	9.0		9.0	9.0	
Effective Green, g (s)	3.1	76.0		5.2	78.1		9.0	9.0		9.0	9.0	
Actuated g/C Ratio	0.03	0.69		0.05	0.71		0.08	0.08		0.08	0.08	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	50	1277		84	1294		102	130		114	130	
v/s Ratio Prot	0.01	0.17		c0.02	c0.33			0.00			0.01	
v/s Ratio Perm							0.01			c0.04		
v/c Ratio	0.32	0.25		0.40	0.47		0.11	0.01		0.54	0.07	
Uniform Delay, d1	52.4	6.4		50.9	6.9		46.8	46.4		48.5	46.6	
Progression Factor	1.17	0.63		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.6	0.5		3.2	1.2		0.5	0.0		4.8	0.2	
Delay (s)	64.7	4.5		54.1	8.1		47.2	46.4		53.3	46.9	
Level of Service	E	A		D	A		D	D		D	D	
Approach Delay (s)		7.3			10.6			46.8			49.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SWR
Lane Configurations	
Volume (vph)	10
Ideal Flow (vphpl)	1900
Lane Width	12
Total Lost time (s)	4.5
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.86
Flt Protected	1.00
Satd. Flow (prot)	1096
Flt Permitted	1.00
Satd. Flow (perm)	1096
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	11
RTOR Reduction (vph)	0
Lane Group Flow (vph)	11
Confl. Peds. (#/hr)	
Heavy Vehicles (%)	50%
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	9
Actuated Green, G (s)	1.8
Effective Green, g (s)	1.8
Actuated g/C Ratio	0.02
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	18
v/s Ratio Prot	c0.01
v/s Ratio Perm	
v/c Ratio	0.61
Uniform Delay, d1	53.8
Progression Factor	1.00
Incremental Delay, d2	48.7
Delay (s)	102.4
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	417	5	525	41	59	7	37	308
v/c Ratio	0.23	0.41	0.03	0.71	0.20	0.11	0.02	0.11	0.57
Control Delay	29.3	10.0	30.6	21.6	20.4	17.4	10.3	17.9	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	10.0	30.6	21.6	20.4	17.4	10.3	17.9	19.1
Queue Length 50th (ft)	19	60	2	149	12	16	0	10	76
Queue Length 95th (ft)	56	189	12	#350	35	42	8	31	152
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	250	1330	143	977	420	1069	763	713	1042
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.31	0.03	0.54	0.10	0.06	0.01	0.05	0.30

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	291	93	5	444	39	38	54	6	34	152	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1947		1711	1698		1652	1863	1327	1644	1768	
Flt Permitted	0.95	1.00		0.95	1.00		0.42	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1711	1947		1711	1698		731	1863	1327	1243	1768	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	316	101	5	483	42	41	59	7	37	165	143
RTOR Reduction (vph)	0	13	0	0	4	0	0	0	5	0	49	0
Lane Group Flow (vph)	57	404	0	5	521	0	41	59	2	37	259	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	3.4	27.0		0.6	24.2		14.6	14.6	14.6	14.6	14.6	
Effective Green, g (s)	3.4	27.0		0.6	24.2		14.6	14.6	14.6	14.6	14.6	
Actuated g/C Ratio	0.06	0.49		0.01	0.44		0.26	0.26	0.26	0.26	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	105	952		19	744		193	493	351	329	468	
v/s Ratio Prot	c0.03	c0.21		0.00	c0.31			0.03			c0.15	
v/s Ratio Perm							0.06		0.00	0.03		
v/c Ratio	0.54	0.42		0.26	0.70		0.21	0.12	0.01	0.11	0.55	
Uniform Delay, d1	25.1	9.1		27.1	12.6		15.8	15.4	15.0	15.4	17.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.0	0.4		9.9	3.2		0.8	0.1	0.0	0.2	1.8	
Delay (s)	32.2	9.5		36.9	15.8		16.6	15.6	15.0	15.6	19.3	
Level of Service	C	A		D	B		B	B	B	B	B	
Approach Delay (s)		12.2			16.0			15.9			18.9	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	17.5
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	134	173	3	96	409	761	40	23	596	265
v/c Ratio	0.96	0.33	0.03	0.32	0.80	0.40	0.05	0.20	0.67	0.44
Control Delay	109.3	9.9	41.3	29.3	40.2	11.7	7.7	42.8	29.7	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.3	9.9	41.3	29.3	40.2	11.7	7.7	42.8	29.7	6.1
Queue Length 50th (ft)	61	17	1	38	163	72	3	10	121	0
Queue Length 95th (ft)	#224	70	11	81	#465	232	26	40	236	60
Internal Link Dist (ft)		1442		1025		1609			1977	
Turn Bay Length (ft)	225		90		120		50	120		
Base Capacity (vph)	139	834	90	792	514	1932	868	116	1159	702
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.21	0.03	0.12	0.80	0.39	0.05	0.20	0.51	0.38

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	123	48	111	3	84	5	380	700	37	21	548	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	3.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.96	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.90		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1711	1584		1652	1718		1652	3240	1450	1711	3355	1531
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1711	1584		1652	1718		1652	3240	1450	1711	3355	1531
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	134	52	121	3	91	5	409	761	40	23	596	265
RTOR Reduction (vph)	0	89	0	0	2	0	0	0	9	0	0	191
Lane Group Flow (vph)	134	84	0	3	94	0	409	761	31	23	596	74
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			4
Actuated Green, G (s)	6.1	21.1		0.6	15.6		23.5	43.9	43.9	1.8	22.2	22.2
Effective Green, g (s)	6.1	21.1		0.6	15.6		23.5	43.9	43.9	1.8	22.2	22.2
Actuated g/C Ratio	0.08	0.26		0.01	0.20		0.29	0.55	0.55	0.02	0.28	0.28
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	3.5
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	131	418		12	335		486	1780	797	39	932	425
v/s Ratio Prot	c0.08	0.05		0.00	c0.05		c0.25	0.23		0.01	c0.18	
v/s Ratio Perm									0.02			0.05
v/c Ratio	1.02	0.20		0.25	0.28		0.84	0.43	0.04	0.59	0.64	0.17
Uniform Delay, d1	36.9	22.8		39.4	27.4		26.5	10.6	8.3	38.7	25.3	21.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	84.8	0.3		14.4	0.6		12.9	0.2	0.0	24.2	1.6	0.3
Delay (s)	121.7	23.2		53.8	28.0		39.4	10.8	8.3	62.9	27.0	22.2
Level of Service	F	C		D	C		D	B	A	E	C	C
Approach Delay (s)		66.2			28.8			20.4			26.5	
Approach LOS		E			C			C			C	

Intersection Summary			
HCM Average Control Delay	28.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	79.9	Sum of lost time (s)	12.5
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	63	17	16	974	968
v/c Ratio	0.20	0.06	0.04	0.39	0.39
Control Delay	18.6	8.5	5.4	5.1	5.0
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	18.6	8.5	5.4	5.3	5.0
Queue Length 50th (ft)	20	0	1	54	53
Queue Length 95th (ft)	38	11	10	155	153
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	701	574	379	2449	2436
Starvation Cap Reductn	0	0	0	730	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.04	0.57	0.40

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	58	16	15	896	855	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3219	
Flt Permitted	0.95	1.00	0.29	1.00	1.00	
Satd. Flow (perm)	1652	1330	502	3240	3219	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	17	16	974	929	39
RTOR Reduction (vph)	0	15	0	0	3	0
Lane Group Flow (vph)	63	2	16	974	965	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	5.8	5.8	33.8	33.8	33.8	
Effective Green, g (s)	5.8	5.8	33.8	33.8	33.8	
Actuated g/C Ratio	0.12	0.12	0.70	0.70	0.70	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	197	159	349	2253	2239	
v/s Ratio Prot	c0.04			c0.30	0.30	
v/s Ratio Perm		0.00	0.03			
v/c Ratio	0.32	0.01	0.05	0.43	0.43	
Uniform Delay, d1	19.6	18.9	2.3	3.2	3.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.0	0.2	0.4	0.4	
Delay (s)	20.5	18.9	2.5	3.6	3.6	
Level of Service	C	B	A	A	A	
Approach Delay (s)	20.2			3.6	3.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	48.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1184	958	836	2087	848	1178
v/c Ratio	0.59	0.60	0.81	1.11	0.50	1.20
Control Delay	15.2	14.6	32.4	75.4	1.1	133.1
Queue Delay	17.5	4.6	0.0	0.0	0.0	0.0
Total Delay	32.7	19.2	32.4	75.4	1.1	133.1
Queue Length 50th (ft)	255	209	251	~893	0	~575
Queue Length 95th (ft)	317	275	m231	m#805	0	#719
Internal Link Dist (ft)	252			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	2010	1608	1031	1876	1686	981
Starvation Cap Reductn	842	564	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	1.01	0.92	0.81	1.11	0.50	1.20

Intersection Summary

~ 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.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1089	881	769	1920	0	0	0	780	0	0	1084
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		3.5	3.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2733
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2733
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1184	958	836	2087	0	0	0	848	0	0	1178
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1184	933	836	2087	0	0	0	848	0	0	1178
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2 4		1	6							
Permitted Phases			2 4						Free			4
Actuated Green, G (s)		64.9	64.9	36.1	61.5				110.0			39.5
Effective Green, g (s)		64.9	64.9	36.1	61.5				110.0			39.5
Actuated g/C Ratio		0.59	0.59	0.33	0.56				1.00			0.36
Clearance Time (s)				4.5	4.5							4.5
Vehicle Extension (s)				3.0	3.0							3.0
Lane Grp Cap (vph)		1979	1559	1031	1876				1686			981
v/s Ratio Prot		0.35		0.27	c0.62							
v/s Ratio Perm			0.35						0.50			c0.43
v/c Ratio		0.60	0.60	0.81	1.11				0.50			1.20
Uniform Delay, d1		14.3	14.3	33.8	24.2				0.0			35.2
Progression Factor		1.00	1.00	0.86	0.81				1.00			1.00
Incremental Delay, d2		0.5	0.6	2.6	53.9				1.1			100.3
Delay (s)		14.8	14.9	31.9	73.5				1.1			135.5
Level of Service		B	B	C	E				A			F
Approach Delay (s)		14.8			61.6			1.1			135.5	
Approach LOS		B			E			A			F	

Intersection Summary			
HCM Average Control Delay	52.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	722	1310	1255	780	963	1797
v/c Ratio	0.86	0.39	0.57	0.77	0.60	1.18
Control Delay	40.3	0.3	12.3	20.0	1.6	94.3
Queue Delay	0.0	0.0	0.0	0.6	0.0	0.0
Total Delay	40.3	0.3	12.3	20.6	1.6	94.3
Queue Length 50th (ft)	208	0	250	356	0	~396
Queue Length 95th (ft)	271	0	314	556	0	#660
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	900	3355	2188	1011	1611	1528
Starvation Cap Reductn	0	0	0	54	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.39	0.57	0.82	0.60	1.18

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	664	1205	0	0	1155	718	0	0	886	0	0	1653
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	722	1310	0	0	1255	780	0	0	963	0	0	1797
RTOR Reduction (vph)	0	0	0	0	0	13	0	0	0	0	0	0
Lane Group Flow (vph)	722	1310	0	0	1255	767	0	0	963	0	0	1797
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	29.3	110.0			71.7	71.7			110.0			110.0
Effective Green, g (s)	29.3	110.0			71.7	71.7			110.0			110.0
Actuated g/C Ratio	0.27	1.00			0.65	0.65			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	837	3355			2187	998			1611			1528
v/s Ratio Prot	0.23	0.39			0.37							
v/s Ratio Perm						0.50			0.60			c1.18
v/c Ratio	0.86	0.39			0.57	0.77			0.60			1.18
Uniform Delay, d1	38.4	0.0			10.7	13.4			0.0			55.0
Progression Factor	0.79	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	7.8	0.3			1.1	5.7			1.6			86.4
Delay (s)	38.1	0.3			11.8	19.1			1.6			141.4
Level of Service	D	A			B	B			A			F
Approach Delay (s)		13.7			14.6			1.6			141.4	
Approach LOS		B			B			A			F	

Intersection Summary			
HCM Average Control Delay	45.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	332	462	517	429	21	536	770	15	58	693	285
v/c Ratio	1.04	0.63	0.29	1.08	0.06	0.75	0.54	0.03	0.41	0.87	0.60
Control Delay	91.2	30.1	0.4	107.7	24.2	45.5	26.8	14.7	56.7	52.3	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.2	30.1	0.4	107.7	24.2	45.5	26.8	14.7	56.7	52.3	25.7
Queue Length 50th (ft)	~198	243	0	~328	6	177	220	3	38	240	92
Queue Length 95th (ft)	#419	399	0	#572	28	235	278	17	85	#380	199
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	319	733	1770	398	346	988	1617	603	155	800	474
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	1.04	0.63	0.29	1.08	0.06	0.54	0.48	0.02	0.37	0.87	0.60

Intersection Summary

~ 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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	425	476	3	392	19	493	708	14	53	638	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1473	3204	3539	1337	1652	3303	1550
Flt Permitted	0.14	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	242	1739	1770		1733	1473	3204	3539	1337	1652	3303	1550
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	332	462	517	3	426	21	536	770	15	58	693	285
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	5	0	0	98
Lane Group Flow (vph)	332	462	517	0	429	13	536	770	10	58	693	187
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	44.7	44.7	108.3		24.2	24.2	23.0	42.2	42.2	7.0	26.1	26.1
Effective Green, g (s)	45.2	45.2	108.3		24.7	24.7	24.0	43.2	42.2	7.9	27.1	27.1
Actuated g/C Ratio	0.42	0.42	1.00		0.23	0.23	0.22	0.40	0.39	0.07	0.25	0.25
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.9	5.0	5.0
Vehicle Extension (s)	4.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	316	726	1770		395	336	710	1412	521	121	827	388
v/s Ratio Prot	c0.16	0.27					c0.17	0.22		0.04	c0.21	
v/s Ratio Perm	c0.28		0.29		0.25	0.01			0.01			0.12
v/c Ratio	1.05	0.64	0.29		1.09	0.04	0.75	0.55	0.02	0.48	0.84	0.48
Uniform Delay, d1	31.0	25.0	0.0		41.8	32.6	39.4	25.0	20.3	48.2	38.5	34.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	64.5	2.1	0.4		70.4	0.1	4.6	1.0	0.0	3.5	8.6	2.6
Delay (s)	95.5	27.1	0.4		112.2	32.6	44.0	26.0	20.4	51.7	47.1	37.2
Level of Service	F	C	A		F	C	D	C	C	D	D	D
Approach Delay (s)		33.9			108.5			33.2			44.7	
Approach LOS		C			F			C			D	

Intersection Summary			
HCM Average Control Delay	44.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	108.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	29	90	1078	160	1423
v/c Ratio	0.12	0.27	0.28	0.47	0.52
Control Delay	17.9	8.3	3.8	15.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	8.3	3.8	15.5	5.9
Queue Length 50th (ft)	9	4	31	16	81
Queue Length 95th (ft)	22	29	96	#131	258
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	527	649	3836	336	2704
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.14	0.28	0.48	0.53

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	26	1	83	0	950	41	147	1307	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.99		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		0.99		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1570	1400		4918		1619	3470	
Flt Permitted					0.74	1.00		1.00		0.25	1.00	
Satd. Flow (perm)					1220	1400		4918		431	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	28	1	90	0	1033	45	160	1421	2
RTOR Reduction (vph)	0	0	0	0	0	69	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	29	21	0	1073	0	160	1423	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					5.3	5.3		33.1		33.1	33.1	
Effective Green, g (s)					5.3	5.3		33.1		33.1	33.1	
Actuated g/C Ratio					0.11	0.11		0.70		0.70	0.70	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					138	158		3464		304	2444	
v/s Ratio Prot								0.22			c0.41	
v/s Ratio Perm					c0.02	0.01				0.37		
v/c Ratio					0.21	0.13		0.31		0.53	0.58	
Uniform Delay, d1					18.9	18.8		2.6		3.3	3.5	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.8	0.4		0.0		0.8	0.2	
Delay (s)					19.7	19.2		2.6		4.0	3.7	
Level of Service					B	B		A		A	A	
Approach Delay (s)		0.0			19.3			2.6			3.7	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	4.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	47.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	16	346	693	64	41
v/c Ratio	0.15	0.22	0.24	0.42	0.24
Control Delay	53.7	1.6	3.3	55.4	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	53.7	1.6	3.3	55.4	17.1
Queue Length 50th (ft)	7	0	35	44	0
Queue Length 95th (ft)	m19	1	42	85	33
Internal Link Dist (ft)		522	524	200	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	169	1602	2840	459	441
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.22	0.24	0.14	0.09

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	15	318	559	78	59	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3474		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3474		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	346	608	85	64	41
RTOR Reduction (vph)	0	0	5	0	0	38
Lane Group Flow (vph)	16	346	688	0	64	3
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	3.1	92.8	85.2		8.2	8.2
Effective Green, g (s)	3.1	92.8	85.2		8.2	8.2
Actuated g/C Ratio	0.03	0.84	0.77		0.07	0.07
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	50	1572	2691		132	118
v/s Ratio Prot	0.01	c0.19	c0.20		c0.04	
v/s Ratio Perm						0.00
v/c Ratio	0.32	0.22	0.26		0.48	0.03
Uniform Delay, d1	52.4	1.7	3.5		48.9	47.2
Progression Factor	1.05	0.68	0.84		1.00	1.00
Incremental Delay, d2	3.4	0.3	0.2		2.8	0.1
Delay (s)	58.4	1.4	3.1		51.7	47.3
Level of Service	E	A	A		D	D
Approach Delay (s)		3.9	3.1		50.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBR
Lane Group Flow (vph)	1459	543	2551	554
v/c Ratio	0.60	0.68	0.50	0.76
Control Delay	16.6	16.9	0.4	20.3
Queue Delay	0.0	0.2	0.0	0.0
Total Delay	16.6	17.1	0.4	20.3
Queue Length 50th (ft)	109	144	0	155
Queue Length 95th (ft)	191	232	0	257
Internal Link Dist (ft)	388		252	
Turn Bay Length (ft)				
Base Capacity (vph)	2822	1229	5085	1120
Starvation Cap Reductn	0	159	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.51	0.50	0.49

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1312	30	500	2347	0	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5		4.5
Lane Util. Factor	0.86		1.00	0.91		1.00
Frt	1.00		1.00	1.00		0.86
Flt Protected	1.00		0.95	1.00		1.00
Satd. Flow (prot)	6386		1770	5085		1611
Flt Permitted	1.00		0.95	1.00		1.00
Satd. Flow (perm)	6386		1770	5085		1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1426	33	543	2551	0	554
RTOR Reduction (vph)	4	0	0	0	0	2
Lane Group Flow (vph)	1455	0	543	2551	0	552
Turn Type			Prot			Over
Protected Phases	2		1	6		1
Permitted Phases						
Actuated Green, G (s)	22.0		25.8	56.8		25.8
Effective Green, g (s)	22.0		25.8	56.8		25.8
Actuated g/C Ratio	0.39		0.45	1.00		0.45
Clearance Time (s)	4.5		4.5	4.5		4.5
Vehicle Extension (s)	3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	2473		804	5085		732
v/s Ratio Prot	0.23		0.31	c0.50		c0.34
v/s Ratio Perm						
v/c Ratio	0.59		0.68	0.50		0.75
Uniform Delay, d1	13.8		12.2	0.0		12.9
Progression Factor	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.4		2.3	0.1		4.4
Delay (s)	14.2		14.5	0.1		17.3
Level of Service	B		B	A		B
Approach Delay (s)	14.2			2.6	17.3	
Approach LOS	B			A	B	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	56.8	Sum of lost time (s)	4.5
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			