Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	57	173	289	166	968	27	1334	248	1383	990	89
v/c Ratio	0.95	0.44	0.47	0.36	0.98	0.38	1.09	0.33	1.23	0.51	0.09
Control Delay	168.6	55.2	54.7	43.6	49.0	80.0	100.7	6.4	149.8	18.0	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	168.6	55.2	54.7	43.6	49.0	80.0	100.7	6.4	149.8	18.0	2.8
Queue Length 50th (ft)	53	73	120	123	802	24	~501	31	~804	282	0
Queue Length 95th (ft)	#149	102	#198	192	#1163	58	#599	71	#942	343	24
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	60	702	621	467	984	79	1228	754	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	0.95	0.25	0.47	0.36	0.98	0.34	1.09	0.33	1.23	0.51	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)	52	134	25	266	153	891	25	1227	228	1272	911	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		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	0.98
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		3255	1689	1501	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		3255	1689	1501	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)	57	146	27	289	166	968	27	1334	248	1383	990	89
RTOR Reduction (vph)	0	12	0	0	0	5	0	0	86	0	0	36
Lane Group Flow (vph)	57	161	0	289	166	963	27	1334	162	1383	990	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		615	463	980	51	1262	677	1115	1925	900
v/s Ratio Prot	c0.03	0.05		0.09	0.10	c0.64	0.02	c0.29	0.11	c0.44	0.31	
v/s Ratio Perm												0.03
v/c Ratio	0.97	0.43		0.47	0.36	0.98	0.53	1.06	0.24	1.24	0.51	0.06
Uniform Delay, d1	68.6	58.1		51.4	41.6	23.9	67.9	51.9	22.8	46.0	16.9	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	103.6	1.4		0.2	0.7	24.5	4.5	41.9	0.3	115.9	0.2	0.0
Delay (s)	172.2	59.5		51.6	42.3	48.4	72.4	93.8	23.0	161.9	17.1	12.2
Level of Service	F	E		D	D	D	E	F	C	F	B	B
Approach Delay (s)		87.4			48.4			82.5			98.3	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	81.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	6.8
Intersection Capacity Utilization	92.9%	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)	134	1670	25	1323	157	28	148	187	124
v/c Ratio	0.54	0.76	0.15	0.75	0.19	0.25	0.64	0.49	0.51
Control Delay	50.2	16.8	45.7	14.7	0.6	50.9	21.2	46.7	28.2
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	50.2	17.5	45.7	14.7	0.6	50.9	21.3	46.7	28.2
Queue Length 50th (ft)	84	232	15	319	0	18	1	62	36
Queue Length 95th (ft)	148	#726	m29	462	2	45	60	94	92
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	247	2208	170	1762	824	224	318	462	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	229	0	0	0	0	10	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.84	0.15	0.75	0.19	0.13	0.48	0.40	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)	123	1521	16	23	1201	161	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	0.97	
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	3173		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	3173		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)	134	1653	17	25	1305	175	28	2	146	187	46	78
RTOR Reduction (vph)	0	0	0	0	1	70	0	136	0	0	59	0
Lane Group Flow (vph)	134	1670	0	25	1322	87	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	183	
v/s Ratio Prot	0.08	c0.53		0.02	c0.43		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.07						
v/c Ratio	0.49	0.77		0.32	0.77	0.12	0.25	0.12		0.49	0.36	
Uniform Delay, d1	39.5	11.4		48.4	18.1	11.0	46.6	46.2		43.0	42.3	
Progression Factor	1.00	1.00		1.02	0.63	0.06	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.8		0.8	3.2	0.3	0.4	0.2		1.0	1.2	
Delay (s)	40.0	14.2		50.0	14.7	1.0	47.1	46.4		44.0	43.5	
Level of Service	D	B		D	B	A	D	D		D	D	
Approach Delay (s)		16.1			13.8			46.5			43.8	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	7.0
Intersection Capacity Utilization	77.6%	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)	30	1800	270	1307	170	192	118	79
v/c Ratio	0.34	0.71	0.71	0.42	0.74	0.25	0.73	0.44
Control Delay	50.4	16.2	54.2	8.7	62.7	8.0	70.1	41.1
Queue Delay	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	17.0	54.2	8.7	62.7	8.0	70.1	41.1
Queue Length 50th (ft)	20	350	89	137	110	14	77	37
Queue Length 95th (ft)	m28	234	128	162	180	36	#146	84
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	93	2532	434	3113	276	824	193	208
Starvation Cap Reductn	0	389	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	166	0	19	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.84	0.62	0.44	0.62	0.24	0.61	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)	28	1588	68	248	1148	54	138	18	177	109	48	25
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	4539		3143	4739			1808	2805	1562	1534	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4539		3143	4739			1808	2805	1562	1534	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1726	74	270	1248	59	150	20	192	118	52	27
RTOR Reduction (vph)	0	4	0	0	4	0	0	0	94	0	18	0
Lane Group Flow (vph)	30	1796	0	270	1303	0	0	170	98	118	61	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	57.5		11.7	66.7			12.4	24.1	9.9	9.9	
Effective Green, g (s)	4.0	58.5		12.7	67.7			13.4	26.1	10.9	10.9	
Actuated g/C Ratio	0.04	0.56		0.12	0.64			0.13	0.25	0.10	0.10	
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	2529		380	3056			231	697	162	159	
v/s Ratio Prot	0.02	c0.40		c0.09	0.27			c0.09	0.02	c0.08	0.04	
v/s Ratio Perm									0.02			
v/c Ratio	0.48	0.71		0.71	0.43			0.74	0.14	0.73	0.38	
Uniform Delay, d1	49.5	17.0		44.4	9.1			44.1	30.7	45.6	43.9	
Progression Factor	0.89	0.81		1.02	0.85			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	1.2		4.5	0.4			10.0	0.0	12.9	0.6	
Delay (s)	45.8	15.0		49.6	8.2			54.1	30.8	58.5	44.5	
Level of Service	D	B		D	A			D	C	E	D	
Approach Delay (s)		15.5			15.3			41.7			52.9	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	64.5%	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)	637	2088	1225	424	173	387
v/c Ratio	0.18	0.82	0.50	0.35	0.29	0.54
Control Delay	1.9	12.0	5.7	1.2	38.7	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.9	12.0	5.7	1.2	38.7	18.6
Queue Length 50th (ft)	18	388	137	0	52	52
Queue Length 95th (ft)	22	427	174	21	84	103
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3604	2533	2445	1217	601	711
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	0.82	0.50	0.35	0.29	0.54

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	586	1921	0	1127	390	0	0	0	159	0	356
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	637	2088	0	1225	424	0	0	0	173	0	387
RTOR Reduction (vph)	0	0	0	0	0	105	0	0	0	0	0	188
Lane Group Flow (vph)	0	637	2088	0	1225	319	0	0	0	173	0	199
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		0.13			0.38					0.05		0.07
v/s Ratio Perm			c0.82			0.22						
v/c Ratio		0.18	0.82		0.50	0.29				0.29		0.38
Uniform Delay, d1		3.4	0.0		4.8	4.1				37.2		37.8
Progression Factor		0.53	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.1	2.1		0.7	0.6				0.4		0.6
Delay (s)		1.9	2.1		5.6	4.8				37.5		38.4
Level of Service		A	A		A	A				D		D
Approach Delay (s)		2.1			5.3			0.0			38.2	
Approach LOS		A			A			A			D	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	0.0
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	SBR
Lane Group Flow (vph)	196	21	36	116	122	122
v/c Ratio	0.53	0.06	0.18	0.09	0.12	0.12
Control Delay	25.2	8.2	25.6	4.4	8.4	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	8.4	2.9
Queue Length 50th (ft)	63	0	12	11	12	0
Queue Length 95th (ft)	105	13	34	33	56	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	0.12	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	180	19	33	107	112	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	122	122
RTOR Reduction (vph)	0	16	0	0	0	53
Lane Group Flow (vph)	196	5	36	116	122	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	c0.07	
v/s Ratio Perm		0.00				0.04
v/c Ratio	0.53	0.01	0.35	0.09	0.13	0.08
Uniform Delay, d1	20.7	18.3	26.9	3.3	6.1	5.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0	2.1	0.1	0.3	0.2
Delay (s)	22.1	18.3	29.0	3.4	6.3	6.1
Level of Service	C	B	C	A	A	A
Approach Delay (s)	21.8			9.5	6.2	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	30.0%	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	224	272	30	1365	61	1043
v/c Ratio	0.53	0.60	0.66	0.16	0.84	0.52	0.64
Control Delay	20.6	24.1	23.6	11.2	18.8	32.9	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	24.1	23.6	11.2	18.8	32.9	12.4
Queue Length 50th (ft)	56	64	71	5	183	12	117
Queue Length 95th (ft)	110	123	138	22	#396	#74	222
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	578	542	585	201	1702	122	1705
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	0.37	0.41	0.46	0.15	0.80	0.50	0.61

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	21	113	93	250	28	1174	82	56	910	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		0.99			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			1684	1306	1617	3043		1562	3049	
Flt Permitted		0.85			0.72	1.00	0.21	1.00		0.13	1.00	
Satd. Flow (perm)		1319			1247	1306	362	3043		218	3049	
Peak-hour factor, PHF	0.92	0.92	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	123	101	272	30	1276	89	61	989	54
RTOR Reduction (vph)	0	8	0	0	0	21	0	7	0	0	6	0
Lane Group Flow (vph)	0	205	0	0	224	251	30	1358	0	61	1037	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)		16.8			16.8	16.8	30.1	30.1		30.1	30.1	
Effective Green, g (s)		16.8			16.8	16.8	30.1	30.1		30.1	30.1	
Actuated g/C Ratio		0.30			0.30	0.30	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)		395			373	391	194	1633		117	1636	
v/s Ratio Prot								c0.45			0.34	
v/s Ratio Perm		0.16			0.18	c0.19	0.08			0.28		
v/c Ratio		0.52			0.60	0.64	0.15	0.83		0.52	0.63	
Uniform Delay, d1		16.3			16.8	17.0	6.6	10.9		8.4	9.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.5			3.1	4.0	0.5	3.9		5.4	0.9	
Delay (s)		17.8			19.9	21.0	7.1	14.8		13.7	10.0	
Level of Service		B			B	C	A	B		B	B	
Approach Delay (s)		17.8			20.5			14.7			10.2	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	56.1	Sum of lost time (s)	9.2
Intersection Capacity Utilization	75.3%	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	296	605	167	105	26
v/c Ratio	0.25	0.20	0.48	0.12	0.58	0.15
Control Delay	53.4	3.2	6.6	0.2	58.2	16.5
Queue Delay	0.0	0.0	0.5	0.0	0.0	0.0
Total Delay	53.4	3.2	7.1	0.2	58.2	16.5
Queue Length 50th (ft)	19	38	64	0	71	0
Queue Length 95th (ft)	48	76	237	m0	122	25
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	125	1473	1258	1439	298	279
Starvation Cap Reductn	0	0	289	0	0	0
Spillback Cap Reductn	0	3	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.20	0.62	0.12	0.35	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)	26	272	557	154	97	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	0.94	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	1565	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1565	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	296	605	167	105	26
RTOR Reduction (vph)	0	0	0	27	0	23
Lane Group Flow (vph)	28	296	605	140	105	3
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)	5.1	88.7	79.6	92.3	12.7	12.7
Effective Green, g (s)	5.1	88.7	79.6	92.3	12.7	12.7
Actuated g/C Ratio	0.05	0.81	0.72	0.84	0.12	0.12
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)	75	1473	1234	1313	180	156
v/s Ratio Prot	c0.02	0.16	c0.35	0.01	c0.07	
v/s Ratio Perm				0.08		0.00
v/c Ratio	0.37	0.20	0.49	0.11	0.58	0.02
Uniform Delay, d1	50.9	2.5	6.5	1.6	46.1	43.1
Progression Factor	1.00	1.00	0.70	0.16	1.00	1.00
Incremental Delay, d2	3.1	0.3	1.1	0.0	4.8	0.0
Delay (s)	54.0	2.8	5.7	0.3	50.9	43.2
Level of Service	D	A	A	A	D	D
Approach Delay (s)		7.2	4.5		49.4	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	43.3%	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)	344	142	287	346	437	262	3
v/c Ratio	0.66	0.27	0.79	0.36	0.76	0.43	0.04
Control Delay	34.1	2.9	56.6	15.0	42.5	15.1	51.3
Queue Delay	0.9	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	35.0	2.9	56.6	15.0	42.8	15.1	51.3
Queue Length 50th (ft)	202	0	185	121	273	62	2
Queue Length 95th (ft)	284	19	#371	221	399	131	12
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	520	533	364	964	562	607	81
Starvation Cap Reductn	46	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	9	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.27	0.79	0.36	0.79	0.43	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)	1	316	131	264	317	1	399	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	0.98		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	1463	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	1463	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	343	142	287	345	1	434	3	262	2	1	0
RTOR Reduction (vph)	0	0	104	0	0	0	0	0	97	0	0	0
Lane Group Flow (vph)	0	344	38	287	346	0	0	437	165	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)		29.4	29.4	25.6	59.0			36.9	32.9		1.0	
Effective Green, g (s)		29.4	29.4	25.6	59.0			36.9	32.9		1.0	
Actuated g/C Ratio		0.27	0.27	0.23	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)		470	391	364	914			564	516		16	
v/s Ratio Prot				c0.18	0.20			c0.26	0.03		c0.00	
v/s Ratio Perm		c0.20	0.03						0.06			
v/c Ratio		0.73	0.10	0.79	0.38			0.77	0.32		0.19	
Uniform Delay, d1		36.7	30.3	39.7	14.8			32.8	29.9		54.1	
Progression Factor		0.78	0.32	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		9.6	0.5	10.8	1.2			6.6	0.4		5.6	
Delay (s)		38.2	10.2	50.4	16.0			39.4	30.2		59.7	
Level of Service		D	B	D	B			D	C		E	
Approach Delay (s)		30.0			31.6			36.0			59.7	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	32.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	73.4%	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)	75	160	27	142	121	527	15	689	139	179	747
v/c Ratio	0.45	0.47	0.09	0.59	0.25	0.79	0.12	0.71	0.32	0.65	0.51
Control Delay	58.2	41.3	15.3	54.1	32.2	19.9	55.6	36.0	20.5	53.3	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	58.2	41.3	15.3	54.1	32.2	19.9	55.6	36.0	20.5	53.3	21.5
Queue Length 50th (ft)	40	82	1	75	57	75	8	180	34	95	131
Queue Length 95th (ft)	#121	184	27	194	130	266	38	356	112	236	335
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	209	720	615	373	900	904	209	1565	673	428	1904
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	0.36	0.22	0.04	0.38	0.13	0.58	0.07	0.44	0.21	0.42	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)	69	147	25	131	111	485	14	634	128	165	640	47
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	0.97	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	1449	1620	1739	1399	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	1449	1620	1739	1399	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)	75	160	27	142	121	527	15	689	139	179	696	51
RTOR Reduction (vph)	0	0	20	0	0	280	0	0	40	0	3	0
Lane Group Flow (vph)	75	160	7	142	121	247	15	689	99	179	744	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)	8.3	20.1	20.1	15.2	27.0	27.0	2.7	31.4	31.4	17.3	46.0	
Effective Green, g (s)	7.3	19.6	19.6	14.2	26.5	26.5	1.7	30.9	30.9	16.3	45.5	
Actuated g/C Ratio	0.08	0.20	0.20	0.15	0.27	0.27	0.02	0.32	0.32	0.17	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)	124	351	293	237	475	382	29	1032	424	272	1428	
v/s Ratio Prot	0.05	0.09		c0.09	0.07		0.01	c0.21		c0.11	0.24	
v/s Ratio Perm			0.00			c0.18			0.07			
v/c Ratio	0.60	0.46	0.02	0.60	0.25	0.65	0.52	0.67	0.23	0.66	0.52	
Uniform Delay, d1	43.5	34.0	31.0	38.7	27.5	31.1	47.2	28.6	24.3	37.7	18.1	
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	9.3	1.3	0.0	4.7	0.4	4.2	19.2	1.8	0.4	6.2	0.4	
Delay (s)	52.7	35.3	31.1	43.5	27.9	35.3	66.4	30.4	24.7	44.0	18.5	
Level of Service	D	D	C	D	C	D	E	C	C	D	B	
Approach Delay (s)		39.9			35.6			30.1			23.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	12.0
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	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	584	27	961	1229	79	454	685	220	220	38
v/c Ratio	0.38	0.65	0.09	1.00	0.82	0.54	0.52	0.46	0.66	0.23	0.08
Control Delay	62.0	43.5	13.4	58.2	27.1	61.2	37.3	8.7	57.1	31.4	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	62.0	43.5	13.4	58.2	27.1	61.2	37.3	8.7	57.1	31.4	10.5
Queue Length 50th (ft)	23	134	0	324	368	53	144	88	76	64	0
Queue Length 95th (ft)	56	175	23	m#394	m414	103	197	118	117	98	26
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	87	970	329	964	1497	155	870	1504	332	956	462
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	0.38	0.60	0.08	1.00	0.82	0.51	0.52	0.46	0.66	0.23	0.08

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	537	25	884	900	231	73	418	630	202	202	35
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	3130		1678	3355	2706	3255	3240	1474
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	3130		1678	3355	2706	3255	3240	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)	33	584	27	961	978	251	79	454	685	220	220	38
RTOR Reduction (vph)	0	0	21	0	20	0	0	0	0	0	0	28
Lane Group Flow (vph)	33	584	6	961	1209	0	79	454	685	220	220	10
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	21.1	21.1	32.0	49.5		7.9	24.1	56.1	11.8	28.0	28.0
Effective Green, g (s)	3.6	22.6	22.6	32.0	51.0		7.9	25.6	56.1	11.8	29.5	29.5
Actuated g/C Ratio	0.03	0.21	0.21	0.30	0.47		0.07	0.24	0.52	0.11	0.27	0.27
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)	52	974	309	964	1478		123	795	1406	356	885	403
v/s Ratio Prot	0.02	0.13		c0.30	c0.39		0.05	c0.14	0.25	c0.07	0.07	
v/s Ratio Perm			0.00									0.01
v/c Ratio	0.63	0.60	0.02	1.00	0.82		0.64	0.57	0.49	0.62	0.25	0.03
Uniform Delay, d1	51.6	38.6	33.9	38.0	24.5		48.7	36.4	16.7	45.9	30.6	28.7
Progression Factor	1.00	1.00	1.00	1.06	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.1	1.2	0.0	17.5	1.6		12.1	3.0	0.4	3.6	0.7	0.1
Delay (s)	76.7	39.8	33.9	57.6	26.2		60.8	39.3	17.1	49.6	31.3	28.8
Level of Service	E	D	C	E	C		E	D	B	D	C	C
Approach Delay (s)		41.4			40.0			28.2			39.5	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	37.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.6%	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)	132	1107	379	230	1798	146	151	85	305
v/c Ratio	0.98	0.57	0.44	0.72	0.74	0.51	0.52	0.24	0.91
Control Delay	109.6	16.5	1.7	55.2	24.4	44.2	44.3	8.0	56.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.6	16.5	1.7	55.2	24.4	44.2	44.3	8.0	56.9
Queue Length 50th (ft)	91	110	0	147	321	100	103	0	56
Queue Length 95th (ft)	#218	285	0	#285	#600	132	135	34	#140
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	135	1933	858	324	2419	522	532	570	335
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	0.98	0.57	0.44	0.71	0.74	0.28	0.28	0.15	0.91

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)	121	1018	349	212	1616	38	221	52	78	25	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		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		0.93	
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	4636		1539	1571	1514		3051	
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	4636		1539	1571	1514		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)	132	1107	379	230	1757	41	240	57	85	27	126	152
RTOR Reduction (vph)	0	0	221	0	1	0	0	0	69	0	142	0
Lane Group Flow (vph)	132	1107	158	230	1797	0	146	151	16	0	163	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)	8.0	43.9	43.9	19.4	55.3		19.3	19.3	19.3		6.2	
Effective Green, g (s)	9.0	44.9	44.9	20.4	56.3		19.9	19.9	19.9		6.8	
Actuated g/C Ratio	0.08	0.42	0.42	0.19	0.52		0.18	0.18	0.18		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)	135	1935	636	317	2417		284	289	279		192	
v/s Ratio Prot	c0.08	0.24		0.14	c0.39		0.09	c0.10			c0.05	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	0.98	0.57	0.25	0.73	0.74		0.51	0.52	0.06		0.85	
Uniform Delay, d1	49.4	24.2	20.5	41.2	20.2		39.7	39.8	36.3		50.1	
Progression Factor	0.72	0.57	0.03	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	68.6	1.2	0.9	8.5	2.1		2.1	2.2	0.1		28.5	
Delay (s)	104.0	15.0	1.5	49.7	22.3		41.8	42.0	36.4		78.5	
Level of Service	F	B	A	D	C		D	D	D		E	
Approach Delay (s)		19.1			25.4			40.7			78.5	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.5%	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)	132	1132	292	1469	216	234	182	52	547
v/c Ratio	1.29	0.66	0.89	0.90	1.64	0.29	0.33	0.39	0.71
Control Delay	225.5	24.4	48.8	13.3	349.4	29.6	5.7	52.8	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	225.5	24.4	48.8	13.3	349.4	29.6	5.7	52.8	33.3
Queue Length 50th (ft)	~102	182	162	175	~97	62	0	15	137
Queue Length 95th (ft)	#217	231	m#163	m180	#171	83	45	35	170
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	102	1715	328	1634	132	1044	658	135	1045
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	1.29	0.66	0.89	0.90	1.64	0.22	0.28	0.39	0.52

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)	121	720	321	269	1329	22	199	215	167	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	4500		1652	3281		3143	3240	1660	3204	3071	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4500		1652	3281		3143	3240	1660	3204	3071	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	783	349	292	1445	24	216	234	182	52	376	171
RTOR Reduction (vph)	0	86	0	0	1	0	0	0	137	0	63	0
Lane Group Flow (vph)	132	1046	0	292	1468	0	216	234	45	52	484	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)	6.1	32.8		19.0	45.7		5.0	23.7	23.7	4.0	22.7	
Effective Green, g (s)	6.0	33.8		18.9	46.7		4.0	23.3	23.3	3.0	22.3	
Actuated g/C Ratio	0.06	0.36		0.20	0.49		0.04	0.25	0.25	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)	102	1601		329	1613		132	795	407	101	721	
v/s Ratio Prot	c0.08	0.23		0.18	c0.45		c0.07	0.07		0.02	c0.16	
v/s Ratio Perm									0.03			
v/c Ratio	1.29	0.65		0.89	0.91		1.64	0.29	0.11	0.51	0.67	
Uniform Delay, d1	44.5	25.7		37.0	22.2		45.5	29.2	27.8	45.3	33.0	
Progression Factor	1.00	1.00		1.14	0.43		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	187.2	2.1		3.0	1.0		317.9	0.3	0.2	5.8	2.7	
Delay (s)	231.7	27.8		45.3	10.6		363.4	29.4	28.0	51.1	35.7	
Level of Service	F	C		D	B		F	C	C	D	D	
Approach Delay (s)		49.1			16.3			143.2			37.1	
Approach LOS		D			B			F			D	

Intersection Summary			
HCM Average Control Delay	47.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	32	9	12	899	912	81
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	10	13	977	991	88
Pedestrians	2					
Lane Width (ft)	16.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				807	730	
pX, platoon unblocked	0.87	0.95	0.95			
vC, conflicting volume	1552	542	1081			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1109	425	990			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	98	98			
cM capacity (veh/h)	171	545	650			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	45	339	651	661	418
Volume Left	35	13	0	0	0
Volume Right	10	0	0	0	88
cSH	202	650	1700	1700	1700
Volume to Capacity	0.22	0.02	0.38	0.39	0.25
Queue Length 95th (ft)	20	2	0	0	0
Control Delay (s)	27.8	0.7	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	27.8	0.2		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	186	26	68	92	364	32	502	288	544
v/c Ratio	0.53	0.08	0.28	0.22	0.61	0.18	0.60	0.64	0.32
Control Delay	29.0	10.1	25.4	22.7	7.9	37.1	23.9	29.3	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.0	10.1	25.4	22.7	7.9	37.1	23.9	29.3	9.4
Queue Length 50th (ft)	57	0	19	26	0	11	75	89	40
Queue Length 95th (ft)	156	19	68	80	70	48	182	229	127
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	722	652	497	882	843	180	1398	822	2477
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	0.04	0.14	0.10	0.43	0.18	0.36	0.35	0.22

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	94	24	63	85	335	29	384	78	265	471	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	1315	1711	2988		1620	3049	
Flt Permitted		0.82	1.00	0.57	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1427	1259	979	1739	1315	1711	2988		1620	3049	
Peak-hour factor, PHF	0.92	0.92	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	364	32	417	85	288	512	32
RTOR Reduction (vph)	0	0	20	0	0	277	0	17	0	0	4	0
Lane Group Flow (vph)	0	186	6	68	92	87	32	485	0	288	540	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)		15.3	15.3	15.3	15.3	15.3	1.8	19.5		17.4	35.1	
Effective Green, g (s)		15.3	15.3	15.3	15.3	15.3	1.8	19.5		17.4	35.1	
Actuated g/C Ratio		0.24	0.24	0.24	0.24	0.24	0.03	0.31		0.27	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)		343	302	235	418	316	48	915		443	1680	
v/s Ratio Prot					0.05		0.02	c0.16		c0.18	0.18	
v/s Ratio Perm		c0.13	0.00	0.07		0.07						
v/c Ratio		0.54	0.02	0.29	0.22	0.28	0.67	0.53		0.65	0.32	
Uniform Delay, d1		21.1	18.5	19.8	19.4	19.7	30.7	18.3		20.5	7.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.0	0.7	0.3	0.5	29.8	0.7		3.4	0.2	
Delay (s)		22.9	18.5	20.4	19.7	20.2	60.4	19.0		23.9	8.0	
Level of Service		C	B	C	B	C	E	B		C	A	
Approach Delay (s)		22.4			20.1			21.5			13.5	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	18.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	63.7	Sum of lost time (s)	11.5
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
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	197	230	173	363	122	200	911	43	992
v/c Ratio	0.85	0.53	0.52	0.86	0.90	0.35	0.89	0.58	0.43	0.82
Control Delay	87.1	45.1	9.4	83.6	67.4	19.4	84.5	19.9	61.3	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.1	45.1	9.4	83.6	67.4	19.4	84.5	19.9	61.3	34.2
Queue Length 50th (ft)	103	125	0	121	248	29	148	193	31	328
Queue Length 95th (ft)	#218	199	68	#244	#411	82	#284	228	70	237
Internal Link Dist (ft)		2946			1126			956		727
Turn Bay Length (ft)	240		200	230		100	200		150	
Base Capacity (vph)	172	381	452	203	418	359	225	1566	101	1215
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	0.85	0.52	0.51	0.85	0.87	0.34	0.89	0.58	0.43	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)	134	181	212	159	334	112	184	707	132	40	828	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	8	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	0.99	
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	1352	1652	3151		1593	3175	
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	1352	1652	3151		1593	3175	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	197	230	173	363	122	200	768	143	43	900	92
RTOR Reduction (vph)	0	0	184	0	0	56	0	13	0	0	7	0
Lane Group Flow (vph)	146	197	46	173	363	66	200	898	0	43	985	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)	12.1	22.1	22.1	13.9	23.9	23.9	15.0	52.6		4.2	41.8	
Effective Green, g (s)	12.1	22.1	22.1	13.9	23.9	23.9	15.0	52.6		4.2	41.8	
Actuated g/C Ratio	0.11	0.20	0.20	0.13	0.22	0.22	0.14	0.48		0.04	0.38	
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)	173	371	262	201	405	294	225	1507		61	1207	
v/s Ratio Prot	c0.09	0.11		0.11	c0.19		c0.12	0.28		0.03	c0.31	
v/s Ratio Perm			0.04			0.05						
v/c Ratio	0.84	0.53	0.18	0.86	0.90	0.23	0.89	0.60		0.70	0.82	
Uniform Delay, d1	48.0	39.3	36.4	47.1	41.8	35.4	46.7	20.9		52.3	30.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.04	0.89		0.97	0.92	
Incremental Delay, d2	30.5	1.9	0.4	30.1	22.1	0.5	30.6	1.6		31.1	5.8	
Delay (s)	78.5	41.2	36.9	77.2	63.9	36.0	79.3	20.3		82.0	33.9	
Level of Service	E	D	D	E	E	D	E	C		F	C	
Approach Delay (s)		48.9			62.2			30.9			35.9	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	41.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	281	31	86	753	15	12
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	305	34	93	818	16	13
Pedestrians					2	
Lane Width (ft)					11.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1206					
pX, platoon unblocked			0.98		0.98	0.98
vC, conflicting volume			341		1313	307
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			316		1309	281
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		90	98
cM capacity (veh/h)			1216		158	740

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	305	34	93	818	29
Volume Left	0	0	93	0	16
Volume Right	0	34	0	0	13
cSH	1700	1700	1216	1700	285
Volume to Capacity	0.18	0.02	0.08	0.48	0.10
Queue Length 95th (ft)	0	0	6	0	9
Control Delay (s)	0.0	0.0	8.2	0.0	21.3
Lane LOS			A		C
Approach Delay (s)	0.0		0.8		21.3
Approach LOS					C

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	86	251	11	685	66	126	14	78	429
v/c Ratio	0.83	0.23	0.11	0.89	0.58	0.23	0.04	0.23	0.76
Control Delay	92.4	9.3	35.4	35.4	42.4	18.7	8.5	19.3	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.4	9.3	35.4	35.4	42.4	18.7	8.5	19.3	27.0
Queue Length 50th (ft)	37	39	5	245	23	39	0	24	135
Queue Length 95th (ft)	#126	115	20	#528	#73	76	11	55	230
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	103	1072	103	792	154	754	545	473	755
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	0.23	0.11	0.86	0.43	0.17	0.03	0.16	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)	79	160	71	10	576	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	1696		1652	1863	1325	1643	1764	
Flt Permitted	0.95	1.00		0.95	1.00		0.22	1.00	1.00	0.68	1.00	
Satd. Flow (perm)	1711	1924		1711	1696		382	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)	86	174	77	11	626	59	66	126	14	78	224	205
RTOR Reduction (vph)	0	17	0	0	4	0	0	0	10	0	50	0
Lane Group Flow (vph)	86	234	0	11	681	0	66	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	37.0		0.7	33.7		19.9	19.9	19.9	19.9	19.9	
Effective Green, g (s)	4.0	37.0		0.7	33.7		19.9	19.9	19.9	19.9	19.9	
Actuated g/C Ratio	0.06	0.52		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)	97	1008		17	810		108	525	373	330	497	
v/s Ratio Prot	c0.05	c0.12		0.01	c0.40			0.07			c0.22	
v/s Ratio Perm							0.17		0.00	0.07		
v/c Ratio	0.89	0.23		0.65	0.84		0.61	0.24	0.01	0.24	0.76	
Uniform Delay, d1	33.1	9.1		34.8	16.1		22.0	19.5	18.3	19.5	23.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	57.0	0.2		67.6	8.2		11.2	0.3	0.0	0.5	7.3	
Delay (s)	90.1	9.3		102.4	24.3		33.2	19.8	18.3	20.0	30.5	
Level of Service	F	A		F	C		C	B	B	C	C	
Approach Delay (s)		29.9			25.5			24.0			28.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	70.6	Sum of lost time (s)	17.5
Intersection Capacity Utilization	80.1%	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)	174	56	4	28	460	589	13	27	813
v/c Ratio	1.01	0.13	0.05	0.12	0.92	0.30	0.01	0.21	0.79
Control Delay	110.3	9.8	42.2	18.3	54.2	10.8	9.1	42.3	30.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.3	9.8	42.2	18.3	54.2	10.8	9.1	42.3	30.6
Queue Length 50th (ft)	83	4	2	5	201	48	1	12	156
Queue Length 95th (ft)	#274	31	14	25	#539	182	13	44	#368
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	173	741	84	655	502	1946	870	130	1039
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	0.08	0.05	0.04	0.92	0.30	0.01	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)	160	10	41	4	11	15	428	542	12	25	481	267
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	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1554		1652	1572		1652	3240	1449	1711	3198	
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	1449	1711	3198	
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	460	589	13	27	523	290
RTOR Reduction (vph)	0	34	0	0	13	0	0	0	3	0	68	0
Lane Group Flow (vph)	174	22	0	4	15	0	460	589	10	27	745	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)	8.1	20.9		0.6	13.4		24.3	48.1	48.1	2.2	26.0	
Effective Green, g (s)	8.1	20.9		0.6	13.4		24.3	48.1	48.1	2.2	26.0	
Actuated g/C Ratio	0.10	0.25		0.01	0.16		0.29	0.57	0.57	0.03	0.31	
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)	164	385		12	250		476	1849	827	45	986	
v/s Ratio Prot	c0.10	c0.01		0.00	0.01		c0.28	0.18		0.02	c0.23	
v/s Ratio Perm									0.01			
v/c Ratio	1.06	0.06		0.33	0.06		0.97	0.32	0.01	0.60	0.76	
Uniform Delay, d1	38.1	24.2		41.7	30.1		29.6	9.5	7.8	40.6	26.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	87.4	0.1		21.0	0.1		32.6	0.1	0.0	22.7	3.6	
Delay (s)	125.5	24.3		62.7	30.2		62.2	9.6	7.8	63.3	29.8	
Level of Service	F	C		E	C		E	A	A	E	C	
Approach Delay (s)		100.9			34.3			32.4			30.9	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM Average Control Delay	39.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	84.3	Sum of lost time (s)	9.5
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	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	1.0
Queue Delay	0.0	0.0	0.0	0.9	0.0
Total Delay	49.5	24.2	2.9	3.8	1.0
Queue Length 50th (ft)	26	0	1	76	10
Queue Length 95th (ft)	54	13	9	185	53
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	0.25	
Incremental Delay, d2	2.1	0.0	0.4	0.5	0.4	
Delay (s)	51.5	48.3	1.6	2.4	0.9	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.3	0.9	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	2.4	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)	995	643	975	1783	693	799
v/c Ratio	0.96	0.51	0.87	0.75	0.41	1.26
Control Delay	47.9	4.1	28.3	8.7	0.7	161.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	4.1	28.3	8.7	0.7	161.9
Queue Length 50th (ft)	256	10	296	272	0	~375
Queue Length 95th (ft)	#470	21	189	349	0	#510
Internal Link Dist (ft)	363			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1041	1263	1115	2370	1686	636
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	0.96	0.51	0.87	0.75	0.41	1.26

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	915	592	897	1640	0	0	0	638	0	0	735
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	995	643	975	1783	0	0	0	693	0	0	799
RTOR Reduction (vph)	0	0	444	0	0	0	0	0	0	0	0	51
Lane Group Flow (vph)	0	995	199	975	1783	0	0	0	693	0	0	748
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)		33.5	33.5	38.3	76.3				108.0			22.7
Effective Green, g (s)		33.5	33.5	38.3	76.3				108.0			22.7
Actuated g/C Ratio		0.31	0.31	0.35	0.71				1.00			0.21
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)		1041	820	1115	2370				1686			586
v/s Ratio Prot		c0.30		c0.31	0.53							
v/s Ratio Perm			0.08						0.41			c0.27
v/c Ratio		0.96	0.24	0.87	0.75				0.41			1.28
Uniform Delay, d1		36.5	27.8	32.6	9.9				0.0			42.6
Progression Factor		0.80	1.21	0.59	0.71				1.00			1.00
Incremental Delay, d2		16.6	0.1	8.9	1.4				0.7			137.6
Delay (s)		45.9	33.8	28.2	8.5				0.7			180.2
Level of Service		D	C	C	A				A			F
Approach Delay (s)		41.1			15.4			0.7			180.2	
Approach LOS		D			B			A			F	

Intersection Summary			
HCM Average Control Delay	43.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	78.5%	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)	540	1124	1273	516	512	1341
v/c Ratio	0.77	0.34	0.55	0.47	0.32	0.88
Control Delay	43.7	0.2	5.0	3.8	0.5	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	0.2	5.0	3.8	0.5	8.2
Queue Length 50th (ft)	198	0	55	8	0	0
Queue Length 95th (ft)	m222	m0	m175	m87	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	975	3355	2330	1097	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	0.55	0.34	0.55	0.47	0.32	0.88

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)	497	1034	0	0	1171	475	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)	540	1124	0	0	1273	516	0	0	512	0	0	1341
RTOR Reduction (vph)	0	0	0	0	0	33	0	0	0	0	0	0
Lane Group Flow (vph)	540	1124	0	0	1273	483	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)	24.0	108.0			75.0	75.0			108.0			108.0
Effective Green, g (s)	24.0	108.0			75.0	75.0			108.0			108.0
Actuated g/C Ratio	0.22	1.00			0.69	0.69			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)	698	3355			2330	1063			1611			1528
v/s Ratio Prot	0.17	0.33			0.38							
v/s Ratio Perm						0.32			0.32			c0.88
v/c Ratio	0.77	0.34			0.55	0.45			0.32			0.88
Uniform Delay, d1	39.4	0.0			8.1	7.4			0.0			0.0
Progression Factor	0.98	1.00			0.49	0.43			1.00			1.00
Incremental Delay, d2	3.6	0.0			0.6	1.0			0.5			7.4
Delay (s)	42.3	0.0			4.7	4.2			0.5			7.4
Level of Service	D	A			A	A			A			A
Approach Delay (s)		13.7			4.5			0.5			7.4	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	108.0	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)	352	371	428	602	16	778	988	9	60	849	432
v/c Ratio	1.43	0.52	0.24	1.32	0.04	2.13	0.67	0.02	0.53	1.06	0.82
Control Delay	230.2	16.2	0.3	188.9	19.9	541.6	21.2	11.5	60.6	83.1	29.3
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	230.2	16.2	0.3	188.9	19.9	541.6	21.2	11.5	60.6	83.1	29.3
Queue Length 50th (ft)	~244	189	0	~472	4	~768	215	2	33	~303	148
Queue Length 95th (ft)	#401	273	0	#678	20	#970	301	m5	m#78	#425	#299
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	365	1475	546	113	800	530
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	1.43	0.52	0.24	1.32	0.04	2.13	0.67	0.02	0.53	1.06	0.82

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)	324	341	394	2	552	15	716	909	8	55	781	397
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	0.97	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	1652	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	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)	352	371	428	2	600	16	778	988	9	60	849	432
RTOR Reduction (vph)	0	0	0	0	0	5	0	0	2	0	0	154
Lane Group Flow (vph)	352	371	428	0	602	11	778	988	7	60	849	278
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	365	1442	531	92	800	376
v/s Ratio Prot	c0.15	0.21					c0.47	0.28		0.04	c0.26	
v/s Ratio Perm	c0.44		0.24		0.35	0.01			0.00			0.18
v/c Ratio	1.43	0.52	0.24		1.32	0.03	2.13	0.69	0.01	0.65	1.06	0.74
Uniform Delay, d1	23.8	21.0	0.0		35.0	26.0	37.0	23.1	17.4	43.9	36.0	33.2
Progression Factor	0.63	0.64	1.00		1.00	1.00	1.05	0.80	0.78	1.01	0.93	0.86
Incremental Delay, d2	210.6	0.7	0.3		157.6	0.0	518.1	2.6	0.0	15.8	49.2	12.2
Delay (s)	225.7	14.2	0.3		192.6	26.0	556.8	21.2	13.6	60.0	82.7	40.9
Level of Service	F	B	A		F	C	F	C	B	E	F	D
Approach Delay (s)		73.7			188.3			255.9			68.2	
Approach LOS		E			F			F			E	

Intersection Summary			
HCM Average Control Delay	152.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.7%	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	1211	82	1272
v/c Ratio	0.17	0.10	0.00	0.28	0.25	0.41
Control Delay	46.3	19.5	2.0	1.4	5.1	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	46.3	19.5	2.0	1.4	5.1	3.4
Queue Length 50th (ft)	12	0	0	22	7	68
Queue Length 95th (ft)	31	18	m0	63	43	222
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		150	
Base Capacity (vph)	250	297	319	4376	331	3077
Starvation Cap Reductn	0	0	0	0	0	1049
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.05	0.00	0.28	0.25	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	1089	25	75	1167	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	4935		1618	3469	
Flt Permitted					0.74	1.00	0.21	1.00		0.22	1.00	
Satd. Flow (perm)					1222	1397	360	4935		372	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	1184	27	82	1268	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	82	1272	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	308	4222		318	2968	
v/s Ratio Prot								0.25			c0.37	
v/s Ratio Perm					c0.01	0.00	0.00			0.22		
v/c Ratio					0.22	0.01	0.00	0.29		0.26	0.43	
Uniform Delay, d1					48.7	48.0	1.2	1.5		1.5	1.8	
Progression Factor					1.00	1.00	0.73	0.60		1.00	1.00	
Incremental Delay, d2					1.4	0.0	0.0	0.2		2.0	0.5	
Delay (s)					50.1	48.0	0.9	1.1		3.4	2.3	
Level of Service					D	D	A	A		A	A	
Approach Delay (s)		0.0			49.2			1.1			2.3	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	2.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	53.0%	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	1410	46	942	373	975	1025	66
v/c Ratio	1.47	0.51	0.24	0.08	1.50	0.72	0.82	0.36	1.94	0.83	0.11
Control Delay	311.9	47.7	31.6	23.6	257.1	117.5	56.7	1.8	462.0	47.4	10.2
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	311.9	47.7	31.6	23.6	257.1	117.5	56.7	1.8	462.0	47.4	10.2
Queue Length 50th (ft)	~142	63	92	31	~1800	42	300	2	~710	457	7
Queue Length 95th (ft)	#271	93	149	59	#2071	#111	356	26	#844	552	41
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	77	1077	1238	739	938	68	1155	1042	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	0.24	0.08	1.50	0.68	0.82	0.36	1.94	0.83	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	272	53	1297	42	867	343	897	943	61
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)	113	130	53	296	58	1410	46	942	373	975	1025	66
RTOR Reduction (vph)	0	43	0	0	0	4	0	0	133	0	0	34
Lane Group Flow (vph)	113	140	0	296	58	1406	46	942	240	975	1025	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)	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		1231	735	940	54	1173	913	499	1223	571
v/s Ratio Prot	c0.07	0.05		0.09	0.03	c0.94	0.03	0.20	0.17	c0.31	c0.32	
v/s Ratio Perm												0.02
v/c Ratio	1.47	0.44		0.24	0.08	1.50	0.85	0.80	0.26	1.95	0.84	0.06
Uniform Delay, d1	67.6	59.7		30.1	23.4	26.5	68.2	49.7	11.6	59.6	40.2	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		0.0	0.1	228.7	68.8	4.3	0.2	436.5	5.6	0.1
Delay (s)	335.6	61.5		30.2	23.4	255.2	137.0	54.0	11.8	496.1	45.8	28.1
Level of Service	F	E		C	C	F	F	D	B	F	D	C
Approach Delay (s)		166.1			209.8			45.2			257.7	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	184.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	141.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.4%	ICU Level of Service	H
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	1448	570	74	289	886	547
v/c Ratio	1.05	1.04	0.80	1.10	0.65	0.58	0.98	1.06	0.99
Control Delay	130.3	67.1	74.1	75.0	2.9	65.5	65.9	85.3	58.1
Queue Delay	0.0	226.0	0.0	1.4	1.4	0.0	51.3	2.9	0.0
Total Delay	130.3	293.1	74.1	76.5	4.2	65.5	117.2	88.2	58.1
Queue Length 50th (ft)	~132	~536	89	~608	0	49	60	~337	235
Queue Length 95th (ft)	#270	#674	m135	m#730	m9	#108	#235	#460	#466
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	170	1309	216	1311	871	128	294	838	555
Starvation Cap Reductn	0	0	0	4	139	0	0	0	0
Spillback Cap Reductn	0	434	0	0	0	0	40	6	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	1.55	0.73	1.11	0.78	0.58	1.14	1.06	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)	165	1241	10	144	1274	582	68	3	263	815	57	446
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	3174		1620	3053	1319	1678	1431		3143	1444	
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	3053	1319	1678	1431		3143	1444	
Peak-hour factor, PHF	0.92	0.92	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	1385	633	74	3	286	886	62	485
RTOR Reduction (vph)	0	1	0	0	3	293	0	185	0	0	170	0
Lane Group Flow (vph)	179	1359	0	157	1445	277	74	104	0	886	377	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	1308	578	128	109		838	385	
v/s Ratio Prot	0.11	c0.43		0.10	c0.47		0.04	c0.07		c0.28	0.26	
v/s Ratio Perm						0.21						
v/c Ratio	1.05	1.04		0.80	1.10	0.48	0.58	0.96		1.06	0.98	
Uniform Delay, d1	47.0	30.9		44.9	30.0	21.0	46.9	48.3		38.5	38.2	
Progression Factor	1.00	1.00		1.19	0.56	0.06	1.00	1.00		1.00	1.00	
Incremental Delay, d2	83.7	35.5		14.2	55.7	2.0	3.9	71.2		47.4	39.8	
Delay (s)	130.7	66.3		67.6	72.5	3.3	50.8	119.5		85.9	78.0	
Level of Service	F	E		E	E	A	D	F		F	E	
Approach Delay (s)		73.8			54.0			105.5			82.9	
Approach LOS		E			D			F			F	

Intersection Summary			
HCM Average Control Delay	70.4	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	103.6%	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)	84	2551	322	1870	331	789	77	51
v/c Ratio	0.56	1.09	0.92	0.72	0.97	0.92	0.88	0.47
Control Delay	42.4	65.8	73.2	15.7	84.2	43.8	116.5	39.9
Queue Delay	0.0	68.5	0.0	0.2	0.0	0.0	0.0	0.1
Total Delay	42.4	134.4	73.2	15.9	84.2	43.8	116.5	40.0
Queue Length 50th (ft)	51	~704	107	286	222	226	52	14
Queue Length 95th (ft)	m51	m#661	m#166	353	#397	#357	#142	53
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	170	2330	353	2613	345	858	89	110
Starvation Cap Reductn	0	289	0	187	0	0	0	0
Spillback Cap Reductn	0	0	0	197	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	1.25	0.91	0.77	0.96	0.92	0.87	0.47

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)	77	2158	189	296	1597	123	267	38	726	71	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	0.91			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	4717			1809	2802	1562	1429	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4513		3143	4717			1809	2802	1562	1429	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	2346	205	322	1736	134	290	41	789	77	21	30
RTOR Reduction (vph)	0	10	0	0	8	0	0	0	27	0	28	0
Lane Group Flow (vph)	84	2541	0	322	1862	0	0	331	762	77	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	54.0		11.7	57.4			19.9	31.6	5.9	5.9	
Effective Green, g (s)	8.8	54.0		11.7	57.4			19.9	31.6	5.9	5.9	
Actuated g/C Ratio	0.08	0.51		0.11	0.55			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	2321		350	2579			343	843	88	80	
v/s Ratio Prot	0.05	c0.56		c0.10	0.39			c0.18	0.10	c0.05	0.02	
v/s Ratio Perm									0.17			
v/c Ratio	0.62	1.09		0.92	0.72			0.97	0.90	0.88	0.28	
Uniform Delay, d1	46.5	25.5		46.2	17.8			42.2	35.2	49.2	47.5	
Progression Factor	0.86	0.76		1.11	0.80			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	44.7		19.5	1.1			38.8	12.8	55.3	0.7	
Delay (s)	41.2	64.1		70.7	15.4			81.0	48.0	104.5	48.2	
Level of Service	D	E		E	B			F	D	F	D	
Approach Delay (s)		63.4			23.5			57.8			82.1	
Approach LOS		E			C			E			F	

Intersection Summary			
HCM Average Control Delay	48.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	88.6%	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)	1641	653	1974	511	396	395
v/c Ratio	0.45	0.26	0.81	0.41	0.67	0.70
Control Delay	3.7	0.0	11.0	1.4	46.4	41.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.7	0.0	11.0	1.4	46.4	41.8
Queue Length 50th (ft)	102	0	356	0	128	121
Queue Length 95th (ft)	m90	m0	461	22	180	179
Internal Link Dist (ft)	509		867			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3615	2524	2452	1241	601	570
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	0.45	0.26	0.81	0.41	0.66	0.69

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	1510	601	0	1816	470	0	0	0	364	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	1641	653	0	1974	511	0	0	0	396	0	395
RTOR Reduction (vph)	0	0	0	0	0	126	0	0	0	0	0	48
Lane Group Flow (vph)	0	1641	653	0	1974	385	0	0	0	396	0	347
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)		79.2	105.0		79.2	79.2				17.8		17.8
Effective Green, g (s)		80.2	105.0		80.2	79.2				18.8		18.8
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)		3613	2533		2451	1115				594		517
v/s Ratio Prot		0.35			c0.62					0.12		c0.12
v/s Ratio Perm			0.26			0.26						
v/c Ratio		0.45	0.26		0.81	0.35				0.67		0.67
Uniform Delay, d1		4.5	0.0		7.6	4.3				40.2		40.2
Progression Factor		0.82	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.0	0.0		2.9	0.9				3.1		3.7
Delay (s)		3.7	0.0		10.6	5.1				43.3		44.0
Level of Service		A	A		B	A				D		D
Approach Delay (s)		2.6			9.4			0.0			43.6	
Approach LOS		A			A			A			D	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	69.6%	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)	604	45	32	214	189	428
v/c Ratio	0.85	0.07	0.32	0.26	0.27	0.48
Control Delay	29.2	3.6	38.0	13.3	17.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	3.6	38.0	13.3	17.3	4.5
Queue Length 50th (ft)	194	0	12	53	47	0
Queue Length 95th (ft)	#320	14	37	101	113	60
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	800	739	100	828	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	0.76	0.06	0.32	0.26	0.27	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	41	29	197	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)	604	45	32	214	189	428
RTOR Reduction (vph)	0	26	0	0	0	271
Lane Group Flow (vph)	604	19	32	214	189	157
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	1.6	29.5	23.9	23.9
Effective Green, g (s)	27.5	27.5	1.6	29.5	23.9	23.9
Actuated g/C Ratio	0.42	0.42	0.02	0.45	0.37	0.37
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	40	829	627	574
v/s Ratio Prot	c0.36		c0.02	0.12	c0.11	
v/s Ratio Perm		0.01				0.10
v/c Ratio	0.85	0.03	0.80	0.26	0.30	0.27
Uniform Delay, d1	16.9	11.0	31.5	11.0	14.6	14.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.0	69.2	0.8	1.2	1.2
Delay (s)	26.5	11.0	100.7	11.7	15.8	15.6
Level of Service	C	B	F	B	B	B
Approach Delay (s)	25.4			23.3	15.7	
Approach LOS	C			C	B	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
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	180	139	14	966	199	1258
v/c Ratio	0.41	0.53	0.34	0.09	0.54	0.81	0.70
Control Delay	17.9	23.0	8.4	9.4	9.5	43.3	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	23.0	8.4	9.4	9.5	43.3	12.8
Queue Length 50th (ft)	34	49	10	2	81	43	125
Queue Length 95th (ft)	73	95	42	13	196	#196	#345
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	596	578	615	160	1778	245	1790
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	0.23	0.09	0.54	0.81	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)	35	80	21	90	75	128	13	795	94	183	1114	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	3057	
Flt Permitted		0.89			0.78	1.00	0.16	1.00		0.26	1.00	
Satd. Flow (perm)		1371			1351	1305	274	3022		419	3057	
Peak-hour factor, PHF	0.92	0.92	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	98	82	139	14	864	102	199	1211	47
RTOR Reduction (vph)	0	13	0	0	0	75	0	11	0	0	3	0
Lane Group Flow (vph)	0	135	0	0	180	64	14	955	0	199	1255	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)		14.2			14.2	14.2	33.1	33.1		33.1	33.1	
Effective Green, g (s)		14.2			14.2	14.2	33.1	33.1		33.1	33.1	
Actuated g/C Ratio		0.25			0.25	0.25	0.59	0.59		0.59	0.59	
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)		345			340	328	161	1770		245	1791	
v/s Ratio Prot								0.32			0.41	
v/s Ratio Perm		0.10			c0.13	0.05	0.05			c0.47		
v/c Ratio		0.39			0.53	0.20	0.09	0.54		0.81	0.70	
Uniform Delay, d1		17.6			18.3	16.7	5.1	7.1		9.2	8.2	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0			1.9	0.4	0.3	0.4		19.0	1.4	
Delay (s)		18.6			20.2	17.1	5.4	7.5		28.3	9.6	
Level of Service		B			C	B	A	A		C	A	
Approach Delay (s)		18.6			18.8			7.5			12.1	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	56.5	Sum of lost time (s)	9.2
Intersection Capacity Utilization	65.9%	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)	32	485	334	204	164	26
v/c Ratio	0.28	0.35	0.28	0.15	0.68	0.11
Control Delay	53.9	5.4	9.2	0.8	57.8	14.2
Queue Delay	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay	53.9	5.4	9.6	0.8	57.8	14.2
Queue Length 50th (ft)	22	89	72	0	111	0
Queue Length 95th (ft)	53	172	174	22	172	24
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	148	1403	1190	1496	454	411
Starvation Cap Reductn	0	0	409	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	0.35	0.43	0.14	0.36	0.06

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	29	446	307	188	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)	32	485	334	204	164	26
RTOR Reduction (vph)	0	0	0	33	0	22
Lane Group Flow (vph)	32	485	334	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)	5.3	84.5	75.2	92.1	16.9	16.9
Effective Green, g (s)	5.3	84.5	75.2	92.1	16.9	16.9
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	1403	1166	1315	240	207
v/s Ratio Prot	0.02	c0.27	0.20	0.02	c0.10	
v/s Ratio Perm				0.09		0.00
v/c Ratio	0.41	0.35	0.29	0.13	0.68	0.02
Uniform Delay, d1	50.8	4.0	6.8	1.6	44.0	39.5
Progression Factor	1.00	1.00	1.05	2.45	1.00	1.00
Incremental Delay, d2	3.5	0.7	0.6	0.0	7.8	0.0
Delay (s)	54.3	4.7	7.7	4.0	51.8	39.6
Level of Service	D	A	A	A	D	D
Approach Delay (s)		7.8	6.3		50.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
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)	360	273	175	189	316	374	3
v/c Ratio	0.46	0.34	0.73	0.17	0.69	0.62	0.04
Control Delay	19.7	2.1	62.6	10.5	43.9	13.8	45.3
Queue Delay	0.8	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	2.2	62.6	10.5	43.9	13.8	45.3
Queue Length 50th (ft)	116	0	119	48	200	55	1
Queue Length 95th (ft)	259	13	#218	116	273	133	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	782	802	241	1082	566	600	84
Starvation Cap Reductn	183	114	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	0.60	0.40	0.73	0.17	0.56	0.62	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	331	251	161	173	1	289	2	344	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	360	273	175	188	1	314	2	374	1	1	1
RTOR Reduction (vph)	0	0	160	0	0	0	0	0	210	0	1	0
Lane Group Flow (vph)	0	360	113	175	189	0	0	316	164	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)		45.7	45.7	17.0	66.7			29.7	25.2		1.0	
Effective Green, g (s)		45.7	45.7	17.0	66.7			25.2	25.2		1.0	
Actuated g/C Ratio		0.42	0.42	0.15	0.61			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)		731	609	241	1033			385	467		14	
v/s Ratio Prot		c0.20		c0.11	0.11			c0.19	0.04		c0.00	
v/s Ratio Perm			0.08						0.06			
v/c Ratio		0.49	0.19	0.73	0.18			0.82	0.35		0.14	
Uniform Delay, d1		23.6	20.4	44.3	9.6			40.3	35.5		54.1	
Progression Factor		0.74	0.30	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		2.3	0.6	10.4	0.4			13.1	0.5		4.7	
Delay (s)		19.7	6.8	54.7	10.0			53.4	36.0		58.8	
Level of Service		B	A	D	A			D	D		E	
Approach Delay (s)		14.1			31.5			44.0			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	64.5%	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)	60	140	25	175	249	151	26	673	116	333	903
v/c Ratio	0.40	0.56	0.11	0.66	0.56	0.32	0.26	0.76	0.29	0.79	0.57
Control Delay	61.0	55.2	17.8	58.7	44.5	8.1	63.0	43.2	23.5	53.8	20.5
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	61.0	55.2	17.8	58.7	44.5	8.1	63.0	43.2	23.5	53.8	20.5
Queue Length 50th (ft)	41	94	0	117	161	0	18	229	37	220	238
Queue Length 95th (ft)	97	179	26	#226	277	54	54	350	100	376	346
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	178	478	417	335	667	626	107	1153	504	575	1965
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	0.34	0.29	0.06	0.52	0.37	0.24	0.24	0.58	0.23	0.58	0.46

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)	55	129	23	161	229	139	24	619	107	306	764	67
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	1445	1620	1739	1395	1652	3240	1332	1620	3038	
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	1445	1620	1739	1395	1652	3240	1332	1620	3038	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	140	25	175	249	151	26	673	116	333	830	73
RTOR Reduction (vph)	0	0	21	0	0	113	0	0	34	0	4	0
Lane Group Flow (vph)	60	140	4	175	249	38	26	673	82	333	899	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)	7.7	16.5	16.5	17.5	27.2	27.2	4.0	31.5	31.5	28.6	56.1	
Effective Green, g (s)	7.6	16.4	16.4	17.4	27.1	27.1	3.0	31.0	31.0	27.6	55.6	
Actuated g/C Ratio	0.07	0.15	0.15	0.16	0.25	0.25	0.03	0.29	0.29	0.25	0.51	
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)	116	263	219	260	435	349	46	927	381	412	1558	
v/s Ratio Prot	0.04	0.08		c0.11	c0.14		0.02	c0.21		c0.21	0.30	
v/s Ratio Perm			0.00			0.03			0.06			
v/c Ratio	0.52	0.53	0.02	0.67	0.57	0.11	0.57	0.73	0.22	0.81	0.58	
Uniform Delay, d1	48.6	42.5	39.1	42.8	35.6	31.3	52.1	34.9	29.5	37.9	18.3	
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	5.1	2.6	0.0	7.3	2.2	0.2	17.9	3.1	0.4	11.7	0.6	
Delay (s)	53.7	45.1	39.2	50.1	37.8	31.5	70.0	37.9	29.8	49.6	18.9	
Level of Service	D	D	D	D	D	C	E	D	C	D	B	
Approach Delay (s)		46.7			39.9			37.8			27.2	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	34.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	108.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.2%	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	690	49	775	826	78	505	900	414	243	20
v/c Ratio	0.54	0.80	0.16	0.83	0.65	0.55	0.65	0.64	0.74	0.22	0.04
Control Delay	69.9	57.8	13.0	51.9	29.9	70.8	49.2	13.6	59.3	32.5	12.2
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	69.9	57.8	13.0	51.9	29.9	70.8	49.2	13.6	59.3	32.5	12.2
Queue Length 50th (ft)	59	201	0	293	256	63	202	138	169	80	0
Queue Length 95th (ft)	111	250	35	371	322	117	264	175	228	115	19
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	159	873	317	941	1269	157	779	1411	559	1095	511
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	0.79	0.15	0.82	0.65	0.50	0.65	0.64	0.74	0.22	0.04

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	635	45	713	575	185	72	465	828	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	3109		1678	3355	2706	3255	3240	1474
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	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)	74	690	49	775	625	201	78	505	900	414	243	20
RTOR Reduction (vph)	0	0	40	0	23	0	0	0	0	0	0	13
Lane Group Flow (vph)	74	690	9	775	803	0	78	505	900	414	243	7
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)	9.7	22.9	22.9	36.6	49.8		9.3	26.6	63.2	22.9	40.2	40.2
Effective Green, g (s)	9.7	24.4	24.4	36.6	51.3		9.3	28.1	63.2	22.9	41.7	41.7
Actuated g/C Ratio	0.08	0.19	0.19	0.29	0.40		0.07	0.22	0.49	0.18	0.33	0.33
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)	118	887	282	931	1246		122	737	1336	582	1056	480
v/s Ratio Prot	0.05	c0.15		c0.24	0.26		0.05	c0.15	0.33	c0.13	0.08	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.63	0.78	0.03	0.83	0.64		0.64	0.69	0.67	0.71	0.23	0.01
Uniform Delay, d1	57.4	49.2	42.2	42.8	31.0		57.7	45.9	24.6	49.4	31.5	29.2
Progression Factor	1.00	1.00	1.00	1.03	0.91		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.3	4.6	0.1	5.6	1.1		11.8	5.1	1.5	4.4	0.5	0.1
Delay (s)	68.6	53.8	42.3	49.9	29.1		69.5	51.0	26.1	53.8	32.0	29.3
Level of Service	E	D	D	D	C		E	D	C	D	C	C
Approach Delay (s)		54.5			39.2			36.8			45.2	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	42.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.6%	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)	308	1901	211	293	1187	207	208	115	198
v/c Ratio	0.84	1.01	0.28	0.74	0.62	0.68	0.68	0.29	1.06
Control Delay	57.7	51.8	1.1	58.6	32.3	58.1	57.5	8.3	116.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	51.8	1.1	58.6	32.3	58.1	57.5	8.3	116.6
Queue Length 50th (ft)	250	~602	3	225	277	169	170	0	~58
Queue Length 95th (ft)	#401	#705	5	#471	383	232	232	46	#142
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	367	1884	745	398	1924	440	447	515	187
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	1.01	0.28	0.74	0.62	0.47	0.47	0.22	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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	283	1749	194	270	1057	35	334	48	106	56	52	74
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		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (prot)	1620	4655	1530	1678	4629		1539	1561	1514		3058	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.98	
Satd. Flow (perm)	1620	4655	1530	1678	4629		1539	1561	1514		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)	308	1901	211	293	1149	38	363	52	115	61	57	80
RTOR Reduction (vph)	0	0	126	0	2	0	0	0	92	0	77	0
Lane Group Flow (vph)	308	1901	85	293	1185	0	207	208	23	0	121	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)	28.0	50.8	50.8	29.3	52.1		24.7	24.7	24.7		4.0	
Effective Green, g (s)	29.0	51.8	51.8	30.3	53.1		25.3	25.3	25.3		4.6	
Actuated g/C Ratio	0.23	0.40	0.40	0.24	0.41		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)	367	1884	619	397	1920		304	309	299		110	
v/s Ratio Prot	0.19	c0.41		c0.17	0.26		c0.13	0.13			c0.04	
v/s Ratio Perm			0.06						0.02			
v/c Ratio	0.84	1.01	0.14	0.74	0.62		0.68	0.67	0.08		1.10	
Uniform Delay, d1	47.3	38.1	24.0	45.2	29.5		47.6	47.5	41.8		61.7	
Progression Factor	0.82	0.78	0.07	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	14.2	21.5	0.4	7.5	1.5		6.7	6.2	0.1		114.9	
Delay (s)	53.1	51.2	2.2	52.7	31.0		54.3	53.7	42.0		176.6	
Level of Service	D	D	A	D	C		D	D	D		F	
Approach Delay (s)		47.2			35.2			51.4			176.6	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM Average Control Delay	49.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.3%	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)	186	1605	122	653	407	237	446	78	622
v/c Ratio	0.75	0.96	0.66	0.64	1.00	0.21	0.61	0.41	0.76
Control Delay	60.0	45.9	54.2	20.0	88.1	23.6	15.3	52.1	39.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	45.9	54.2	20.0	88.1	23.6	15.3	52.1	39.3
Queue Length 50th (ft)	115	~367	65	117	135	57	102	25	185
Queue Length 95th (ft)	#219	#478	m#132	m243	#234	81	192	48	232
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	249	1665	186	1022	409	1218	779	192	980
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	0.75	0.96	0.66	0.64	1.00	0.19	0.57	0.41	0.63

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)	171	1061	416	112	579	22	374	218	410	72	471	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	0.96		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	4521		1652	3270		3143	3240	1661	3204	3144	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4521		1652	3270		3143	3240	1661	3204	3144	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	186	1153	452	122	629	24	407	237	446	78	512	110
RTOR Reduction (vph)	0	69	0	0	3	0	0	0	162	0	19	0
Lane Group Flow (vph)	186	1536	0	122	650	0	407	237	284	78	603	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	33.7		11.4	29.6		14.0	34.7	34.7	5.6	26.3	
Effective Green, g (s)	15.4	34.7		11.3	30.6		13.0	34.3	34.3	4.6	25.9	
Actuated g/C Ratio	0.15	0.35		0.11	0.31		0.13	0.34	0.34	0.05	0.26	
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	1569		187	1001		409	1111	570	147	814	
v/s Ratio Prot	0.11	c0.34		0.07	c0.20		c0.13	0.07		0.02	c0.19	
v/s Ratio Perm									0.17			
v/c Ratio	0.75	0.98		0.65	0.65		1.00	0.21	0.50	0.53	0.74	
Uniform Delay, d1	40.4	32.3		42.5	30.1		43.5	23.3	26.0	46.6	34.0	
Progression Factor	1.00	1.00		0.91	0.57		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.5	18.2		6.6	2.4		43.0	0.1	0.9	4.6	3.9	
Delay (s)	52.0	50.5		45.2	19.7		86.5	23.4	27.0	51.3	37.9	
Level of Service	D	D		D	B		F	C	C	D	D	
Approach Delay (s)		50.7			23.7			48.4			39.3	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	54	23	3	1152	758	43
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	59	25	3	1252	824	47
Pedestrians	2					
Lane Width (ft)	16.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				807	730	
pX, platoon unblocked	0.75	0.99	0.99			
vC, conflicting volume	1482	437	873			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	900	406	847			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	71	96	100			
cM capacity (veh/h)	204	580	762			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	84	421	835	549	321
Volume Left	59	3	0	0	0
Volume Right	25	0	0	0	47
cSH	253	762	1700	1700	1700
Volume to Capacity	0.33	0.00	0.49	0.32	0.19
Queue Length 95th (ft)	35	0	0	0	0
Control Delay (s)	26.1	0.1	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	26.1	0.0		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	114	38	124	140	363	50	536	447	633
v/c Ratio	0.34	0.13	0.50	0.38	0.64	0.30	0.67	0.78	0.36
Control Delay	29.2	10.3	35.0	29.6	9.2	42.0	28.4	33.3	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	10.3	35.0	29.6	9.2	42.0	28.4	33.3	9.7
Queue Length 50th (ft)	42	0	48	52	0	20	98	166	75
Queue Length 95th (ft)	102	24	115	120	74	67	204	#362	146
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	631	524	464	691	739	183	1086	867	2273
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	0.18	0.07	0.27	0.20	0.49	0.27	0.49	0.52	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)	24	81	35	114	129	334	46	370	123	411	507	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	1312	1711	2945		1620	3014	
Flt Permitted		0.92	1.00	0.68	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1590	1258	1166	1739	1312	1711	2945		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	88	38	124	140	363	50	402	134	447	551	82
RTOR Reduction (vph)	0	0	30	0	0	287	0	32	0	0	11	0
Lane Group Flow (vph)	0	114	8	124	140	76	50	504	0	447	622	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)		15.0	15.0	15.0	15.0	15.0	3.6	20.1		24.9	41.4	
Effective Green, g (s)		15.0	15.0	15.0	15.0	15.0	3.6	20.1		24.9	41.4	
Actuated g/C Ratio		0.21	0.21	0.21	0.21	0.21	0.05	0.28		0.35	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)		334	264	245	365	275	86	828		564	1745	
v/s Ratio Prot					0.08		0.03	c0.17		c0.28	0.21	
v/s Ratio Perm		0.07	0.01	c0.11		0.06						
v/c Ratio		0.34	0.03	0.51	0.38	0.28	0.58	0.61		0.79	0.36	
Uniform Delay, d1		24.0	22.5	25.0	24.3	23.7	33.2	22.3		21.0	8.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6	0.0	1.6	0.7	0.6	9.6	1.5		7.5	0.2	
Delay (s)		24.7	22.5	26.6	25.0	24.3	42.8	23.8		28.5	8.2	
Level of Service		C	C	C	C	C	D	C		C	A	
Approach Delay (s)		24.1			24.9			25.4			16.6	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	71.5	Sum of lost time (s)	11.5
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	303	437	158	75	268	99	233	1057	86	774
v/c Ratio	0.89	0.69	0.29	0.65	0.81	0.33	0.88	0.87	0.80	0.83
Control Delay	71.1	38.3	5.6	76.2	62.3	16.3	80.0	36.4	93.5	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.1	38.3	5.6	76.2	62.3	16.3	80.0	36.4	93.5	42.9
Queue Length 50th (ft)	208	266	0	53	180	14	170	276	62	275
Queue Length 95th (ft)	#365	384	45	#121	#297	62	#309	#471	#157	#369
Internal Link Dist (ft)		2946			1126			956		727
Turn Bay Length (ft)	240		200	230		100	200		150	
Base Capacity (vph)	349	631	551	116	357	320	270	1216	108	928
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	0.87	0.69	0.29	0.65	0.75	0.31	0.86	0.87	0.80	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)	279	402	145	69	247	91	214	799	174	79	650	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	8	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	1352	1652	3138		1593	3177	
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	1352	1652	3138		1593	3177	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	437	158	75	268	99	233	868	189	86	707	67
RTOR Reduction (vph)	0	0	104	0	0	62	0	17	0	0	6	0
Lane Group Flow (vph)	303	437	54	75	268	37	233	1040	0	86	768	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)	24.4	37.6	37.6	6.4	19.6	19.6	17.6	41.3		7.5	31.2	
Effective Green, g (s)	24.4	37.6	37.6	6.4	19.6	19.6	17.6	41.3		7.5	31.2	
Actuated g/C Ratio	0.22	0.34	0.34	0.06	0.18	0.18	0.16	0.38		0.07	0.28	
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)	350	631	446	93	332	241	264	1178		109	901	
v/s Ratio Prot	c0.19	0.24		0.05	c0.14		c0.14	c0.33		0.05	0.24	
v/s Ratio Perm			0.04			0.03						
v/c Ratio	0.87	0.69	0.12	0.81	0.81	0.16	0.88	0.88		0.79	0.85	
Uniform Delay, d1	41.2	31.2	24.9	51.2	43.4	38.2	45.2	32.1		50.5	37.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.09	0.89		0.98	0.92	
Incremental Delay, d2	20.0	3.5	0.2	39.8	14.1	0.4	26.9	9.3		30.8	9.6	
Delay (s)	61.2	34.8	25.0	91.0	57.5	38.6	76.0	37.8		80.5	43.8	
Level of Service	E	C	C	F	E	D	E	D		F	D	
Approach Delay (s)		42.0			58.9			44.7			47.5	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	46.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	636	14	19	352	76	63
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	691	15	21	383	83	68
Pedestrians					2	
Lane Width (ft)					11.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1206					
pX, platoon unblocked			0.80		0.80	0.80
vC, conflicting volume			709		1117	693
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			508		1020	489
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		59	85
cM capacity (veh/h)			842		204	461

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	691	15	21	383	151
Volume Left	0	0	21	0	83
Volume Right	0	15	0	0	68
cSH	1700	1700	842	1700	323
Volume to Capacity	0.41	0.01	0.02	0.23	0.47
Queue Length 95th (ft)	0	0	2	0	59
Control Delay (s)	0.0	0.0	9.4	0.0	25.6
Lane LOS			A		D
Approach Delay (s)	0.0		0.5		25.6
Approach LOS					D

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	104	618	7	282	59	110	13	41	360
v/c Ratio	0.34	0.65	0.05	0.53	0.29	0.19	0.03	0.11	0.61
Control Delay	27.7	15.3	30.8	20.5	20.5	16.1	8.4	15.9	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	15.3	30.8	20.5	20.5	16.1	8.4	15.9	19.7
Queue Length 50th (ft)	29	109	2	70	14	26	0	9	83
Queue Length 95th (ft)	92	353	15	167	48	68	11	33	190
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	355	1249	142	862	363	1048	751	667	1027
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	0.29	0.49	0.05	0.33	0.16	0.10	0.02	0.06	0.35

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	96	408	161	6	202	57	54	101	12	38	203	128
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	0.96		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	1932		1711	1652		1652	1863	1327	1644	1790	
Flt Permitted	0.95	1.00		0.95	1.00		0.37	1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1711	1932		1711	1652		646	1863	1327	1188	1790	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	443	175	7	220	62	59	110	13	41	221	139
RTOR Reduction (vph)	0	17	0	0	13	0	0	0	9	0	33	0
Lane Group Flow (vph)	104	601	0	7	269	0	59	110	4	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)	7.0	25.4		0.6	19.0		16.4	16.4	16.4	16.4	16.4	
Effective Green, g (s)	7.0	25.4		0.6	19.0		16.4	16.4	16.4	16.4	16.4	
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)	216	886		19	567		191	552	393	352	530	
v/s Ratio Prot	c0.06	c0.31		0.00	0.16			0.06			c0.18	
v/s Ratio Perm							0.09		0.00	0.03		
v/c Ratio	0.48	0.68		0.37	0.47		0.31	0.20	0.01	0.12	0.62	
Uniform Delay, d1	22.5	11.8		27.2	14.3		15.1	14.6	13.8	14.2	16.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.3	2.3		15.7	0.9		1.3	0.2	0.0	0.2	2.4	
Delay (s)	24.8	14.1		42.9	15.1		16.4	14.8	13.8	14.4	19.2	
Level of Service	C	B		D	B		B	B	B	B	B	
Approach Delay (s)		15.6			15.8			15.3			18.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	55.4	Sum of lost time (s)	13.0
Intersection Capacity Utilization	72.7%	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)	150	282	10	48	155	643	64	20	700
v/c Ratio	0.51	0.39	0.10	0.18	0.52	0.39	0.08	0.16	0.70
Control Delay	37.0	4.8	41.7	18.3	36.7	13.7	8.6	41.1	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.0	4.8	41.7	18.3	36.7	13.7	8.6	41.1	27.1
Queue Length 50th (ft)	55	4	4	9	57	69	5	8	125
Queue Length 95th (ft)	#158	54	23	37	159	221	41	37	279
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	360	1071	99	804	373	1834	830	129	1323
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	0.42	0.26	0.10	0.06	0.42	0.35	0.08	0.16	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)	138	13	247	9	23	21	144	592	59	18	551	93
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	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1512		1652	1598		1652	3240	1451	1711	3292	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1512		1652	1598		1652	3240	1451	1711	3292	
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)	150	14	268	10	25	23	155	643	64	20	599	101
RTOR Reduction (vph)	0	178	0	0	19	0	0	0	17	0	12	0
Lane Group Flow (vph)	150	104	0	10	29	0	155	643	47	20	688	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)	12.1	25.2		0.6	13.7		12.6	35.8	35.8	0.7	23.9	
Effective Green, g (s)	12.1	25.2		0.6	13.7		12.6	35.8	35.8	0.7	23.9	
Actuated g/C Ratio	0.16	0.34		0.01	0.18		0.17	0.48	0.48	0.01	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)	277	509		13	293		278	1551	694	16	1052	
v/s Ratio Prot	c0.09	c0.07		0.01	0.02		c0.09	0.20		c0.01	c0.21	
v/s Ratio Perm									0.03			
v/c Ratio	0.54	0.20		0.77	0.10		0.56	0.41	0.07	1.25	0.65	
Uniform Delay, d1	28.8	17.7		37.0	25.4		28.5	12.7	10.5	37.0	21.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.7	0.3		133.9	0.2		3.0	0.2	0.1	314.0	1.6	
Delay (s)	31.5	17.9		170.9	25.6		31.5	12.9	10.6	351.1	23.5	
Level of Service	C	B		F	C		C	B	B	F	C	
Approach Delay (s)		22.6			50.7			16.1			32.6	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM Average Control Delay	24.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	74.8	Sum of lost time (s)	9.5
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	73	24	5	1112	1096
v/c Ratio	0.48	0.17	0.01	0.40	0.40
Control Delay	56.7	19.1	2.4	3.0	1.1
Queue Delay	0.0	0.0	0.0	1.2	0.0
Total Delay	56.7	19.1	2.4	4.2	1.1
Queue Length 50th (ft)	50	0	0	82	16
Queue Length 95th (ft)	94	25	3	134	26
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	360	309	372	2763	2752
Starvation Cap Reductn	0	0	0	1334	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	0.01	0.78	0.40

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	67	22	5	1023	983	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	436	3240	3227	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	73	24	5	1112	1068	28
RTOR Reduction (vph)	0	22	0	0	1	0
Lane Group Flow (vph)	73	2	5	1112	1095	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	365	2710	2699	
v/s Ratio Prot	c0.04			c0.34	0.34	
v/s Ratio Perm		0.00	0.01			
v/c Ratio	0.54	0.02	0.01	0.41	0.41	
Uniform Delay, d1	48.5	46.4	1.5	2.2	2.2	
Progression Factor	1.00	1.00	1.00	1.00	0.30	
Incremental Delay, d2	4.4	0.1	0.1	0.5	0.4	
Delay (s)	52.9	46.5	1.6	2.7	1.0	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.3			2.7	1.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	3.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	39.5%	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)	1003	1151	422	1088	772	609
v/c Ratio	0.74	0.70	0.45	0.44	0.46	0.80
Control Delay	30.4	5.7	26.2	3.9	0.9	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	5.7	26.2	3.9	0.9	35.8
Queue Length 50th (ft)	268	52	170	87	0	155
Queue Length 95th (ft)	324	81	209	103	0	235
Internal Link Dist (ft)	363			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1533	1724	936	2477	1686	757
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	0.67	0.45	0.44	0.46	0.80

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	923	1059	388	1001	0	0	0	710	0	0	560
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	1003	1151	422	1088	0	0	0	772	0	0	609
RTOR Reduction (vph)	0	0	566	0	0	0	0	0	0	0	0	223
Lane Group Flow (vph)	0	1003	585	422	1088	0	0	0	772	0	0	386
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)		51.9	51.9	38.1	94.5				128.0			24.5
Effective Green, g (s)		51.9	51.9	38.1	94.5				128.0			24.5
Actuated g/C Ratio		0.41	0.41	0.30	0.74				1.00			0.19
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)		1360	1071	936	2477				1686			533
v/s Ratio Prot		c0.30		0.13	0.32							
v/s Ratio Perm			0.22						c0.46			c0.14
v/c Ratio		0.74	0.55	0.45	0.44				0.46			0.72
Uniform Delay, d1		32.3	29.1	36.5	6.5				0.0			48.6
Progression Factor		0.87	0.85	0.65	0.52				1.00			1.00
Incremental Delay, d2		1.6	0.4	1.5	0.5				0.9			8.3
Delay (s)		29.6	25.1	25.1	3.9				0.9			56.9
Level of Service		C	C	C	A				A			E
Approach Delay (s)		27.2			9.8			0.9			56.9	
Approach LOS		C			A			A			E	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.6%	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)	304	1471	877	615	1013	637
v/c Ratio	0.70	0.44	0.33	0.49	0.63	0.42
Control Delay	55.6	0.6	0.3	2.9	1.9	0.8
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	55.6	0.6	0.3	2.9	1.9	0.8
Queue Length 50th (ft)	133	6	1	34	0	0
Queue Length 95th (ft)	179	0	m2	m58	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	651	3355	2657	1245	1611	1528
Starvation Cap Reductn	0	0	0	56	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.44	0.33	0.52	0.63	0.42

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)	280	1353	0	0	807	566	0	0	932	0	0	586
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)	304	1471	0	0	877	615	0	0	1013	0	0	637
RTOR Reduction (vph)	0	0	0	0	0	33	0	0	0	0	0	0
Lane Group Flow (vph)	304	1471	0	0	877	582	0	0	1013	0	0	637
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)	17.6	128.0			101.4	101.4			128.0			128.0
Effective Green, g (s)	17.6	128.0			101.4	101.4			128.0			128.0
Actuated g/C Ratio	0.14	1.00			0.79	0.79			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)	432	3355			2658	1213			1611			1528
v/s Ratio Prot	0.10	0.44			0.26							
v/s Ratio Perm						0.38			c0.63			0.42
v/c Ratio	0.70	0.44			0.33	0.48			0.63			0.42
Uniform Delay, d1	52.7	0.0			3.7	4.5			0.0			0.0
Progression Factor	0.92	1.00			0.02	0.49			1.00			1.00
Incremental Delay, d2	4.3	0.1			0.3	1.1			1.9			0.8
Delay (s)	52.7	0.1			0.3	3.3			1.9			0.8
Level of Service	D	A			A	A			A			A
Approach Delay (s)		9.1			1.5			1.9			0.8	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	50.5%	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)	439	752	825	248	30	251	787	16	89	1035	211
v/c Ratio	1.07	1.01	0.47	0.71	0.08	1.02	0.59	0.03	0.53	1.03	0.40
Control Delay	77.0	50.0	1.0	47.0	11.6	106.4	28.2	15.5	54.1	72.8	18.8
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	77.0	50.0	1.0	47.0	11.6	106.4	28.2	15.5	54.1	72.8	18.8
Queue Length 50th (ft)	~131	~473	0	145	1	~166	220	3	54	~375	61
Queue Length 95th (ft)	m#309	m#626	m0	#250	23	#324	285	18	105	#503	127
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	410	744	1770	351	382	246	1332	496	182	1001	529
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	1.07	1.01	0.47	0.71	0.08	1.02	0.59	0.03	0.49	1.03	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.

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)	404	692	759	5	224	28	231	724	15	82	952	194
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		1737	1475	1652	3539	1337	1652	3303	1551
Flt Permitted	0.35	1.00	1.00		0.83	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	605	1739	1770		1438	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)	439	752	825	5	243	30	251	787	16	89	1035	211
RTOR Reduction (vph)	0	0	0	0	0	22	0	0	6	0	0	59
Lane Group Flow (vph)	439	752	825	0	248	8	251	787	10	89	1035	152
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)	42.3	42.3	100.0		23.9	23.9	13.9	35.8	35.8	7.9	29.3	29.3
Effective Green, g (s)	42.8	42.8	100.0		24.4	24.4	14.9	36.8	35.8	8.8	30.3	30.3
Actuated g/C Ratio	0.43	0.43	1.00		0.24	0.24	0.15	0.37	0.36	0.09	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)	410	744	1770		351	360	246	1302	479	145	1001	470
v/s Ratio Prot	0.15	c0.43					c0.15	0.22		0.05	c0.31	
v/s Ratio Perm	c0.30		0.47		0.17	0.01			0.01			0.10
v/c Ratio	1.07	1.01	0.47		0.71	0.02	1.02	0.60	0.02	0.61	1.03	0.32
Uniform Delay, d1	25.9	28.6	0.0		34.5	28.7	42.5	25.7	20.8	44.0	34.9	26.9
Progression Factor	0.62	0.59	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	57.8	30.4	0.6		6.8	0.0	62.7	2.1	0.1	7.9	37.6	1.8
Delay (s)	73.9	47.2	0.6		41.3	28.8	105.3	27.8	20.8	51.8	72.4	28.8
Level of Service	E	D	A		D	C	F	C	C	D	E	C
Approach Delay (s)		34.0			40.0			46.1			64.1	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	45.7	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	103.0%	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	1341	141	1083
v/c Ratio	0.41	0.42	0.32	0.52	0.37
Control Delay	55.7	15.3	0.5	12.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.3
Total Delay	55.7	15.3	0.5	12.0	3.2
Queue Length 50th (ft)	33	0	6	21	70
Queue Length 95th (ft)	67	45	18	108	141
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	255	357	4213	273	2965
Starvation Cap Reductn	0	0	0	0	1137
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.25	0.32	0.52	0.59

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	44	0	83	0	1200	34	130	995	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		4930		1618	3471	
Flt Permitted					0.76	1.00		1.00		0.19	1.00	
Satd. Flow (perm)					1245	1395		4930		320	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	1304	37	141	1082	1
RTOR Reduction (vph)	0	0	0	0	0	82	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	8	0	1340	0	141	1083	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		4132		268	2909	
v/s Ratio Prot								0.27			0.31	
v/s Ratio Perm					c0.04	0.01				c0.44		
v/c Ratio					0.46	0.06		0.32		0.53	0.37	
Uniform Delay, d1					48.0	46.4		2.0		2.6	2.1	
Progression Factor					1.00	1.00		0.17		1.00	1.00	
Incremental Delay, d2					3.2	0.2		0.1		7.2	0.4	
Delay (s)					51.3	46.7		0.5		9.8	2.5	
Level of Service					D	D		A		A	A	
Approach Delay (s)		0.0			48.3			0.5			3.3	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	48.0%	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)	96	221	262	205	1051	33	812	208	717	595	54
v/c Ratio	1.05	0.58	0.24	0.30	1.11	0.46	0.75	0.23	1.15	0.44	0.08
Control Delay	171.7	57.1	35.3	30.2	88.5	86.2	53.9	1.6	132.8	31.2	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	171.7	57.1	35.3	30.2	88.5	86.2	53.9	1.6	132.8	31.2	7.0
Queue Length 50th (ft)	~98	92	88	128	~1105	30	250	0	~402	210	0
Queue Length 95th (ft)	#218	126	140	195	#1370	68	301	19	#529	269	29
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	91	1027	1107	680	951	87	1177	941	625	1338	656
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	1.05	0.22	0.24	0.30	1.11	0.38	0.69	0.22	1.15	0.44	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	30	747	191	660	547	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	3093		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	3093		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)	96	176	45	262	205	1051	33	812	208	717	595	54
RTOR Reduction (vph)	0	21	0	0	0	10	0	0	88	0	0	32
Lane Group Flow (vph)	96	200	0	262	205	1041	33	812	120	717	595	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	16.2		47.1	55.8	87.8	4.2	33.9	81.0	27.5	57.2	57.2
Effective Green, g (s)	7.5	16.2		47.1	55.8	87.8	4.2	33.9	81.0	27.5	57.2	57.2
Actuated g/C Ratio	0.05	0.12		0.34	0.40	0.63	0.03	0.24	0.58	0.20	0.41	0.41
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)	90	358		1095	673	941	49	1127	838	617	1324	618
v/s Ratio Prot	c0.06	0.06		0.08	0.12	c0.69	0.02	c0.17	0.08	c0.23	0.18	
v/s Ratio Perm												0.01
v/c Ratio	1.07	0.56		0.24	0.30	1.11	0.67	0.72	0.14	1.16	0.45	0.04
Uniform Delay, d1	66.2	58.5		33.5	28.8	26.1	67.2	48.7	13.6	56.2	30.0	24.8
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	114.1	2.8		0.0	0.4	62.9	25.0	2.3	0.1	89.9	0.2	0.0
Delay (s)	180.4	61.3		33.6	29.2	89.0	92.2	51.0	13.6	146.2	30.2	24.9
Level of Service	F	E		C	C	F	F	D	B	F	C	C
Approach Delay (s)		97.3			71.4			44.9			90.9	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM Average Control Delay	73.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	90.9%	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)	154	1105	105	1636	702	53	235	563	281
v/c Ratio	0.94	0.65	0.65	1.01	0.72	0.47	0.89	0.93	0.65
Control Delay	110.8	23.0	81.3	36.9	5.4	66.9	48.3	70.8	22.3
Queue Delay	0.0	81.0	0.0	0.7	2.1	0.0	16.5	0.0	0.0
Total Delay	110.8	103.9	81.3	37.6	7.5	66.9	64.8	70.8	22.3
Queue Length 50th (ft)	121	311	85	~744	2	40	41	225	60
Queue Length 95th (ft)	#255	414	m102	m#876	m2	83	#176	#341	160
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	163	1689	203	1623	978	140	285	606	435
Starvation Cap Reductn	0	0	0	4	150	0	0	0	0
Spillback Cap Reductn	0	747	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	1.17	0.52	1.01	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	1002	15	97	1433	718	49	8	208	518	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	0.97	
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	0.99	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	3051	1318	1678	1438		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	3171		1620	3051	1318	1678	1438		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	1089	16	105	1558	780	53	9	226	563	45	236
RTOR Reduction (vph)	0	1	0	0	3	279	0	168	0	0	156	0
Lane Group Flow (vph)	154	1104	0	105	1633	423	53	67	0	563	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	63.9		11.9	63.7	63.7	8.0	8.0		23.2	23.2	
Effective Green, g (s)	12.1	63.9		11.9	63.7	63.7	8.0	8.0		23.2	23.2	
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	1689		161	1620	700	112	96		608	281	
v/s Ratio Prot	c0.10	0.35		0.06	c0.54		0.03	c0.05		c0.18	0.09	
v/s Ratio Perm						0.32						
v/c Ratio	0.94	0.65		0.65	1.01	0.60	0.47	0.70		0.93	0.45	
Uniform Delay, d1	53.6	20.1		52.1	28.1	19.5	54.0	54.8		47.6	42.7	
Progression Factor	1.00	1.00		1.34	0.55	0.74	1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.5	2.0		4.4	19.6	2.4	1.1	16.3		20.1	1.1	
Delay (s)	107.1	22.1		73.9	35.2	16.8	55.1	71.1		67.7	43.9	
Level of Service	F	C		E	D	B	E	E		E	D	
Approach Delay (s)		32.5			31.6			68.2			59.8	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM Average Control Delay	38.9	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	96.6%	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	2005	650	2213	303	559	65	57
v/c Ratio	0.48	0.98	0.96	0.77	0.97	0.50	0.86	0.56
Control Delay	62.1	46.0	66.0	16.4	93.1	20.4	125.5	50.4
Queue Delay	0.0	46.5	0.0	1.2	0.0	0.0	0.0	0.6
Total Delay	62.1	92.5	66.0	17.6	93.1	20.4	125.5	51.0
Queue Length 50th (ft)	44	577	251	401	235	137	51	18
Queue Length 95th (ft)	m64	m#691	m#329	496	#412	185	#137	#74
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	135	2038	689	2879	316	1117	78	103
Starvation Cap Reductn	0	239	0	415	0	0	0	0
Spillback Cap Reductn	0	0	0	405	0	0	0	3
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.11	0.94	0.90	0.96	0.50	0.83	0.57

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)	52	1675	169	598	1913	123	249	29	514	60	22	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	1422	
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	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)	57	1821	184	650	2079	134	271	32	559	65	24	33
RTOR Reduction (vph)	0	10	0	0	6	0	0	0	26	0	31	0
Lane Group Flow (vph)	57	1995	0	650	2207	0	0	303	533	65	26	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	54.1		25.8	72.4			20.8	46.6	5.8	5.8	
Effective Green, g (s)	8.0	54.1		25.8	72.4			20.8	46.6	5.8	5.8	
Actuated g/C Ratio	0.07	0.45		0.22	0.60			0.17	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	2031		676	2851			313	1090	75	69	
v/s Ratio Prot	0.04	c0.44		c0.21	0.47			c0.17	0.11	c0.04	0.02	
v/s Ratio Perm									0.08			
v/c Ratio	0.53	0.98		0.96	0.77			0.97	0.49	0.87	0.37	
Uniform Delay, d1	54.2	32.5		46.6	17.7			49.3	27.7	56.7	55.3	
Progression Factor	0.99	0.99		1.04	0.84			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	13.2		17.1	1.2			41.6	0.1	58.9	1.2	
Delay (s)	55.1	45.4		65.3	16.0			90.8	27.8	115.6	56.6	
Level of Service	E	D		E	B			F	C	F	E	
Approach Delay (s)		45.7			27.2			50.0			88.0	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM Average Control Delay	38.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	85.2%	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	1498	2064	774	611	588
v/c Ratio	0.36	0.59	0.89	0.61	0.82	0.86
Control Delay	7.0	1.3	18.9	2.6	54.3	55.7
Queue Delay	0.0	0.0	0.6	0.0	0.0	0.0
Total Delay	7.0	1.3	19.6	2.6	54.3	55.8
Queue Length 50th (ft)	123	0	571	0	233	235
Queue Length 95th (ft)	m131	m0	717	32	#304	#338
Internal Link Dist (ft)	509		1069			
Turn Bay Length (ft)		400				150
Base Capacity (vph)	3429	2533	2327	1279	747	681
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	70	0	0	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.59	0.91	0.61	0.82	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)	0	1137	1378	0	1899	712	0	0	0	562	0	541
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	1498	0	2064	774	0	0	0	611	0	588
RTOR Reduction (vph)	0	0	0	0	0	219	0	0	0	0	0	31
Lane Group Flow (vph)	0	1236	1498	0	2064	555	0	0	0	611	0	557
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			0.59			0.38						c0.19
v/c Ratio		0.36	0.59		0.89	0.52				0.82		0.86
Uniform Delay, d1		6.1	0.0		12.7	7.7				44.2		44.6
Progression Factor		1.10	1.00		1.00	1.00				1.00		1.00
Incremental Delay, d2		0.2	0.3		5.5	1.9				7.3		11.2
Delay (s)		7.0	0.3		18.2	9.6				51.5		55.8
Level of Service		A	A		B	A				D		E
Approach Delay (s)		3.3			15.8			0.0			53.6	
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	78.1%	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)	604	58	54	251	227	428
v/c Ratio	0.79	0.08	0.35	0.39	0.50	0.59
Control Delay	21.7	3.5	34.2	13.7	21.1	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	3.5	34.2	13.7	21.1	6.0
Queue Length 50th (ft)	154	0	18	56	65	0
Queue Length 95th (ft)	#348	16	#62	106	125	57
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	1083	989	156	1099	697	890
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	0.35	0.23	0.33	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	53	50	231	209	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	58	54	251	227	428
RTOR Reduction (vph)	0	32	0	0	0	317
Lane Group Flow (vph)	604	26	54	251	227	111
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)	21.3	21.3	1.9	18.3	12.4	12.4
Effective Green, g (s)	21.3	21.3	1.9	18.3	12.4	12.4
Actuated g/C Ratio	0.45	0.45	0.04	0.38	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)	751	672	65	702	444	406
v/s Ratio Prot	c0.36		c0.03	0.14	c0.13	
v/s Ratio Perm		0.02				0.07
v/c Ratio	0.80	0.04	0.83	0.36	0.51	0.27
Uniform Delay, d1	11.4	7.4	22.7	10.5	15.0	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3	0.0	56.7	0.3	1.0	0.4
Delay (s)	17.6	7.4	79.4	10.8	16.0	14.4
Level of Service	B	A	E	B	B	B
Approach Delay (s)	16.7			22.9	14.9	
Approach LOS	B			C	B	

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	47.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.3%	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	130	26	1045	71	642
v/c Ratio	0.24	0.35	0.33	0.06	0.55	0.29	0.33
Control Delay	14.5	17.8	10.0	7.4	9.2	12.3	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	17.8	10.0	7.4	9.2	12.3	7.2
Queue Length 50th (ft)	15	26	11	3	77	8	40
Queue Length 95th (ft)	45	68	46	17	222	50	117
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	765	754	759	494	2170	277	2179
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	0.17	0.05	0.48	0.26	0.29

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	44	10	63	52	120	24	885	76	65	561	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	1615	3036		1561	3051	
Flt Permitted		0.88			0.78	1.00	0.41	1.00		0.24	1.00	
Satd. Flow (perm)		1366			1357	1306	694	3036		388	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)	26	48	11	68	57	130	26	962	83	71	610	32
RTOR Reduction (vph)	0	9	0	0	0	59	0	8	0	0	5	0
Lane Group Flow (vph)	0	76	0	0	125	71	26	1037	0	71	637	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	27.5	27.5		27.5	27.5	
Effective Green, g (s)		9.9			9.9	9.9	27.5	27.5		27.5	27.5	
Actuated g/C Ratio		0.21			0.21	0.21	0.59	0.59		0.59	0.59	
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)		290			288	277	410	1792		229	1800	
v/s Ratio Prot								c0.34			0.21	
v/s Ratio Perm		0.06			c0.09	0.05	0.04			0.18		
v/c Ratio		0.26			0.43	0.26	0.06	0.58		0.31	0.35	
Uniform Delay, d1		15.3			15.9	15.3	4.1	5.9		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			1.4	0.7	0.1	0.5		1.1	0.2	
Delay (s)		16.0			17.3	16.0	4.2	6.5		5.8	5.1	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		16.0			16.6			6.4			5.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	46.6	Sum of lost time (s)	9.2
Intersection Capacity Utilization	57.7%	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)	20	210	359	161	147	34
v/c Ratio	0.07	0.24	0.48	0.13	0.34	0.09
Control Delay	19.1	6.8	11.8	0.6	15.1	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	6.8	11.8	0.6	15.1	6.8
Queue Length 50th (ft)	2	18	35	0	16	0
Queue Length 95th (ft)	24	62	175	9	87	18
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	467	1827	1649	1519	1240	1079
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	0.11	0.12	0.03

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	18	193	330	148	135	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	1617	1562	1362
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1617	1562	1362
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	210	359	161	147	34
RTOR Reduction (vph)	0	0	0	53	0	25
Lane Group Flow (vph)	20	210	359	108	147	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	21.7	16.8	27.2	10.4	10.4
Effective Green, g (s)	0.9	21.7	16.8	27.2	10.4	10.4
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	974	704	1081	399	348
v/s Ratio Prot	0.01	c0.11	c0.21	0.03	c0.09	
v/s Ratio Perm				0.04		0.01
v/c Ratio	0.56	0.22	0.51	0.10	0.37	0.02
Uniform Delay, d1	19.7	5.0	8.9	2.4	12.5	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.3	0.1	0.6	0.0	0.6	0.0
Delay (s)	37.0	5.1	9.5	2.4	13.0	11.4
Level of Service	D	A	A	A	B	B
Approach Delay (s)		7.9	7.3		12.7	
Approach LOS		A	A		B	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	40.7	Sum of lost time (s)	13.2
Intersection Capacity Utilization	33.2%	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	141	250	299	279	226
v/c Ratio	0.56	0.33	0.62	0.33	0.47	0.38
Control Delay	35.4	7.9	35.2	11.7	25.1	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	7.9	35.2	11.7	25.1	11.0
Queue Length 50th (ft)	89	0	101	72	99	26
Queue Length 95th (ft)	203	48	233	153	232	99
Internal Link Dist (ft)	328			4916	905	
Turn Bay Length (ft)		350	75			100
Base Capacity (vph)	870	795	829	1576	769	760
Starvation Cap Reductn	6	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	0.18	0.30	0.19	0.36	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	199	130	230	274	1	255	2	208	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	1725			
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00			
Satd. Flow (perm)		1756	1461	1562	1704			1683	1725			
Peak-hour factor, PHF	0.92	0.92	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	141	250	298	1	277	2	226	0	0	0
RTOR Reduction (vph)	0	0	110	0	0	0	0	0	101	0	0	0
Lane Group Flow (vph)	0	217	31	250	299	0	0	279	125	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)		17.1	17.1	20.3	41.4			26.7	22.7			
Effective Green, g (s)		17.1	17.1	20.3	41.4			26.7	22.7			
Actuated g/C Ratio		0.22	0.22	0.26	0.54			0.35	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)		389	324	411	914			582	507			
v/s Ratio Prot				c0.16	0.18			c0.17	0.02			
v/s Ratio Perm		c0.12	0.02						0.05			
v/c Ratio		0.56	0.10	0.61	0.33			0.48	0.25			
Uniform Delay, d1		26.7	23.9	25.0	10.1			19.8	20.7			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Incremental Delay, d2		1.7	0.1	2.5	0.2			0.6	0.3			
Delay (s)		28.4	24.0	27.5	10.3			20.4	21.0			
Level of Service		C	C	C	B			C	C			
Approach Delay (s)		26.7			18.1			20.7			0.0	
Approach LOS		C			B			C			A	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	77.2	Sum of lost time (s)	12.6
Intersection Capacity Utilization	56.9%	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	227	386	596	24	555	128	201	688
v/c Ratio	0.70	0.83	0.15	0.75	0.68	0.83	0.26	0.77	0.37	0.76	0.61
Control Delay	67.8	55.9	24.0	64.2	42.0	23.1	68.4	52.5	27.2	68.4	33.9
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	67.8	55.9	24.0	64.2	42.0	23.1	68.4	52.5	27.2	68.4	33.9
Queue Length 50th (ft)	129	311	23	175	271	160	19	224	46	157	243
Queue Length 95th (ft)	#247	464	62	#305	401	355	53	314	112	#283	335
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	283	642	552	379	752	826	96	905	415	336	1292
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	0.59	0.64	0.12	0.60	0.51	0.72	0.25	0.61	0.31	0.60	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)	153	375	59	209	355	548	22	511	118	185	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	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	0.97	
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	1394	1652	3240	1331	1620	2995	
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	1394	1652	3240	1331	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)	166	408	64	227	386	596	24	555	128	201	572	116
RTOR Reduction (vph)	0	0	18	0	0	269	0	0	46	0	12	0
Lane Group Flow (vph)	166	408	46	227	386	327	24	555	82	201	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)	16.8	33.1	33.1	21.8	38.1	38.1	3.9	27.9	27.9	20.1	44.1	
Effective Green, g (s)	16.7	33.0	33.0	21.7	38.0	38.0	2.9	27.4	27.4	19.1	43.6	
Actuated g/C Ratio	0.14	0.28	0.28	0.19	0.32	0.32	0.02	0.23	0.23	0.16	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)	235	490	409	300	564	452	41	757	311	264	1114	
v/s Ratio Prot	0.10	c0.23		c0.14	0.22		0.01	c0.17		c0.12	0.23	
v/s Ratio Perm			0.03			0.23			0.06			
v/c Ratio	0.71	0.83	0.11	0.76	0.68	0.72	0.59	0.73	0.26	0.76	0.61	
Uniform Delay, d1	47.9	39.5	31.2	45.2	34.4	35.0	56.6	41.5	36.7	46.9	29.8	
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	9.9	12.0	0.2	11.0	3.7	6.0	22.8	3.9	0.6	12.9	1.1	
Delay (s)	57.9	51.5	31.4	56.3	38.1	41.0	79.3	45.5	37.3	59.8	30.9	
Level of Service	E	D	C	E	D	D	E	D	D	E	C	
Approach Delay (s)		51.1			42.9			45.1			37.5	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	117.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.6%	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)	47	579	51	837	1206	70	278	479	193	136	15
v/c Ratio	0.33	0.60	0.15	0.71	0.76	0.43	0.47	0.32	0.52	0.19	0.04
Control Delay	60.6	43.9	12.1	35.2	26.2	61.2	46.0	8.0	55.3	41.0	19.0
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	60.6	43.9	12.1	35.2	26.2	61.2	46.0	8.0	55.3	41.0	19.0
Queue Length 50th (ft)	32	140	0	262	366	48	96	55	68	44	0
Queue Length 95th (ft)	83	208	36	397	512	110	158	94	125	83	20
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	159	1304	450	1486	1991	204	996	2048	432	998	464
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	0.30	0.44	0.11	0.56	0.61	0.34	0.28	0.23	0.45	0.14	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	533	47	770	848	261	64	256	441	178	125	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	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	3113		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)	47	579	51	837	922	284	70	278	479	193	136	15
RTOR Reduction (vph)	0	0	40	0	20	0	0	0	0	0	0	12
Lane Group Flow (vph)	47	579	11	837	1186	0	70	278	479	193	136	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)	7.2	22.6	22.6	39.1	54.5		8.8	17.9	57.0	13.8	22.9	22.9
Effective Green, g (s)	8.1	24.1	24.1	40.0	56.0		8.8	19.4	58.8	13.8	24.4	24.4
Actuated g/C Ratio	0.07	0.21	0.21	0.36	0.50		0.08	0.17	0.52	0.12	0.22	0.22
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)	113	998	317	1158	1551		131	579	1416	400	703	320
v/s Ratio Prot	0.03	0.12		c0.26	c0.38		0.04	c0.08	0.18	c0.06	0.04	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.42	0.58	0.03	0.72	0.76		0.53	0.48	0.34	0.48	0.19	0.01
Uniform Delay, d1	49.9	39.6	34.9	31.4	22.9		49.8	42.0	15.5	46.0	36.0	34.5
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	3.4	1.0	0.1	2.4	2.4		5.3	0.9	0.2	1.3	0.2	0.0
Delay (s)	53.2	40.6	35.0	33.8	25.3		55.1	42.8	15.7	47.2	36.1	34.5
Level of Service	D	D	D	C	C		E	D	B	D	D	C
Approach Delay (s)		41.1			28.8			28.2			42.3	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	112.4	Sum of lost time (s)	11.1
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	300	1784	376	202	1182	224	226	118	139
v/c Ratio	0.85	0.77	0.40	0.86	0.61	0.72	0.72	0.30	0.76
Control Delay	71.1	30.4	3.3	88.0	32.6	62.0	61.4	8.9	58.9
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.1	30.5	3.3	88.0	32.6	62.0	61.4	8.9	58.9
Queue Length 50th (ft)	237	435	0	168	290	186	188	0	31
Queue Length 95th (ft)	#417	579	56	#342	387	281	282	50	#92
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	388	2316	950	234	1939	435	442	513	182
Starvation Cap Reductn	0	86	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	0.77	0.80	0.40	0.86	0.61	0.51	0.51	0.23	0.76

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)	276	1641	346	186	1051	37	355	59	109	22	43	63
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	0.97	1.00		0.99	
Satd. Flow (prot)	1620	4655	1530	1678	4627		1539	1564	1514		3030	
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	4627		1539	1564	1514		3030	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	300	1784	376	202	1142	40	386	64	118	24	47	68
RTOR Reduction (vph)	0	0	189	0	2	0	0	0	94	0	65	0
Lane Group Flow (vph)	300	1784	187	202	1180	0	224	226	24	0	74	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)	27.3	63.6	63.6	17.0	53.3		25.5	25.5	25.5		4.4	
Effective Green, g (s)	28.3	64.6	64.6	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)	353	2319	762	233	1937		310	315	305		117	
v/s Ratio Prot	c0.19	c0.38		0.12	0.25		c0.15	0.14			c0.02	
v/s Ratio Perm			0.12						0.02			
v/c Ratio	0.85	0.77	0.25	0.87	0.61		0.72	0.72	0.08		0.63	
Uniform Delay, d1	48.7	26.5	18.6	54.7	29.4		48.4	48.4	42.0		61.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	17.7	2.1	0.5	27.7	1.0		8.6	8.1	0.1		11.4	
Delay (s)	66.4	28.5	19.1	82.4	30.4		57.0	56.5	42.2		72.9	
Level of Service	E	C	B	F	C		E	E	D		E	
Approach Delay (s)		31.7			38.0			53.7			72.9	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	37.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	129.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.8%	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)	183	1543	173	846	267	180	257	27	238
v/c Ratio	0.71	0.79	0.71	0.64	0.80	0.20	0.40	0.24	0.45
Control Delay	52.7	25.3	54.4	24.7	58.6	25.1	5.3	49.2	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	25.3	54.4	24.7	58.6	25.1	5.3	49.2	24.3
Queue Length 50th (ft)	90	227	87	180	72	37	0	7	42
Queue Length 95th (ft)	#232	#443	#233	341	#176	68	52	24	73
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	284	1996	251	1343	333	1395	862	113	1153
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	0.64	0.77	0.69	0.63	0.80	0.13	0.30	0.24	0.21

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)	168	1014	406	159	762	17	246	166	236	25	149	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	0.96		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	4517		1652	3278		3143	3240	1661	3204	3066	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4517		1652	3278		3143	3240	1661	3204	3066	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	183	1102	441	173	828	18	267	180	257	27	162	76
RTOR Reduction (vph)	0	63	0	0	1	0	0	0	188	0	63	0
Lane Group Flow (vph)	183	1480	0	173	845	0	267	180	69	27	175	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)	13.7	34.8		12.8	33.9		10.1	24.1	24.1	1.5	15.5	
Effective Green, g (s)	13.6	35.8		12.7	34.9		9.1	23.7	23.7	0.5	15.1	
Actuated g/C Ratio	0.15	0.41		0.14	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)	251	1842		239	1303		326	875	448	18	527	
v/s Ratio Prot	c0.11	c0.33		0.10	0.26		c0.08	0.06		0.01	c0.06	
v/s Ratio Perm									0.04			
v/c Ratio	0.73	0.80		0.72	0.65		0.82	0.21	0.15	1.50	0.33	
Uniform Delay, d1	35.3	22.9		35.9	21.5		38.5	24.8	24.4	43.6	31.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.1	2.8		11.0	1.3		15.4	0.2	0.2	395.6	0.5	
Delay (s)	45.5	25.7		46.9	22.7		54.0	24.9	24.6	439.3	32.4	
Level of Service	D	C		D	C		D	C	C	F	C	
Approach Delay (s)		27.8			26.8			35.8			73.9	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	87.8	Sum of lost time (s)	11.1
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	15	5	5	758	675	45
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	5	5	824	734	49
Pedestrians	2					
Lane Width (ft)	16.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				807	730	
pX, platoon unblocked	0.91					
vC, conflicting volume	1183	393	785			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1003	393	785			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	99	99			
cM capacity (veh/h)	212	599	815			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	22	280	549	489	293
Volume Left	16	5	0	0	0
Volume Right	5	0	0	0	49
cSH	253	815	1700	1700	1700
Volume to Capacity	0.09	0.01	0.32	0.29	0.17
Queue Length 95th (ft)	7	1	0	0	0
Control Delay (s)	20.6	0.3	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	20.6	0.1		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	209	67	90	126	295	60	470	227	412
v/c Ratio	0.53	0.17	0.35	0.27	0.52	0.27	0.57	0.57	0.29
Control Delay	25.3	6.9	23.7	20.4	6.5	32.5	22.2	28.2	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	6.9	23.7	20.4	6.5	32.5	22.2	28.2	12.1
Queue Length 50th (ft)	58	0	24	32	0	18	63	65	45
Queue Length 95th (ft)	156	28	78	94	56	70	158	178	103
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	810	726	526	960	856	283	1521	805	2407
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	0.17	0.13	0.34	0.21	0.31	0.28	0.17

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	122	62	83	116	271	55	348	85	209	332	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	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		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1702	1260	1620	1739	1317	1711	2974		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)		1471	1260	953	1739	1317	1711	2974		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	133	67	90	126	295	60	378	92	227	361	51
RTOR Reduction (vph)	0	0	49	0	0	216	0	22	0	0	12	0
Lane Group Flow (vph)	0	209	18	90	126	79	60	448	0	227	400	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)		16.0	16.0	16.0	16.0	16.0	4.4	17.7		14.5	27.8	
Effective Green, g (s)		16.0	16.0	16.0	16.0	16.0	4.4	17.7		14.5	27.8	
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)		394	338	255	466	353	126	882		393	1405	
v/s Ratio Prot					0.07		0.04	c0.15		c0.14	0.13	
v/s Ratio Perm		c0.14	0.01	0.09		0.06						
v/c Ratio		0.53	0.05	0.35	0.27	0.22	0.48	0.51		0.58	0.28	
Uniform Delay, d1		18.6	16.2	17.7	17.2	17.0	26.5	17.4		19.9	9.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4	0.1	0.8	0.3	0.3	2.8	0.6		2.1	0.2	
Delay (s)		20.0	16.3	18.5	17.6	17.3	29.4	18.0		22.0	10.0	
Level of Service		C	B	B	B	B	C	B		C	A	
Approach Delay (s)		19.1			17.6			19.3			14.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	59.7	Sum of lost time (s)	11.5
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	142	192	117	82	204	74	152	689	51	738
v/c Ratio	0.65	0.47	0.31	0.52	0.69	0.27	0.66	0.45	0.40	0.57
Control Delay	58.6	41.5	8.4	59.0	55.5	11.4	58.1	21.2	57.7	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	58.6	41.5	8.4	59.0	55.5	11.4	58.1	21.2	57.7	29.0
Queue Length 50th (ft)	95	122	0	55	137	0	102	171	34	212
Queue Length 95th (ft)	160	184	46	106	209	40	169	241	75	306
Internal Link Dist (ft)		2946			1126			956		727
Turn Bay Length (ft)	240		200	230		100	200		150	
Base Capacity (vph)	259	456	411	176	359	320	272	1545	135	1294
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	0.55	0.42	0.28	0.47	0.57	0.23	0.56	0.45	0.38	0.57

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	131	177	108	75	188	68	140	533	101	47	603	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	8	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	1352	1652	3149		1593	3166	
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	1352	1652	3149		1593	3166	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	192	117	82	204	74	152	579	110	51	655	83
RTOR Reduction (vph)	0	0	91	0	0	62	0	13	0	0	8	0
Lane Group Flow (vph)	142	192	26	82	204	12	152	676	0	51	730	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	24.2	24.2	9.3	18.3	18.3	15.4	51.9		7.4	43.9	
Effective Green, g (s)	15.2	24.2	24.2	9.3	18.3	18.3	15.4	51.9		7.4	43.9	
Actuated g/C Ratio	0.14	0.22	0.22	0.08	0.17	0.17	0.14	0.47		0.07	0.40	
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	406	287	135	310	225	231	1486		107	1264	
v/s Ratio Prot	c0.09	0.10		0.05	c0.11		c0.09	0.21		0.03	c0.23	
v/s Ratio Perm			0.02			0.01						
v/c Ratio	0.65	0.47	0.09	0.61	0.66	0.05	0.66	0.46		0.48	0.58	
Uniform Delay, d1	44.9	37.3	34.1	48.6	42.9	38.6	44.8	19.5		49.4	25.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.5	1.2	0.2	8.7	5.5	0.1	7.3	1.0		4.5	1.9	
Delay (s)	52.4	38.5	34.3	57.2	48.4	38.7	52.1	20.5		53.9	27.7	
Level of Service	D	D	C	E	D	D	D	C		D	C	
Approach Delay (s)		41.8			48.4			26.3			29.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	241	12	31	312	10	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	262	13	34	339	11	11
Pedestrians					2	
Lane Width (ft)					11.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					0	
Right turn flare (veh)						1
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	1206					
pX, platoon unblocked						
vC, conflicting volume			277		670	264
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			277		670	264
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		97	99
cM capacity (veh/h)			1284		410	773

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	262	13	34	339	22
Volume Left	0	0	34	0	11
Volume Right	0	13	0	0	11
cSH	1700	1700	1284	1700	820
Volume to Capacity	0.15	0.01	0.03	0.20	0.03
Queue Length 95th (ft)	0	0	2	0	2
Control Delay (s)	0.0	0.0	7.9	0.0	11.9
Lane LOS			A		B
Approach Delay (s)	0.0		0.7		11.9
Approach LOS					B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	257	5	302	41	59	7	37	268
v/c Ratio	0.19	0.28	0.03	0.49	0.16	0.11	0.02	0.10	0.49
Control Delay	22.8	8.2	25.0	15.8	15.9	14.3	9.2	14.9	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	8.2	25.0	15.8	15.9	14.3	9.2	14.9	15.6
Queue Length 50th (ft)	14	27	1	64	8	12	0	7	49
Queue Length 95th (ft)	50	99	11	145	31	38	7	28	122
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	298	1441	170	1150	625	1274	908	849	1239
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	0.19	0.18	0.03	0.26	0.07	0.05	0.01	0.04	0.22

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	168	68	5	239	39	38	54	6	34	152	95
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	0.98	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	0.98		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	1930		1711	1679		1652	1863	1328	1645	1790	
Flt Permitted	0.95	1.00		0.95	1.00		0.53	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1711	1930		1711	1679		915	1863	1328	1244	1790	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	183	74	5	260	42	41	59	7	37	165	103
RTOR Reduction (vph)	0	19	0	0	8	0	0	0	5	0	34	0
Lane Group Flow (vph)	57	238	0	5	295	0	41	59	2	37	234	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)	3.5	20.3		0.6	17.4		12.5	12.5	12.5	12.5	12.5	
Effective Green, g (s)	3.5	20.3		0.6	17.4		12.5	12.5	12.5	12.5	12.5	
Actuated g/C Ratio	0.08	0.44		0.01	0.37		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)	129	844		22	630		246	502	358	335	482	
v/s Ratio Prot	c0.03	c0.12		0.00	c0.18			0.03			c0.13	
v/s Ratio Perm							0.04		0.00	0.03		
v/c Ratio	0.44	0.28		0.23	0.47		0.17	0.12	0.01	0.11	0.48	
Uniform Delay, d1	20.5	8.4		22.7	11.0		13.0	12.8	12.4	12.8	14.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.3	0.3		7.1	0.8		0.4	0.1	0.0	0.2	1.0	
Delay (s)	23.8	8.6		29.7	11.7		13.4	12.9	12.4	13.0	15.3	
Level of Service	C	A		C	B		B	B	B	B	B	
Approach Delay (s)		11.4			12.0			13.1			15.0	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	17.5
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	87	94	3	10	328	761	40	23	784
v/c Ratio	0.61	0.21	0.03	0.04	0.71	0.39	0.05	0.19	0.74
Control Delay	57.0	8.2	41.0	20.8	36.0	10.5	7.2	42.1	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	8.2	41.0	20.8	36.0	10.5	7.2	42.1	28.0
Queue Length 50th (ft)	39	4	1	2	126	58	2	10	147
Queue Length 95th (ft)	#143	38	11	14	#345	232	26	40	#347
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	143	807	92	756	529	2037	914	119	1179
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	0.61	0.12	0.03	0.01	0.62	0.37	0.04	0.19	0.66

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)	80	9	77	3	5	5	302	700	37	21	548	173
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	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1528		1652	1592		1652	3240	1450	1711	3250	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1528		1652	1592		1652	3240	1450	1711	3250	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	10	84	3	5	5	328	761	40	23	596	188
RTOR Reduction (vph)	0	64	0	0	4	0	0	0	8	0	27	0
Lane Group Flow (vph)	87	30	0	3	6	0	328	761	32	23	757	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)	6.2	18.8		0.6	13.2		20.8	44.6	44.6	1.8	25.6	
Effective Green, g (s)	6.2	18.8		0.6	13.2		20.8	44.6	44.6	1.8	25.6	
Actuated g/C Ratio	0.08	0.24		0.01	0.17		0.27	0.57	0.57	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)	135	367		13	268		439	1846	826	39	1063	
v/s Ratio Prot	c0.05	c0.02		0.00	0.00		c0.20	0.23		0.01	c0.23	
v/s Ratio Perm									0.02			
v/c Ratio	0.64	0.08		0.23	0.02		0.75	0.41	0.04	0.59	0.71	
Uniform Delay, d1	35.0	23.1		38.6	27.2		26.3	9.5	7.4	37.9	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	11.2	0.1		12.0	0.0		7.2	0.2	0.0	24.2	2.4	
Delay (s)	46.2	23.2		50.7	27.2		33.6	9.7	7.4	62.1	25.6	
Level of Service	D	C		D	C		C	A	A	E	C	
Approach Delay (s)		34.2			32.6			16.5			26.6	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	9.5
Intersection Capacity Utilization	59.3%	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	823	791
v/c Ratio	0.19	0.06	0.03	0.33	0.32
Control Delay	17.2	8.2	5.4	4.8	4.7
Queue Delay	0.0	0.0	0.0	0.2	0.0
Total Delay	17.2	8.2	5.4	5.0	4.7
Queue Length 50th (ft)	18	0	1	42	39
Queue Length 95th (ft)	38	11	10	123	116
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	746	610	449	2376	2362
Starvation Cap Reductn	0	0	0	698	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.03	0.04	0.49	0.33

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	58	16	15	757	692	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	3215	
Flt Permitted	0.95	1.00	0.35	1.00	1.00	
Satd. Flow (perm)	1652	1330	613	3240	3215	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	17	16	823	752	39
RTOR Reduction (vph)	0	15	0	0	4	0
Lane Group Flow (vph)	63	2	16	823	787	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)	5.7	5.7	31.2	31.2	31.2	
Effective Green, g (s)	5.7	5.7	31.2	31.2	31.2	
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)	205	165	417	2202	2185	
v/s Ratio Prot	c0.04			c0.25	0.24	
v/s Ratio Perm		0.00	0.03			
v/c Ratio	0.31	0.01	0.04	0.37	0.36	
Uniform Delay, d1	18.3	17.6	2.4	3.2	3.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.0	0.1	0.3	0.3	
Delay (s)	19.2	17.7	2.5	3.5	3.4	
Level of Service	B	B	A	A	A	
Approach Delay (s)	18.8			3.4	3.4	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	4.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	45.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	31.8%	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)	775	670	836	1436	772	772
v/c Ratio	0.76	0.53	0.74	0.61	0.46	1.02
Control Delay	49.9	4.3	36.4	11.3	0.9	80.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	4.3	36.4	11.3	0.9	80.5
Queue Length 50th (ft)	336	1	325	345	0	~369
Queue Length 95th (ft)	415	49	381	424	0	#513
Internal Link Dist (ft)	364			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1018	1267	1134	2337	1686	760
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	0.74	0.61	0.46	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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	713	616	769	1321	0	0	0	710	0	0	710
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	775	670	836	1436	0	0	0	772	0	0	772
RTOR Reduction (vph)	0	0	465	0	0	0	0	0	0	0	0	94
Lane Group Flow (vph)	0	775	205	836	1436	0	0	0	772	0	0	678
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)		42.5	42.5	50.5	97.5				140.0			33.5
Effective Green, g (s)		42.5	42.5	50.5	97.5				140.0			33.5
Actuated g/C Ratio		0.30	0.30	0.36	0.70				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)		1018	802	1134	2337				1686			667
v/s Ratio Prot		c0.23		c0.27	0.43							
v/s Ratio Perm			0.08						0.46			c0.24
v/c Ratio		0.76	0.26	0.74	0.61				0.46			1.02
Uniform Delay, d1		44.2	36.8	39.0	11.3				0.0			53.2
Progression Factor		1.00	1.00	0.82	0.92				1.00			1.00
Incremental Delay, d2		5.4	0.8	4.0	0.7				0.9			39.2
Delay (s)		49.5	37.6	36.0	11.1				0.9			92.5
Level of Service		D	D	D	B				A			F
Approach Delay (s)		44.0			20.3			0.9			92.5	
Approach LOS		D			C			A			F	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	449	1098	1062	780	932	1339
v/c Ratio	0.79	0.33	0.42	0.66	0.58	0.88
Control Delay	41.4	0.2	7.1	11.4	1.5	7.8
Queue Delay	0.0	0.0	0.0	1.4	0.0	0.0
Total Delay	41.4	0.2	7.1	12.8	1.5	7.8
Queue Length 50th (ft)	190	0	160	275	0	0
Queue Length 95th (ft)	221	0	233	483	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	707	3355	2536	1176	1611	1528
Starvation Cap Reductn	0	0	0	212	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.33	0.42	0.81	0.58	0.88

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	413	1010	0	0	977	718	0	0	857	0	0	1232
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)	449	1098	0	0	1062	780	0	0	932	0	0	1339
RTOR Reduction (vph)	0	0	0	0	0	19	0	0	0	0	0	0
Lane Group Flow (vph)	449	1098	0	0	1062	761	0	0	932	0	0	1339
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)	25.2	140.0			105.8	105.8			140.0			140.0
Effective Green, g (s)	25.2	140.0			105.8	105.8			140.0			140.0
Actuated g/C Ratio	0.18	1.00			0.76	0.76			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)	566	3355			2535	1157			1611			1528
v/s Ratio Prot	0.14	0.33			0.32							
v/s Ratio Perm						0.50			0.58			c0.88
v/c Ratio	0.79	0.33			0.42	0.66			0.58			0.88
Uniform Delay, d1	54.9	0.0			6.1	8.3			0.0			0.0
Progression Factor	0.60	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	6.1	0.2			0.5	2.9			1.5			7.4
Delay (s)	38.8	0.2			6.6	11.2			1.5			7.4
Level of Service	D	A			A	B			A			A
Approach Delay (s)		11.4			8.6			1.5			7.4	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	7.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	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)	271	403	471	340	20	463	768	15	58	693	234
v/c Ratio	0.92	0.60	0.27	0.93	0.06	0.98	0.48	0.03	0.44	0.94	0.54
Control Delay	66.1	32.7	0.4	77.8	23.1	79.5	24.7	14.0	61.3	65.8	26.3
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	66.1	32.7	0.4	77.8	23.1	79.5	24.7	14.0	61.3	65.8	26.3
Queue Length 50th (ft)	152	236	0	251	5	344	218	3	42	269	82
Queue Length 95th (ft)	#315	342	0	#427	26	#559	277	16	86	#386	165
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	295	677	1770	368	322	471	1585	591	142	738	430
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	0.92	0.60	0.27	0.92	0.06	0.98	0.48	0.03	0.41	0.94	0.54

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)	249	371	433	3	310	18	426	707	14	53	638	215
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	1469	1652	3539	1336	1652	3303	1549
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)	245	1739	1770		1733	1469	1652	3539	1336	1652	3303	1549
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	271	403	471	3	337	20	463	768	15	58	693	234
RTOR Reduction (vph)	0	0	0	0	0	9	0	0	5	0	0	83
Lane Group Flow (vph)	271	403	471	0	340	11	463	768	10	58	693	151
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)	44.4	44.4	116.8		23.9	23.9	32.0	50.9	50.9	7.1	25.9	25.9
Effective Green, g (s)	44.9	44.9	116.8		24.4	24.4	33.0	51.9	50.9	8.0	26.9	26.9
Actuated g/C Ratio	0.38	0.38	1.00		0.21	0.21	0.28	0.44	0.44	0.07	0.23	0.23
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)	293	669	1770		362	307	467	1573	582	113	761	357
v/s Ratio Prot	c0.13	0.23					c0.28	0.22		0.04	c0.21	
v/s Ratio Perm	c0.23		0.27		0.20	0.01			0.01			0.10
v/c Ratio	0.92	0.60	0.27		0.94	0.03	0.99	0.49	0.02	0.51	0.91	0.42
Uniform Delay, d1	31.2	28.8	0.0		45.5	36.8	41.8	23.0	18.7	52.5	43.8	38.3
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	33.7	1.8	0.4		32.0	0.1	39.3	0.7	0.0	4.5	16.2	2.3
Delay (s)	64.9	30.6	0.4		77.4	36.9	81.0	23.7	18.8	57.0	60.0	40.6
Level of Service	E	C	A		E	D	F	C	B	E	E	D
Approach Delay (s)		26.3			75.2			44.9			55.2	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM Average Control Delay	44.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	116.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	28	90	733	160	756
v/c Ratio	0.09	0.23	0.20	0.35	0.30
Control Delay	13.6	5.5	3.9	8.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	5.5	3.9	8.9	4.7
Queue Length 50th (ft)	5	0	19	13	31
Queue Length 95th (ft)	21	25	62	80	106
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	735	822	4106	516	2901
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	0.11	0.18	0.31	0.26

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	26	0	83	0	637	38	147	694	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)					1562	1401		4906		1619	3470	
Flt Permitted					0.80	1.00		1.00		0.36	1.00	
Satd. Flow (perm)					1315	1401		4906		616	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	0	90	0	692	41	160	754	2
RTOR Reduction (vph)	0	0	0	0	0	78	0	9	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	28	12	0	724	0	160	756	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		24.0		24.0	24.0	
Effective Green, g (s)					5.0	5.0		24.0		24.0	24.0	
Actuated g/C Ratio					0.13	0.13		0.64		0.64	0.64	
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)					175	186		3131		393	2215	
v/s Ratio Prot								0.15			0.22	
v/s Ratio Perm					c0.02	0.01				c0.26		
v/c Ratio					0.16	0.06		0.23		0.41	0.34	
Uniform Delay, d1					14.4	14.3		2.9		3.3	3.1	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.4	0.1		0.0		0.3	0.0	
Delay (s)					14.9	14.4		2.9		3.6	3.2	
Level of Service					B	B		A		A	A	
Approach Delay (s)		0.0			14.5			2.9			3.2	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	3.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	37.6	Sum of lost time (s)	8.6
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)	58	173	289	166	1077	27	1334	253	1424	1124	90
v/c Ratio	0.97	0.44	0.47	0.36	1.09	0.38	1.09	0.34	1.26	0.58	0.10
Control Delay	173.0	55.2	54.7	43.6	83.0	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	54.7	43.6	83.0	80.0	100.7	6.5	164.5	19.4	2.7
Queue Length 50th (ft)	54	73	120	123	~1111	24	~501	32	~844	341	0
Queue Length 95th (ft)	#151	102	#198	192	#1378	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	621	467	984	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	0.47	0.36	1.09	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		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	0.98
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		3255	1689	1501	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		3255	1689	1501	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	5	0	0	88	0	0	37
Lane Group Flow (vph)	58	161	0	289	166	1072	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		615	463	980	51	1262	677	1115	1925	900
v/s Ratio Prot	c0.03	0.05		0.09	0.10	c0.71	0.02	c0.29	0.11	c0.45	0.35	
v/s Ratio Perm												0.04
v/c Ratio	0.98	0.43		0.47	0.36	1.09	0.53	1.06	0.24	1.28	0.58	0.06
Uniform Delay, d1	68.7	58.1		51.4	41.6	24.7	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		0.2	0.7	57.9	4.5	41.9	0.3	131.8	0.5	0.0
Delay (s)	179.0	59.5		51.6	42.3	82.6	72.4	93.8	23.1	177.7	18.4	12.2
Level of Service	F	E		D	D	F	E	F	C	F	B	B
Approach Delay (s)		89.5			72.4			82.3			104.2	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	89.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	6.8
Intersection Capacity Utilization	99.1%	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)	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	0.51
Control Delay	51.2	17.4	51.4	15.2	0.5	50.9	21.2	46.7	28.2
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	28.2
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	279
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	0.44

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)	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	0.97	
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	3174		1620	3068	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	3174		1620	3068	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)	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	183	
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	43.5	
Level of Service	D	B		E	B	A	D	D		D	D	
Approach Delay (s)		16.8			14.1			46.5			43.8	
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	604	53	1516	1305	113	470	788	258	512	45
v/c Ratio	0.39	0.66	0.16	1.57	0.87	0.72	0.54	0.52	0.78	0.60	0.11
Control Delay	62.6	43.9	11.0	287.6	27.3	72.6	37.7	9.5	64.2	38.4	13.2
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	62.6	43.9	11.0	287.6	27.3	72.6	37.7	9.5	64.2	38.4	13.2
Queue Length 50th (ft)	23	140	0	~770	430	77	150	107	91	165	4
Queue Length 95th (ft)	56	181	33	m#727	m419	#167	205	142	#152	223	33
Internal Link Dist (ft)		238			306		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	87	970	350	964	1503	161	866	1501	332	860	419
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	0.62	0.15	1.57	0.87	0.70	0.54	0.52	0.78	0.60	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.

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)	31	556	49	1395	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	3137		1678	3355	2706	3255	3240	1474
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	3137		1678	3355	2706	3255	3240	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)	34	604	53	1516	1054	251	113	470	788	258	512	45
RTOR Reduction (vph)	0	0	42	0	18	0	0	0	0	0	0	28
Lane Group Flow (vph)	34	604	11	1516	1287	0	113	470	788	258	512	17
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	21.2	21.2	32.0	49.6		10.2	24.8	56.8	11.0	25.6	25.6
Effective Green, g (s)	3.6	22.7	22.7	32.0	51.1		10.2	26.3	56.8	11.0	27.1	27.1
Actuated g/C Ratio	0.03	0.21	0.21	0.30	0.47		0.09	0.24	0.53	0.10	0.25	0.25
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)	52	978	310	964	1484		158	817	1423	332	813	370
v/s Ratio Prot	0.02	0.13		c0.47	c0.41		c0.07	0.14	0.29	c0.08	c0.16	
v/s Ratio Perm			0.01									0.01
v/c Ratio	0.65	0.62	0.04	1.57	0.87		0.72	0.58	0.55	0.78	0.63	0.05
Uniform Delay, d1	51.6	38.7	33.9	38.0	25.4		47.5	35.9	17.1	47.3	36.0	30.7
Progression Factor	1.00	1.00	1.00	1.01	1.03		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.2	1.3	0.1	258.1	0.6		15.2	2.9	0.6	11.5	3.7	0.2
Delay (s)	79.8	40.0	34.0	296.6	26.7		62.7	38.9	17.7	58.8	39.7	30.9
Level of Service	E	D	C	F	C		E	D	B	E	D	C
Approach Delay (s)		41.5			171.8			28.7			45.2	
Approach LOS		D			F			C			D	

Intersection Summary			
HCM Average Control Delay	103.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	148	1120	379	251	1908	146	151	89	323
v/c Ratio	1.10	0.60	0.45	0.73	0.79	0.51	0.52	0.25	0.96
Control Delay	140.9	17.4	1.8	53.7	25.8	44.2	44.3	8.0	68.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	140.9	17.4	1.8	53.7	25.8	44.2	44.3	8.0	68.5
Queue Length 50th (ft)	~116	115	0	158	355	100	103	0	63
Queue Length 95th (ft)	#249	291	0	#320	#659	132	135	34	#156
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	135	1859	839	345	2415	522	532	573	335
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	1.10	0.60	0.45	0.73	0.79	0.28	0.28	0.16	0.96

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)	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		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	1571	1514		3059	
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	1571	1514		3059	
Peak-hour factor, PHF	0.92	0.92	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	0	228	0	3	0	0	0	73	0	142	0
Lane Group Flow (vph)	148	1120	151	251	1905	0	146	151	16	0	181	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)	8.0	42.1	42.1	21.2	55.3		19.3	19.3	19.3		6.2	
Effective Green, g (s)	9.0	43.1	43.1	22.2	56.3		19.9	19.9	19.9		6.8	
Actuated g/C Ratio	0.08	0.40	0.40	0.21	0.52		0.18	0.18	0.18		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)	135	1858	611	345	2412		284	289	279		193	
v/s Ratio Prot	c0.09	0.24		0.15	c0.41		0.09	c0.10			c0.06	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	1.10	0.60	0.25	0.73	0.79		0.51	0.52	0.06		0.94	
Uniform Delay, d1	49.5	25.7	21.6	40.1	21.0		39.7	39.8	36.3		50.4	
Progression Factor	0.71	0.57	0.03	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	103.9	1.4	0.9	8.0	2.7		2.1	2.2	0.1		46.8	
Delay (s)	139.1	16.0	1.6	48.0	23.8		41.8	42.0	36.4		97.1	
Level of Service	F	B	A	D	C		D	D	D		F	
Approach Delay (s)		23.7			26.6			40.6			97.1	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM Average Control Delay	31.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	108.0	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	1.49	0.70	1.34	0.92	1.64	0.29	0.35	0.39	0.71
Control Delay	299.1	25.5	189.6	14.9	349.4	29.6	5.7	52.8	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	299.1	25.5	189.6	14.9	349.4	29.6	5.7	52.8	33.3
Queue Length 50th (ft)	~128	200	~342	214	~97	62	0	15	137
Queue Length 95th (ft)	#250	253	m#263	m172	#171	83	47	35	170
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	102	1714	328	1633	132	1044	669	135	1045
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	1.49	0.70	1.34	0.92	1.64	0.22	0.29	0.39	0.52

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)	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	1660	3204	3071	
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	1660	3204	3071	
Peak-hour factor, PHF	0.92	0.92	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	87	0	0	2	0	0	0	149	0	63	0
Lane Group Flow (vph)	152	1121	0	439	1501	0	216	234	48	52	484	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)	6.1	32.8		19.0	45.7		5.0	23.7	23.7	4.0	22.7	
Effective Green, g (s)	6.0	33.8		18.9	46.7		4.0	23.3	23.3	3.0	22.3	
Actuated g/C Ratio	0.06	0.36		0.20	0.49		0.04	0.25	0.25	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)	102	1600		329	1611		132	795	407	101	721	
v/s Ratio Prot	c0.09	0.25		c0.27	c0.46		c0.07	0.07		0.02	c0.16	
v/s Ratio Perm									0.03			
v/c Ratio	1.49	0.70		1.33	0.93		1.64	0.29	0.12	0.51	0.67	
Uniform Delay, d1	44.5	26.3		38.0	22.7		45.5	29.2	27.9	45.3	33.0	
Progression Factor	1.00	1.00		1.13	0.47		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	265.2	2.6		152.4	1.3		317.9	0.3	0.2	5.8	2.7	
Delay (s)	309.7	28.8		195.4	12.0		363.4	29.4	28.0	51.1	35.7	
Level of Service	F	C		F	B		F	C	C	D	D	
Approach Delay (s)		60.2			53.5			140.5			37.1	
Approach LOS		E			D			F			D	

Intersection Summary			
HCM Average Control Delay	65.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	95.0	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	784	1270
v/c Ratio	0.34	0.49	0.41	0.16	1.08	0.15	0.92	0.48
Control Delay	43.8	57.8	9.6	57.5	76.8	3.8	41.3	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	57.8	9.6	57.5	76.8	3.8	41.3	4.6
Queue Length 50th (ft)	23	46	0	13	~465	10	427	92
Queue Length 95th (ft)	58	88	34	m19	#601	m12	#809	143
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	219	234	600	104	1007	524	851	2666
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	0.21	0.29	0.29	0.16	1.08	0.15	0.92	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)	32	0	9	60	2	158	16	1001	72	721	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	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)		1698			1777	2787	1678	3355	1583	1770	3427	
Flt Permitted		0.73			0.77	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1286			1430	2787	1678	3355	1583	1770	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	784	1179	91
RTOR Reduction (vph)	0	9	0	0	0	155	0	0	49	0	4	0
Lane Group Flow (vph)	0	36	0	0	67	17	17	1088	29	784	1266	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)		10.6			10.6	10.6	3.1	33.0	33.0	52.9	82.8	
Effective Green, g (s)		10.6			10.6	10.6	3.1	33.0	33.0	52.9	82.8	
Actuated g/C Ratio		0.10			0.10	0.10	0.03	0.30	0.30	0.48	0.75	
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)		124			138	269	47	1007	475	851	2580	
v/s Ratio Prot							0.01	c0.32		c0.44	0.37	
v/s Ratio Perm		0.03			c0.05	0.01			0.02			
v/c Ratio		0.29			0.49	0.06	0.36	1.08	0.06	0.92	0.49	
Uniform Delay, d1		46.2			47.1	45.2	52.5	38.5	27.5	26.6	5.3	
Progression Factor		1.00			1.00	1.00	1.13	0.70	0.41	1.00	0.75	
Incremental Delay, d2		1.3			2.7	0.1	3.3	48.8	0.2	11.5	0.5	
Delay (s)		47.5			49.8	45.3	62.8	75.9	11.3	38.2	4.5	
Level of Service		D			D	D	E	E	B	D	A	
Approach Delay (s)		47.5			46.5			71.4			17.3	
Approach LOS		D			D			E			B	

Intersection Summary			
HCM Average Control Delay	37.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	213	253	173	441	145	213	1130	43	1214
v/c Ratio	0.85	0.55	0.55	0.79	1.06	0.31	0.95	0.73	0.39	0.95
Control Delay	87.1	45.1	11.7	62.5	93.5	9.9	94.5	23.7	65.4	45.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.1	45.1	11.7	62.5	93.5	9.9	94.5	23.7	65.4	45.0
Queue Length 50th (ft)	103	136	12	120	~349	31	159	238	30	434
Queue Length 95th (ft)	#218	214	89	#223	#548	62	#307	284	m69	#572
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	172	388	458	225	418	463	225	1540	113	1280
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	0.85	0.55	0.55	0.77	1.06	0.31	0.95	0.73	0.38	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)	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	4.6	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	1770	1863	1559	1652	3131		1770	3409	
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	1770	1863	1559	1652	3131		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	183	0	0	112	0	18	0	0	6	0
Lane Group Flow (vph)	146	213	70	173	441	33	213	1112	0	43	1208	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)	12.0	23.1	23.1	13.6	24.7	24.7	15.0	51.9		4.2	41.1	
Effective Green, g (s)	12.0	23.1	23.1	13.6	24.7	24.7	15.0	51.9		4.2	41.1	
Actuated g/C Ratio	0.11	0.21	0.21	0.12	0.22	0.22	0.14	0.47		0.04	0.37	
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)	172	387	274	219	418	350	225	1477		68	1274	
v/s Ratio Prot	c0.09	0.12		0.10	c0.24		c0.13	0.36		0.02	c0.35	
v/s Ratio Perm			0.05			0.02						
v/c Ratio	0.85	0.55	0.25	0.79	1.06	0.09	0.95	0.75		0.63	0.95	
Uniform Delay, d1	48.1	38.8	36.3	46.8	42.6	33.8	47.1	23.8		52.1	33.4	
Progression Factor	1.00	1.00	1.00	0.79	0.80	1.38	1.04	0.90		1.13	0.90	
Incremental Delay, d2	31.2	2.1	0.7	17.4	58.4	0.2	42.4	3.3		17.9	14.5	
Delay (s)	79.4	40.9	36.9	54.5	92.7	46.6	91.3	24.7		76.7	44.5	
Level of Service	E	D	D	D	F	D	F	C		E	D	
Approach Delay (s)		48.4			75.2			35.2			45.6	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	48.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	85.2%	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)	38	358	101	973	16	14	21	31	22
v/c Ratio	0.30	0.28	0.54	0.68	0.16	0.12	0.21	0.23	0.28
Control Delay	68.3	6.6	56.8	16.1	51.5	25.1	52.8	22.3	56.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.3	6.6	56.8	16.1	51.5	25.1	52.8	22.3	56.2
Queue Length 50th (ft)	29	9	69	320	11	1	14	1	15
Queue Length 95th (ft)	63	242	119	#927	33	21	40	31	40
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	128	1267	218	1437	236	273	244	286	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	0.30	0.28	0.46	0.68	0.07	0.05	0.09	0.11	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)	35	298	31	93	835	60	15	1	12	19	2	27
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	0.86		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	1832		1770	1844		1711	1603		1770	1601	
Flt Permitted	0.95	1.00		0.95	1.00		0.80	1.00		0.80	1.00	
Satd. Flow (perm)	1770	1832		1770	1844		1441	1603		1490	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)	38	324	34	101	908	65	16	1	13	21	2	29
RTOR Reduction (vph)	0	2	0	0	0	0	0	12	0	0	28	0
Lane Group Flow (vph)	38	356	0	101	973	0	16	2	0	21	3	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)	5.4	71.4		11.6	77.6		5.0	5.0		5.0	5.0	
Effective Green, g (s)	5.4	71.4		11.6	77.6		5.0	5.0		5.0	5.0	
Actuated g/C Ratio	0.05	0.65		0.11	0.71		0.05	0.05		0.05	0.05	
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)	87	1189		187	1301		66	73		68	73	
v/s Ratio Prot	0.02	0.19		c0.06	c0.53			0.00			0.00	
v/s Ratio Perm							0.01			c0.01		
v/c Ratio	0.44	0.30		0.54	0.75		0.24	0.02		0.31	0.05	
Uniform Delay, d1	50.8	8.4		46.7	10.1		50.7	50.2		50.8	50.2	
Progression Factor	1.31	0.61		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	0.6		3.2	4.0		1.9	0.1		2.6	0.3	
Delay (s)	69.8	5.8		49.8	14.1		52.6	50.3		53.4	50.5	
Level of Service	E	A		D	B		D	D		D	D	
Approach Delay (s)		11.9			17.4			51.5			51.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.3%	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	1.01	0.21	0.05	0.12	1.11	0.31	0.01	0.21	0.97
Control Delay	110.9	7.9	42.2	18.3	103.3	10.9	9.4	42.3	47.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.9	7.9	42.2	18.3	103.3	10.9	9.4	42.3	47.4
Queue Length 50th (ft)	83	4	2	5	~291	50	1	12	214
Queue Length 95th (ft)	#274	38	14	25	#677	188	14	44	#506
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	173	750	83	653	500	1949	871	130	1044
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	0.13	0.05	0.04	1.11	0.31	0.01	0.21	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	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	1572		1652	3240	1449	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	1572		1652	3240	1449	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	64	0	0	13	0	0	0	3	0	77	0
Lane Group Flow (vph)	174	32	0	4	15	0	555	607	10	27	931	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)	8.1	20.9		0.6	13.4		24.3	48.3	48.3	2.2	26.2	
Effective Green, g (s)	8.1	20.9		0.6	13.4		24.3	48.3	48.3	2.2	26.2	
Actuated g/C Ratio	0.10	0.25		0.01	0.16		0.29	0.57	0.57	0.03	0.31	
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)	164	378		12	249		475	1852	828	45	989	
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	1.06	0.08		0.33	0.06		1.17	0.33	0.01	0.60	0.94	
Uniform Delay, d1	38.2	24.4		41.8	30.2		30.1	9.5	7.8	40.7	28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	87.4	0.1		21.0	0.1		96.4	0.1	0.0	22.7	16.4	
Delay (s)	125.6	24.6		62.8	30.3		126.5	9.7	7.8	63.4	44.8	
Level of Service	F	C		E	C		F	A	A	E	D	
Approach Delay (s)		89.7			34.4			64.9			45.3	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	59.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	84.5	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	1.8
Queue Delay	0.0	0.0	0.0	1.1	0.0
Total Delay	49.5	24.2	3.2	4.2	1.8
Queue Length 50th (ft)	26	0	1	92	17
Queue Length 95th (ft)	54	13	9	221	m57
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

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

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	0.50	
Incremental Delay, d2	2.1	0.0	0.6	0.6	0.4	
Delay (s)	51.5	48.3	1.8	2.6	1.5	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.6	1.5	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	2.8	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	1.17	0.63	0.97	0.92	0.50	1.58
Control Delay	117.1	6.0	44.1	11.5	1.2	300.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.1	6.0	44.1	11.5	1.2	300.2
Queue Length 50th (ft)	~455	16	350	256	0	~481
Queue Length 95th (ft)	#596	61	m#466	#471	0	#619
Internal Link Dist (ft)	367			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	937	1232	1003	2134	1517	553
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	1.17	0.63	0.97	0.92	0.50	1.58

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)	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)		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
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			2460
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			2460
Peak-hour factor, PHF	0.92	0.92	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	495	0	0	0	0	0	0	0	0	36
Lane Group Flow (vph)	0	1097	283	975	1961	0	0	0	763	0	0	839
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		33.5	33.5	38.3	76.3				108.0			22.7
Effective Green, g (s)		33.5	33.5	38.3	76.3				108.0			22.7
Actuated g/C Ratio		0.31	0.31	0.35	0.71				1.00			0.21
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)		937	738	1003	2134				1517			517
v/s Ratio Prot		c0.36		0.34	c0.65							
v/s Ratio Perm			0.12						0.50			c0.34
v/c Ratio		1.17	0.38	0.97	0.92				0.50			1.62
Uniform Delay, d1		37.2	29.2	34.3	13.3				0.0			42.6
Progression Factor		0.83	1.09	0.78	0.42				1.00			1.00
Incremental Delay, d2		86.9	0.3	16.1	5.0				1.2			289.5
Delay (s)		117.8	32.2	42.8	10.6				1.2			332.1
Level of Service		F	C	D	B				A			F
Approach Delay (s)		82.2			21.3			1.2			332.1	
Approach LOS		F			C			A			F	

Intersection Summary			
HCM Average Control Delay	78.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	94.2%	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)	627	1182	1562	516	512	1366
v/c Ratio	0.80	0.35	0.70	0.49	0.32	0.89
Control Delay	41.8	0.1	8.6	4.8	0.5	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	0.1	8.6	4.8	0.5	9.4
Queue Length 50th (ft)	230	0	70	9	0	0
Queue Length 95th (ft)	m227	m0	m293	m93	0	#25
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	975	3355	2236	1045	1611	1528
Starvation Cap Reductn	0	0	22	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	0.64	0.35	0.71	0.49	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	25	0	0	0	0	0	0
Lane Group Flow (vph)	627	1182	0	0	1562	491	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)	27.0	108.0			72.0	72.0			108.0			108.0
Effective Green, g (s)	27.0	108.0			72.0	72.0			108.0			108.0
Actuated g/C Ratio	0.25	1.00			0.67	0.67			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)	786	3355			2237	1021			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	0.80	0.35			0.70	0.48			0.32			0.89
Uniform Delay, d1	37.9	0.0			11.2	8.8			0.0			0.0
Progression Factor	1.02	1.00			0.60	0.44			1.00			1.00
Incremental Delay, d2	2.5	0.0			1.2	1.0			0.5			8.4
Delay (s)	41.1	0.0			7.9	4.9			0.5			8.4
Level of Service	D	A			A	A			A			A
Approach Delay (s)		14.3			7.2			0.5			8.4	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	9.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	108.0	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	2.29	0.67	0.02	0.59	1.14	0.99
Control Delay	274.9	16.8	0.3	247.0	20.3	610.1	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	274.9	16.8	0.3	247.0	20.3	610.1	21.4	11.2	65.0	108.8	55.4
Queue Length 50th (ft)	~274	203	0	~553	5	~842	216	2	37	~342	215
Queue Length 95th (ft)	#439	293	0	#766	22	#1047	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	365	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	2.29	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	1.00	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	1652	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	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)	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	365	1442	531	92	800	376
v/s Ratio Prot	c0.16	0.23					c0.51	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	2.29	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	0.64	0.65	1.00		1.00	1.00	1.04	0.81	0.80	1.00	0.94	0.89
Incremental Delay, d2	255.6	0.9	0.3		217.7	0.0	587.9	2.6	0.0	25.3	75.8	41.2
Delay (s)	270.7	14.7	0.3		252.7	26.1	626.6	21.4	13.9	69.4	109.7	72.8
Level of Service	F	B	A		F	C	F	C	B	E	F	E
Approach Delay (s)		86.2			246.7			297.0			94.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	182.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.59		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	130.5%	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	2149
v/c Ratio	0.17	0.10	0.01	0.30	0.28	0.70
Control Delay	46.3	19.5	6.0	3.7	5.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.0
Total Delay	46.3	19.5	6.0	3.7	5.9	7.2
Queue Length 50th (ft)	12	0	0	91	7	194
Queue Length 95th (ft)	31	18	m0	m109	47	636
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		115	
Base Capacity (vph)	250	297	104	4376	293	3076
Starvation Cap Reductn	0	0	0	0	0	606
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.05	0.01	0.30	0.28	0.87

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	1973	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	1652	4935		1618	3470	
Flt Permitted					0.74	1.00	0.07	1.00		0.19	1.00	
Satd. Flow (perm)					1222	1397	118	4935		330	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	2145	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	2149	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	101	4222		282	2968	
v/s Ratio Prot								0.27			c0.62	
v/s Ratio Perm					c0.01	0.00	0.01			0.25		
v/c Ratio					0.22	0.01	0.01	0.31		0.29	0.72	
Uniform Delay, d1					48.7	48.0	1.2	1.6		1.5	3.0	
Progression Factor					1.00	1.00	1.74	1.68		1.00	1.00	
Incremental Delay, d2					1.4	0.0	0.1	0.1		2.6	1.6	
Delay (s)					50.1	48.0	2.1	2.7		4.1	4.6	
Level of Service					D	D	A	A		A	A	
Approach Delay (s)		0.0			49.2			2.7			4.6	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	4.3	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	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	51	408	911	37	41
v/c Ratio	0.37	0.25	0.34	0.29	0.27
Control Delay	44.8	2.5	1.7	53.6	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	2.5	1.7	53.6	18.9
Queue Length 50th (ft)	26	24	29	25	0
Queue Length 95th (ft)	m46	117	17	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

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	47	375	733	105	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	114	37	41
RTOR Reduction (vph)	0	0	6	0	0	39
Lane Group Flow (vph)	51	408	905	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	0.82	1.34	0.28		1.00	1.00
Incremental Delay, d2	1.9	0.3	0.3		1.9	0.1
Delay (s)	42.3	2.2	1.6		51.4	48.7
Level of Service	D	A	A		D	D
Approach Delay (s)		6.7	1.6		50.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	5.8	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	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	0.24	0.08	1.57	0.72	1.05	0.41	1.98	0.85	0.12
Control Delay	311.9	47.7	31.6	23.6	284.2	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	31.6	23.6	284.2	117.5	91.2	3.1	477.4	48.6	10.3
Queue Length 50th (ft)	~142	63	92	31	~1909	42	~442	19	~728	471	8
Queue Length 95th (ft)	#271	93	149	59	#2180	#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	1238	739	936	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	0.24	0.08	1.57	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		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)	113	130	53	296	58	1465	46	1213	424	993	1047	70
RTOR Reduction (vph)	0	43	0	0	0	3	0	0	118	0	0	35
Lane Group Flow (vph)	113	140	0	296	58	1462	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		1231	735	940	54	1173	913	499	1223	571
v/s Ratio Prot	c0.07	0.05		0.09	0.03	c0.97	0.03	c0.26	0.21	c0.32	0.32	
v/s Ratio Perm												0.02
v/c Ratio	1.47	0.44		0.24	0.08	1.56	0.85	1.03	0.34	1.99	0.86	0.06
Uniform Delay, d1	67.6	59.7		30.1	23.4	26.5	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		0.0	0.1	255.3	68.8	35.5	0.3	452.6	6.5	0.1
Delay (s)	335.6	61.5		30.2	23.4	281.8	137.0	88.5	12.6	512.2	47.1	28.2
Level of Service	F	E		C	C	F	F	F	B	F	D	C
Approach Delay (s)		166.1			232.6			70.7			265.4	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	194.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	141.7	Sum of lost time (s)	11.8
Intersection Capacity Utilization	122.0%	ICU Level of Service	H
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	1.01
Control Delay	130.3	67.1	73.0	90.8	2.9	65.5	65.9	86.8	63.4
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	63.4
Queue Length 50th (ft)	~132	~536	90	~648	0	49	60	~340	~249
Queue Length 95th (ft)	#270	#674	m131	m#748	m8	#108	#235	#462	#482
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	554
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	1.01

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	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	0.98	
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	3174		1620	3054	1319	1678	1431		3143	1443	
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	1443	
Peak-hour factor, PHF	0.92	0.92	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	385	
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	1.01	
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	47.6	
Delay (s)	130.7	66.3		66.8	88.2	3.5	50.8	119.5		87.4	86.1	
Level of Service	F	E		E	F	A	D	F		F	F	
Approach Delay (s)		73.8			65.0			105.5			86.9	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM Average Control Delay	75.7	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	690	80	1636	826	335	646	1058	414	243	20
v/c Ratio	0.54	0.80	0.24	1.74	0.65	2.08	0.84	0.76	0.74	0.25	0.04
Control Delay	69.9	57.8	11.1	364.4	29.1	535.3	58.4	16.3	59.3	34.3	12.2
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	69.9	57.8	11.1	364.4	29.1	535.3	58.4	16.3	59.3	34.3	12.2
Queue Length 50th (ft)	59	201	0	~1031	251	~442	272	178	169	80	0
Queue Length 95th (ft)	111	250	44	m#931	m258	#633	#363	224	228	115	19
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	159	873	342	941	1280	161	768	1401	559	987	463
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	0.79	0.23	1.74	0.65	2.08	0.84	0.76	0.74	0.25	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)	68	635	74	1505	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	3109		1678	3355	2706	3255	3240	1474
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	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)	74	690	80	1636	625	201	335	646	1058	414	243	20
RTOR Reduction (vph)	0	0	65	0	23	0	0	0	0	0	0	14
Lane Group Flow (vph)	74	690	15	1636	803	0	335	646	1058	414	243	6
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)	9.7	23.0	23.0	37.0	50.3		12.3	27.0	64.0	22.0	36.7	36.7
Effective Green, g (s)	9.7	24.5	24.5	37.0	51.8		12.3	28.5	64.0	22.0	38.2	38.2
Actuated g/C Ratio	0.08	0.19	0.19	0.29	0.40		0.10	0.22	0.50	0.17	0.30	0.30
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)	118	891	283	941	1258		161	747	1353	559	967	440
v/s Ratio Prot	0.05	c0.15		c0.50	0.26		c0.20	c0.19	0.39	c0.13	0.08	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.63	0.77	0.05	1.74	0.64		2.08	0.86	0.78	0.74	0.25	0.01
Uniform Delay, d1	57.4	49.1	42.3	45.5	30.6		57.9	47.9	26.3	50.3	34.1	31.6
Progression Factor	1.00	1.00	1.00	1.08	0.93		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.3	4.5	0.1	333.6	0.3		507.0	12.7	3.2	5.6	0.6	0.1
Delay (s)	68.6	53.6	42.4	382.5	28.9		564.8	60.6	29.5	55.9	34.7	31.7
Level of Service	E	D	D	F	C		F	E	C	E	C	C
Approach Delay (s)		53.9			263.9			127.3			47.6	
Approach LOS		D			F			F			D	

Intersection Summary			
HCM Average Control Delay	163.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	343	2041	211	299	1373	207	213	178	249
v/c Ratio	0.93	1.08	0.28	0.76	0.72	0.67	0.68	0.40	1.09
Control Delay	66.3	71.9	1.0	60.4	35.2	57.2	57.5	7.9	112.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	71.9	1.0	60.4	35.2	57.2	57.5	7.9	112.4
Queue Length 50th (ft)	270	~693	2	231	340	169	174	0	~65
Queue Length 95th (ft)	#464	#782	4	#483	#469	232	237	55	#156
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	367	1884	745	393	1911	440	447	560	229
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	1.08	0.28	0.76	0.72	0.47	0.48	0.32	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.

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		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	4626		1539	1563	1514		3003	
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	4626		1539	1563	1514		3003	
Peak-hour factor, PHF	0.92	0.92	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	0	126	0	2	0	0	0	142	0	121	0
Lane Group Flow (vph)	343	2041	85	299	1371	0	207	213	36	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)	28.0	50.8	50.8	29.0	51.8		25.0	25.0	25.0		4.0	
Effective Green, g (s)	29.0	51.8	51.8	30.0	52.8		25.6	25.6	25.6		4.6	
Actuated g/C Ratio	0.23	0.40	0.40	0.23	0.41		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)	367	1884	619	393	1908		308	313	303		108	
v/s Ratio Prot	0.21	c0.44		c0.18	0.30		0.13	c0.14			c0.04	
v/s Ratio Perm			0.06						0.02			
v/c Ratio	0.93	1.08	0.14	0.76	0.72		0.67	0.68	0.12		1.18	
Uniform Delay, d1	48.6	38.1	24.0	45.7	31.4		47.3	47.4	41.9		61.7	
Progression Factor	0.73	0.66	0.05	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	27.3	45.9	0.4	8.9	2.4		6.2	6.5	0.2		143.2	
Delay (s)	62.9	71.1	1.7	54.6	33.8		53.5	53.9	42.2		204.9	
Level of Service	E	E	A	D	C		D	D	D		F	
Approach Delay (s)		64.4			37.5			50.3			204.9	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM Average Control Delay	60.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.7%	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)	265	1766	122	764	495	295	466	92	675
v/c Ratio	1.06	1.08	0.70	0.78	1.21	0.26	0.63	0.48	0.79
Control Delay	117.1	77.0	52.9	23.3	154.0	23.4	16.7	54.2	39.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.1	77.0	52.9	23.3	154.0	23.4	16.7	54.2	39.0
Queue Length 50th (ft)	~187	~463	66	197	~200	70	118	29	196
Queue Length 95th (ft)	#345	#561	m#99	m252	#302	98	217	56	252
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	249	1641	174	982	409	1218	772	192	981
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	1.06	1.08	0.70	0.78	1.21	0.24	0.60	0.48	0.69

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	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	1661	3204	3120	
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	1661	3204	3120	
Peak-hour factor, PHF	0.92	0.92	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	67	0	0	2	0	0	0	152	0	28	0
Lane Group Flow (vph)	265	1699	0	122	762	0	495	295	314	92	647	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)	15.6	33.1		10.7	28.2		14.0	36.0	36.0	5.6	27.6	
Effective Green, g (s)	15.5	34.1		10.6	29.2		13.0	35.6	35.6	4.6	27.2	
Actuated g/C Ratio	0.16	0.34		0.11	0.29		0.13	0.36	0.36	0.05	0.27	
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)	251	1544		175	956		409	1153	591	147	849	
v/s Ratio Prot	0.16	c0.38		0.07	c0.23		c0.16	0.09		0.03	c0.21	
v/s Ratio Perm									0.19			
v/c Ratio	1.06	1.10		0.70	0.80		1.21	0.26	0.53	0.63	0.76	
Uniform Delay, d1	42.2	33.0		43.2	32.7		43.5	22.8	25.6	46.9	33.4	
Progression Factor	1.00	1.00		0.88	0.57		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	72.3	55.7		6.7	3.7		115.4	0.2	1.2	9.1	4.3	
Delay (s)	114.5	88.6		44.5	22.5		158.9	23.0	26.7	55.9	37.8	
Level of Service	F	F		D	C		F	C	C	E	D	
Approach Delay (s)		92.0			25.5			77.9			40.0	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	68.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
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	1104	871
v/c Ratio	0.75	1.03	0.61	0.03	1.26	0.34	1.51	0.34
Control Delay	71.0	116.4	6.5	55.3	139.0	2.8	262.9	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.0	116.4	6.5	55.3	139.0	2.8	262.9	5.5
Queue Length 50th (ft)	52	~168	0	2	~578	9	~1075	85
Queue Length 95th (ft)	#144	#321	51	m3	m#532	m8	#1337	140
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	125	214	934	92	1007	581	732	2532
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	0.75	1.03	0.61	0.03	1.26	0.34	1.51	0.34

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)	57	2	28	203	0	526	3	1165	180	1016	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	1.00	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	1770	3438	
Flt Permitted		0.39			0.70	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		672			1307	2787	1678	3355	1583	1770	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	1104	824	47
RTOR Reduction (vph)	0	15	0	0	0	478	0	0	106	0	3	0
Lane Group Flow (vph)	0	79	0	0	221	94	3	1266	90	1104	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)		18.0			18.0	18.0	1.2	33.0	33.0	45.5	77.3	
Effective Green, g (s)		18.0			18.0	18.0	1.2	33.0	33.0	45.5	77.3	
Actuated g/C Ratio		0.16			0.16	0.16	0.01	0.30	0.30	0.41	0.70	
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			214	456	18	1007	475	732	2416	
v/s Ratio Prot							0.00	c0.38		c0.62	0.25	
v/s Ratio Perm		0.12			c0.17	0.03			0.06			
v/c Ratio		0.72			1.03	0.21	0.17	1.26	0.19	1.51	0.36	
Uniform Delay, d1		43.6			46.0	39.8	53.9	38.5	28.6	32.2	6.5	
Progression Factor		1.00			1.00	1.00	1.12	0.52	0.32	1.09	0.95	
Incremental Delay, d2		19.9			70.3	0.2	0.4	116.5	0.1	234.1	0.3	
Delay (s)		63.5			116.3	40.0	60.5	136.6	9.1	269.3	6.5	
Level of Service		E			F	D	E	F	A	F	A	
Approach Delay (s)		63.5			61.3			119.4			153.4	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM Average Control Delay	123.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	115.3%	ICU Level of Service	H
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	350	489	185	105	542	105	259	1276	86	933
v/c Ratio	1.02	0.79	0.34	0.81	1.52	0.28	0.96	1.08	0.76	1.01
Control Delay	96.5	43.4	7.1	84.3	275.2	8.0	92.5	82.2	81.1	69.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4	0.0	0.0
Total Delay	96.5	43.4	7.1	84.3	275.2	8.0	92.5	101.6	81.1	69.2
Queue Length 50th (ft)	~256	309	8	74	~542	27	193	~527	52	~270
Queue Length 95th (ft)	#443	#446	59	#169	#744	18	#353	#647	m#129	m#458
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	344	622	552	129	357	369	270	1178	113	925
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	48	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.79	0.34	0.81	1.52	0.28	0.96	1.13	0.76	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)	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	4.6	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	1770	1863	1559	1652	3137		1770	3394	
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	1770	1863	1559	1652	3137		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	111	0	0	70	0	17	0	0	9	0
Lane Group Flow (vph)	350	489	74	105	542	35	259	1259	0	86	924	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)	24.0	37.1	37.1	8.0	21.1	21.1	18.0	40.7		7.0	29.7	
Effective Green, g (s)	24.0	37.1	37.1	8.0	21.1	21.1	18.0	40.7		7.0	29.7	
Actuated g/C Ratio	0.22	0.34	0.34	0.07	0.19	0.19	0.16	0.37		0.06	0.27	
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)	344	622	440	129	357	299	270	1161		113	916	
v/s Ratio Prot	c0.22	0.27		0.06	c0.29		c0.16	c0.40		0.05	0.27	
v/s Ratio Perm			0.06			0.02						
v/c Ratio	1.02	0.79	0.17	0.81	1.52	0.12	0.96	1.08		0.76	1.01	
Uniform Delay, d1	43.0	32.9	25.6	50.3	44.4	36.8	45.6	34.6		50.7	40.1	
Progression Factor	1.00	1.00	1.00	0.85	0.79	0.52	1.07	0.93		0.90	0.98	
Incremental Delay, d2	53.0	6.9	0.2	31.2	246.6	0.2	41.3	51.5		24.2	30.1	
Delay (s)	96.0	39.7	25.8	73.9	281.5	19.4	90.0	83.6		69.8	69.5	
Level of Service	F	D	C	E	F	B	F	F		E	E	
Approach Delay (s)		56.5			215.9			84.7			69.5	
Approach LOS		E			F			F			E	

Intersection Summary			
HCM Average Control Delay	97.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	37	781	22	637	87	73	168	13	48
v/c Ratio	0.35	0.67	0.22	0.57	0.40	0.23	0.80	0.05	0.51
Control Delay	57.4	16.4	55.1	18.4	46.6	11.7	70.7	19.6	64.7
Queue Delay	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	17.0	55.1	18.4	46.6	11.7	70.7	19.6	64.7
Queue Length 50th (ft)	25	307	15	329	54	1	113	1	30
Queue Length 95th (ft)	m42	594	42	436	105	41	#212	18	#78
Internal Link Dist (ft)		524		1458		986		462	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	109	1172	100	1126	241	342	236	297	99
Starvation Cap Reductn	0	125	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	0.75	0.22	0.57	0.36	0.21	0.71	0.04	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)	34	705	14	20	532	54	80	2	65	155	1	11
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	0.99		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	1856		1770	1837		1711	1591		1770	1605	
Flt Permitted	0.95	1.00		0.95	1.00		0.75	1.00		0.71	1.00	
Satd. Flow (perm)	1770	1856		1770	1837		1349	1591		1322	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)	37	766	15	22	578	59	87	2	71	168	1	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	60	0	0	10	0
Lane Group Flow (vph)	37	781	0	22	637	0	87	13	0	168	3	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)	4.1	65.7		2.4	64.0		17.6	17.6		17.6	17.6	
Effective Green, g (s)	4.1	65.7		2.4	64.0		17.6	17.6		17.6	17.6	
Actuated g/C Ratio	0.04	0.60		0.02	0.58		0.16	0.16		0.16	0.16	
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)	66	1109		39	1069		216	255		212	257	
v/s Ratio Prot	c0.02	c0.42		0.01	0.35			0.01			0.00	
v/s Ratio Perm							0.06			c0.13		
v/c Ratio	0.56	0.70		0.56	0.60		0.40	0.05		0.79	0.01	
Uniform Delay, d1	52.1	15.4		53.3	14.7		41.5	39.1		44.4	38.9	
Progression Factor	1.01	0.85		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.4	3.0		17.3	2.4		1.2	0.1		18.1	0.0	
Delay (s)	60.9	16.1		70.6	17.2		42.7	39.2		62.5	38.9	
Level of Service	E	B		E	B		D	D		E	D	
Approach Delay (s)		18.1			19.0			41.1			60.8	
Approach LOS		B			B			D			E	

Intersection Summary			
HCM Average Control Delay	25.6	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	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	2.2
Queue Delay	0.0	0.0	0.0	1.6	0.0
Total Delay	56.7	19.0	2.4	5.2	2.2
Queue Length 50th (ft)	50	0	0	110	20
Queue Length 95th (ft)	94	26	3	178	m27
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

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

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	0.62	
Incremental Delay, d2	4.4	0.1	0.1	0.6	0.4	
Delay (s)	52.9	46.5	1.6	3.1	1.9	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.3			3.1	1.9	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	4.3	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	1.09	0.75	0.86	0.70	0.54	1.60
Control Delay	82.8	8.9	50.6	5.2	1.4	306.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.8	8.9	50.6	5.2	1.4	306.8
Queue Length 50th (ft)	~735	80	258	134	0	~561
Queue Length 95th (ft)	#880	160	#346	157	0	#706
Internal Link Dist (ft)	365			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1380	1541	696	2230	1517	562
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	1.09	0.75	0.86	0.70	0.54	1.60

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)	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			0.88
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)		3020	2378	2828	3020				1517			2460
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			2460
Peak-hour factor, PHF	0.92	0.92	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	454	0	0	0	0	0	0	0	0	91
Lane Group Flow (vph)	0	1503	708	598	1564	0	0	0	826	0	0	806
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		58.5	58.5	31.5	94.5				128.0			24.5
Effective Green, g (s)		58.5	58.5	31.5	94.5				128.0			24.5
Actuated g/C Ratio		0.46	0.46	0.25	0.74				1.00			0.19
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)		1380	1087	696	2230				1517			471
v/s Ratio Prot		c0.50		c0.21	0.52							
v/s Ratio Perm			0.30						0.54			c0.33
v/c Ratio		1.09	0.65	0.86	0.70				0.54			1.71
Uniform Delay, d1		34.8	26.9	46.1	9.1				0.0			51.8
Progression Factor		0.92	0.79	0.84	0.39				1.00			1.00
Incremental Delay, d2		51.3	1.3	11.2	1.6				1.4			328.7
Delay (s)		83.2	22.5	50.0	5.1				1.4			380.4
Level of Service		F	C	D	A				A			F
Approach Delay (s)		56.8			17.5			1.4			380.4	
Approach LOS		E			B			A			F	

Intersection Summary			
HCM Average Control Delay	81.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	13.5
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)	633	1697	1142	615	1062	1012
v/c Ratio	0.97	0.51	0.47	0.55	0.66	0.66
Control Delay	63.2	0.5	0.7	3.0	2.1	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	0.5	0.7	3.0	2.1	2.3
Queue Length 50th (ft)	283	0	5	2	0	0
Queue Length 95th (ft)	m290	m0	m5	m37	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	651	3355	2425	1111	1611	1528
Starvation Cap Reductn	0	0	0	24	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.51	0.47	0.57	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	5	0	0	0	0	0	0
Lane Group Flow (vph)	633	1697	0	0	1142	610	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)	26.5	128.0			92.5	92.5			128.0			128.0
Effective Green, g (s)	26.5	128.0			92.5	92.5			128.0			128.0
Actuated g/C Ratio	0.21	1.00			0.72	0.72			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)	651	3355			2425	1106			1611			1528
v/s Ratio Prot	c0.20	0.51			0.34							
v/s Ratio Perm						0.40			0.66			c0.66
v/c Ratio	0.97	0.51			0.47	0.55			0.66			0.66
Uniform Delay, d1	50.4	0.0			7.5	8.2			0.0			0.0
Progression Factor	0.90	1.00			0.03	0.19			1.00			1.00
Incremental Delay, d2	16.7	0.1			0.5	1.4			2.1			2.3
Delay (s)	62.3	0.1			0.7	3.0			2.1			2.3
Level of Service	E	A			A	A			A			A
Approach Delay (s)		17.0			1.5			2.1			2.3	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	4.5
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	1.28	1.05	0.51	1.03	0.09	1.18	0.66	0.04	0.58	1.04	0.43
Control Delay	159.9	57.5	1.6	101.2	13.8	153.4	29.8	15.7	56.6	73.6	19.3
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	159.9	57.5	1.6	101.2	13.8	153.4	29.8	15.7	56.6	73.6	19.3
Queue Length 50th (ft)	~284	~536	2	~205	3	~223	251	5	61	~377	67
Queue Length 95th (ft)	m#338	m#592	m10	#369	29	#385	322	21	116	#505	136
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	373	744	1770	288	382	246	1328	495	182	1001	533
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	1.28	1.05	0.51	1.03	0.09	1.18	0.66	0.04	0.55	1.04	0.43

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)	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	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		1737	1475	1652	3539	1337	1652	3303	1551
Flt Permitted	0.27	1.00	1.00		0.68	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	474	1739	1770		1183	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)	477	779	903	7	291	36	290	872	21	100	1038	227
RTOR Reduction (vph)	0	0	0	0	0	22	0	0	6	0	0	63
Lane Group Flow (vph)	477	779	903	0	298	14	290	872	15	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)	42.3	42.3	100.0		23.9	23.9	13.9	35.6	35.6	8.1	29.3	29.3
Effective Green, g (s)	42.8	42.8	100.0		24.4	24.4	14.9	36.6	35.6	9.0	30.3	30.3
Actuated g/C Ratio	0.43	0.43	1.00		0.24	0.24	0.15	0.37	0.36	0.09	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)	373	744	1770		289	360	246	1295	476	149	1001	470
v/s Ratio Prot	c0.18	0.45					c0.18	0.25		0.06	c0.31	
v/s Ratio Perm	c0.36		0.51		0.25	0.01			0.01			0.11
v/c Ratio	1.28	1.05	0.51		1.03	0.04	1.18	0.67	0.03	0.67	1.04	0.35
Uniform Delay, d1	24.9	28.6	0.0		37.8	28.9	42.5	26.7	21.0	44.1	34.9	27.2
Progression Factor	0.86	0.55	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	137.3	38.5	0.6		61.2	0.1	114.4	2.8	0.1	11.7	38.5	2.0
Delay (s)	158.8	54.3	0.6		99.0	28.9	157.0	29.5	21.1	55.8	73.3	29.2
Level of Service	F	D	A		F	C	F	C	C	E	E	C
Approach Delay (s)		54.9			91.5			60.6			64.7	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM Average Control Delay	61.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.8%	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	1959
v/c Ratio	0.40	0.55	0.46	1.02	0.66
Control Delay	54.7	43.7	1.5	102.3	5.5
Queue Delay	0.0	0.0	0.0	0.0	1.1
Total Delay	54.7	43.7	1.5	102.3	6.6
Queue Length 50th (ft)	33	40	32	~109	209
Queue Length 95th (ft)	67	87	m52	#157	398
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	255	310	4204	138	2955
Starvation Cap Reductn	0	0	0	0	690
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.29	0.46	1.02	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	0	0	44	0	83	0	1737	34	130	1801	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		4937		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.09	1.00	
Satd. Flow (perm)					1245	1395		4937		162	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	1958	1
RTOR Reduction (vph)	0	0	0	0	0	28	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	62	0	1924	0	141	1959	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)					9.5	9.5		91.9		91.9	91.9	
Effective Green, g (s)					9.5	9.5		91.9		91.9	91.9	
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)					108	120		4125		135	2900	
v/s Ratio Prot								0.39			0.56	
v/s Ratio Perm					0.04	c0.04				c0.87		
v/c Ratio					0.44	0.51		0.47		1.04	0.68	
Uniform Delay, d1					47.7	48.0		2.4		9.0	3.4	
Progression Factor					1.00	1.00		0.50		1.00	1.00	
Incremental Delay, d2					2.9	3.7		0.0		89.8	1.3	
Delay (s)					50.6	51.7		1.3		98.8	4.7	
Level of Service					D	D		A		F	A	
Approach Delay (s)		0.0			51.3			1.3			11.0	
Approach LOS		A			D			A			B	

Intersection Summary			
HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
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	49.1	12.9	8.4	55.3	7.5
Queue Delay	0.0	1.6	0.0	0.0	0.0
Total Delay	49.1	14.5	8.4	55.3	7.5
Queue Length 50th (ft)	32	264	110	184	0
Queue Length 95th (ft)	m39	m460	95	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	316	0	0	0
Spillback Cap Reductn	0	67	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.81	0.35	0.58	0.28

Intersection Summary

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

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	0.91	1.25	0.71		1.00	1.00
Incremental Delay, d2	1.7	1.2	0.4		9.5	0.1
Delay (s)	47.0	11.2	7.8		51.0	35.9
Level of Service	D	B	A		D	D
Approach Delay (s)		13.0	7.8		45.6	
Approach LOS		B	A		D	

Intersection Summary			
HCM Average Control Delay	17.8	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	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	1.07	0.58	0.24	0.30	1.12	0.51	0.80	0.23	1.18	0.49	0.08
Control Delay	175.5	57.6	35.8	30.7	93.7	89.2	55.9	1.7	146.1	32.9	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	175.5	57.6	35.8	30.7	93.7	89.2	55.9	1.7	146.1	32.9	7.0
Queue Length 50th (ft)	~98	92	88	128	~1108	33	282	0	~417	232	0
Queue Length 95th (ft)	#218	126	140	195	#1372	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)	90	1017	1094	673	940	86	1166	933	619	1313	645
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	1.07	0.22	0.24	0.30	1.12	0.42	0.77	0.22	1.18	0.49	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		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	3093		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	3093		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)	96	176	45	262	205	1051	36	895	208	732	643	54
RTOR Reduction (vph)	0	21	0	0	0	9	0	0	87	0	0	32
Lane Group Flow (vph)	96	200	0	262	205	1042	36	895	121	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)	7.5	16.2		47.0	55.7	87.7	5.3	34.4	81.4	27.5	56.6	56.6
Effective Green, g (s)	7.5	16.2		47.0	55.7	87.7	5.3	34.4	81.4	27.5	56.6	56.6
Actuated g/C Ratio	0.05	0.12		0.33	0.40	0.62	0.04	0.25	0.58	0.20	0.40	0.40
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)	90	357		1090	670	938	61	1141	840	616	1306	610
v/s Ratio Prot	c0.06	0.06		0.08	0.12	c0.69	0.02	c0.19	0.08	c0.23	0.20	
v/s Ratio Perm												0.01
v/c Ratio	1.07	0.56		0.24	0.31	1.11	0.59	0.78	0.14	1.19	0.49	0.04
Uniform Delay, d1	66.5	58.7		33.8	29.1	26.4	66.5	49.5	13.5	56.5	31.2	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	114.1	2.8		0.0	0.4	64.7	9.8	3.6	0.1	100.3	0.3	0.0
Delay (s)	180.6	61.5		33.8	29.4	91.1	76.2	53.1	13.6	156.8	31.5	25.4
Level of Service	F	E		C	C	F	E	D	B	F	C	C
Approach Delay (s)		97.6			72.9			46.7			95.4	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM Average Control Delay	75.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	140.4	Sum of lost time (s)	11.8
Intersection Capacity Utilization	92.3%	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)	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	22.4
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	22.4
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	160
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	435
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	0.97	
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	0.99	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	1450	
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	1450	
Peak-hour factor, PHF	0.92	0.92	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	279	
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	0.45	
Uniform Delay, d1	53.6	20.3		52.1	28.1	19.4	53.9	54.8		47.7	42.8	
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	1.1	
Delay (s)	107.1	22.4		74.0	36.6	16.1	55.0	71.8		69.0	44.0	
Level of Service	F	C		E	D	B	D	E		E	D	
Approach Delay (s)		32.7			32.4			68.7			60.7	
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	579	128	1796	1206	197	326	577	193	239	15
v/c Ratio	0.38	0.64	0.33	1.39	0.72	1.11	0.53	0.36	0.58	0.41	0.05
Control Delay	66.5	50.0	9.7	210.0	26.3	150.9	49.6	8.1	62.0	47.1	18.1
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	50.0	9.7	210.0	26.3	150.9	49.6	8.1	62.0	47.1	18.1
Queue Length 50th (ft)	36	158	0	~1007	390	~185	127	75	77	90	0
Queue Length 95th (ft)	85	217	55	#1321	547	#384	183	115	129	135	19
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	138	1137	457	1295	1750	178	868	1797	376	870	406
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	0.34	0.51	0.28	1.39	0.69	1.11	0.38	0.32	0.51	0.27	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	533	118	1652	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	579	128	1796	922	284	197	326	577	193	239	15
RTOR Reduction (vph)	0	0	102	0	19	0	0	0	0	0	0	12
Lane Group Flow (vph)	47	579	26	1796	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	23.5	23.5	48.4	64.4		13.1	21.1	69.5	12.8	20.8	20.8
Effective Green, g (s)	8.4	25.0	25.0	49.3	65.9		13.1	22.6	71.3	12.8	22.3	22.3
Actuated g/C Ratio	0.07	0.20	0.20	0.40	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	932	296	1286	1644		176	608	1546	334	579	263
v/s Ratio Prot	0.03	0.12		c0.55	c0.38		c0.12	c0.10	0.21	c0.06	0.07	
v/s Ratio Perm			0.02									0.00
v/c Ratio	0.45	0.62	0.09	1.40	0.72		1.12	0.54	0.37	0.58	0.41	0.01
Uniform Delay, d1	56.0	45.6	40.6	37.8	22.5		55.9	46.3	14.6	53.4	45.4	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	4.1	1.5	0.2	183.3	1.7		103.5	1.2	0.2	2.9	0.7	0.0
Delay (s)	60.1	47.0	40.8	221.0	24.2		159.3	47.5	14.8	56.3	46.1	42.2
Level of Service	E	D	D	F	C		F	D	B	E	D	D
Approach Delay (s)		46.8			141.9			50.4			50.4	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	101.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	124.8	Sum of lost time (s)	11.1
Intersection Capacity Utilization	87.7%	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)	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	1142	785
v/c Ratio	0.10	0.99	0.41	0.05	1.08	0.48	1.33	0.31
Control Delay	34.0	105.9	6.7	39.4	104.2	21.9	182.1	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0
Total Delay	34.0	105.9	6.7	39.4	104.2	21.9	184.2	5.6
Queue Length 50th (ft)	10	153	0	3	~353	74	~1048	76
Queue Length 95th (ft)	33	#308	40	m5	#484	144	#1301	147
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	202	217	693	92	763	573	861	2527
Starvation Cap Reductn	0	0	0	0	0	0	3	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	0.10	0.99	0.41	0.05	1.08	0.48	1.33	0.31

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)	15	0	5	196	2	260	5	758	254	1051	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	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)		1696			1775	2787	1678	3355	1583	1770	3432	
Flt Permitted		0.69			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1209			1328	2787	1678	3355	1583	1770	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	1142	734	51
RTOR Reduction (vph)	0	4	0	0	0	237	0	0	213	0	4	0
Lane Group Flow (vph)	0	17	0	0	215	46	5	824	63	1142	781	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)		18.0			18.0	18.0	1.2	25.0	25.0	53.5	77.3	
Effective Green, g (s)		18.0			18.0	18.0	1.2	25.0	25.0	53.5	77.3	
Actuated g/C Ratio		0.16			0.16	0.16	0.01	0.23	0.23	0.49	0.70	
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)		198			217	456	18	763	360	861	2412	
v/s Ratio Prot							0.00	c0.25		c0.65	0.23	
v/s Ratio Perm		0.01			c0.16	0.02			0.04			
v/c Ratio		0.08			0.99	0.10	0.28	1.08	0.17	1.33	0.32	
Uniform Delay, d1		39.0			45.9	39.1	54.0	42.5	34.2	28.2	6.3	
Progression Factor		1.00			1.00	1.00	0.77	1.27	4.38	1.00	1.00	
Incremental Delay, d2		0.2			58.3	0.1	7.0	54.0	0.9	154.9	0.4	
Delay (s)		39.2			104.2	39.2	48.8	108.1	150.5	183.2	6.6	
Level of Service		D			F	D	D	F	F	F	A	
Approach Delay (s)		39.2			67.3			118.4			111.3	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM Average Control Delay	106.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	197	117	125	240	201	152	836	82	872
v/c Ratio	0.73	0.54	0.33	0.60	0.74	0.46	0.70	0.58	0.51	0.65
Control Delay	63.8	44.9	9.2	59.1	53.4	10.9	62.6	25.6	54.6	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	44.9	9.2	59.1	53.4	10.9	62.6	25.6	54.6	36.0
Queue Length 50th (ft)	108	123	0	83	123	0	102	243	57	284
Queue Length 95th (ft)	#192	195	47	154	224	109	#173	320	m95	m336
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	245	409	381	241	379	478	241	1452	178	1351
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	0.66	0.48	0.31	0.52	0.63	0.42	0.63	0.58	0.46	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)	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	4.6	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	1770	1863	1559	1652	3153		1770	3392	
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	1770	1863	1559	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	94	0	0	166	0	12	0	0	8	0
Lane Group Flow (vph)	161	197	23	125	240	35	152	824	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		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	15.5	21.8	21.8	13.0	19.3	19.3	14.5	49.4		8.6	43.5	
Effective Green, g (s)	15.5	21.8	21.8	13.0	19.3	19.3	14.5	49.4		8.6	43.5	
Actuated g/C Ratio	0.14	0.20	0.20	0.12	0.18	0.18	0.13	0.45		0.08	0.40	
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)	222	366	259	209	327	274	218	1416		138	1341	
v/s Ratio Prot	c0.10	0.11		0.07	c0.13		c0.09	0.26		0.05	c0.25	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	0.73	0.54	0.09	0.60	0.73	0.13	0.70	0.58		0.59	0.64	
Uniform Delay, d1	45.2	39.6	36.0	46.0	42.9	38.3	45.7	22.6		49.0	27.0	
Progression Factor	1.00	1.00	1.00	1.03	0.93	1.38	1.00	1.00		0.94	1.19	
Incremental Delay, d2	11.9	1.9	0.2	5.2	8.7	0.3	10.0	1.8		7.1	2.2	
Delay (s)	57.1	41.5	36.2	52.5	48.6	53.0	55.7	24.3		53.2	34.3	
Level of Service	E	D	D	D	D	D	E	C		D	C	
Approach Delay (s)		45.5			51.0			29.2			36.0	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	64.9%	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	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	6.3	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	6.3	53.4	7.6	44.5	0.0	51.7	16.2	53.2
Queue Length 50th (ft)	8	53	23	68	7	0	28	1	8
Queue Length 95th (ft)	27	212	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	0.79		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	5.4		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)		7.6			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	1.26	0.82	0.82	0.95	0.54	1.91
Control Delay	167.1	21.0	40.8	21.6	1.4	442.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	167.1	21.0	40.8	21.6	1.4	442.5
Queue Length 50th (ft)	~694	165	354	783	0	~925
Queue Length 95th (ft)	#834	273	m349	m686	0	#1077
Internal Link Dist (ft)	366			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	917	1164	1020	2103	1517	618
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	1.26	0.82	0.82	0.95	0.54	1.91

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	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)		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
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			2460
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			2460
Peak-hour factor, PHF	0.92	0.92	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	442	0	0	0	0	0	0	0	0	30
Lane Group Flow (vph)	0	1157	510	836	1995	0	0	0	826	0	0	1148
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		42.5	42.5	50.5	97.5				140.0			33.5
Effective Green, g (s)		42.5	42.5	50.5	97.5				140.0			33.5
Actuated g/C Ratio		0.30	0.30	0.36	0.70				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)		917	722	1020	2103				1517			589
v/s Ratio Prot		c0.38		0.30	c0.66							
v/s Ratio Perm			0.21						0.54			c0.47
v/c Ratio		1.26	0.71	0.82	0.95				0.54			1.95
Uniform Delay, d1		48.8	43.2	40.6	19.0				0.0			53.2
Progression Factor		1.00	1.00	0.91	0.80				1.00			1.00
Incremental Delay, d2		126.6	5.7	3.4	5.6				1.4			433.5
Delay (s)		175.3	49.0	40.3	20.8				1.4			486.8
Level of Service		F	D	D	C				A			F
Approach Delay (s)		118.3			26.6			1.4			486.8	
Approach LOS		F			C			A			F	

Intersection Summary			
HCM Average Control Delay	129.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	106.0%	ICU Level of Service	G
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	0.99	0.38	0.51	0.71	0.59	1.14
Control Delay	44.1	0.3	10.1	16.2	1.6	80.0
Queue Delay	0.0	0.0	0.5	2.3	0.0	18.4
Total Delay	44.1	0.3	10.5	18.5	1.6	98.4
Queue Length 50th (ft)	300	0	239	373	0	~416
Queue Length 95th (ft)	m274	m0	285	530	0	#678
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	707	3355	2384	1093	1611	1528
Starvation Cap Reductn	0	0	645	189	0	0
Spillback Cap Reductn	0	0	119	0	0	54
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.38	0.70	0.86	0.59	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)	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	5	0	0	0	0	0	0
Lane Group Flow (vph)	697	1286	0	0	1211	775	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)	31.5	140.0			99.5	99.5			140.0			140.0
Effective Green, g (s)	31.5	140.0			99.5	99.5			140.0			140.0
Actuated g/C Ratio	0.22	1.00			0.71	0.71			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)	707	3355			2384	1088			1611			1528
v/s Ratio Prot	0.22	0.38			0.36							
v/s Ratio Perm						0.51			0.59			c1.14
v/c Ratio	0.99	0.38			0.51	0.71			0.59			1.14
Uniform Delay, d1	54.0	0.0			9.2	11.9			0.0			70.0
Progression Factor	0.50	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	15.1	0.1			0.8	4.0			1.6			73.1
Delay (s)	42.1	0.1			9.9	15.9			1.6			143.1
Level of Service	D	A			A	B			A			F
Approach Delay (s)		14.9			12.3			1.6			143.1	
Approach LOS		B			B			A			F	

Intersection Summary			
HCM Average Control Delay	45.8	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	1.10	0.68	0.29	1.09	0.07	1.07	0.49	0.03	0.44	0.94	0.62
Control Delay	113.8	35.6	0.4	116.5	25.3	102.5	24.8	14.0	61.4	66.1	28.4
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	113.8	35.6	0.4	116.5	25.3	102.5	24.8	14.0	61.4	66.1	28.4
Queue Length 50th (ft)	~229	280	0	~338	7	~419	220	3	42	269	99
Queue Length 95th (ft)	#413	402	0	#534	29	#629	278	16	86	#386	193
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	295	676	1770	368	320	470	1582	590	142	737	444
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	1.10	0.68	0.29	1.09	0.07	1.07	0.49	0.03	0.41	0.94	0.62

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	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	1469	1652	3539	1336	1652	3303	1549
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)	243	1739	1770		1733	1469	1652	3539	1336	1652	3303	1549
Peak-hour factor, PHF	0.92	0.92	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	97
Lane Group Flow (vph)	325	458	512	0	401	13	504	770	10	58	693	178
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)	44.6	44.6	116.9		24.1	24.1	32.0	50.8	50.8	7.1	25.8	25.8
Effective Green, g (s)	45.1	45.1	116.9		24.6	24.6	33.0	51.8	50.8	8.0	26.8	26.8
Actuated g/C Ratio	0.39	0.39	1.00		0.21	0.21	0.28	0.44	0.43	0.07	0.23	0.23
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)	293	671	1770		365	309	466	1568	581	113	757	355
v/s Ratio Prot	c0.16	0.26					c0.31	0.22		0.04	c0.21	
v/s Ratio Perm	c0.27		0.29		0.23	0.01			0.01			0.11
v/c Ratio	1.11	0.68	0.29		1.10	0.04	1.08	0.49	0.02	0.51	0.92	0.50
Uniform Delay, d1	33.6	29.9	0.0		46.2	36.8	42.0	23.2	18.8	52.6	43.9	39.2
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	85.2	3.1	0.4		76.3	0.1	65.4	0.7	0.0	4.5	16.9	3.1
Delay (s)	118.7	33.0	0.4		122.5	36.8	107.4	23.9	18.9	57.1	60.8	42.3
Level of Service	F	C	A		F	D	F	C	B	E	E	D
Approach Delay (s)		41.6			118.2			56.5			55.7	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM Average Control Delay	58.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	116.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

23: Wells Fargo Drwy & Merced St

2030 Saturday with Kaiser Phase 1 & Mixed Use

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	28	90	1017	160	1899
v/c Ratio	0.14	0.30	0.28	0.47	0.74
Control Delay	18.7	7.2	4.1	14.4	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	7.2	4.1	14.4	10.7
Queue Length 50th (ft)	9	0	30	16	143
Queue Length 95th (ft)	21	25	90	#125	#501
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	426	538	3635	340	2564
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	0.28	0.47	0.74

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	0	83	0	894	41	147	1745	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)					1562	1399		4916		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.27	1.00	
Satd. Flow (perm)					1245	1399		4916		459	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	28	0	90	0	972	45	160	1897	2
RTOR Reduction (vph)	0	0	0	0	0	78	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	28	12	0	1012	0	160	1899	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)					7.4	7.4		39.1		39.1	39.1	
Effective Green, g (s)					7.4	7.4		39.1		39.1	39.1	
Actuated g/C Ratio					0.13	0.13		0.71		0.71	0.71	
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)					167	188		3488		326	2463	
v/s Ratio Prot								0.21			c0.55	
v/s Ratio Perm					c0.02	0.01				0.35		
v/c Ratio					0.17	0.06		0.29		0.49	0.77	
Uniform Delay, d1					21.1	20.8		2.9		3.6	5.1	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.5	0.1		0.0		0.4	1.4	
Delay (s)					21.6	21.0		2.9		4.0	6.5	
Level of Service					C	C		A		A	A	
Approach Delay (s)		0.0			21.1			2.9			6.3	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM Average Control Delay	5.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	8.6
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	11	334	646	42	26
v/c Ratio	0.11	0.21	0.22	0.32	0.18
Control Delay	69.1	0.5	2.9	54.0	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	0.5	2.9	54.0	19.8
Queue Length 50th (ft)	8	5	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	1.38	0.17	1.09		1.00	1.00
Incremental Delay, d2	11.6	0.3	0.2		2.1	0.1
Delay (s)	85.9	0.5	3.1		51.4	48.3
Level of Service	F	A	A		D	D
Approach Delay (s)		3.2	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	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	0.47	0.36	1.18	0.38	1.20	0.33	1.28	0.59	0.09
Control Delay	177.5	55.2	54.7	43.6	117.1	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	54.7	43.6	117.1	80.0	141.6	7.2	172.5	19.5	2.8
Queue Length 50th (ft)	55	73	120	123	~1276	24	~597	37	~866	347	0
Queue Length 95th (ft)	#155	102	#198	192	#1544	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	621	467	984	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	0.47	0.36	1.18	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		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	0.98
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		3255	1689	1501	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		3255	1689	1501	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	5	0	0	78	0	0	36
Lane Group Flow (vph)	59	161	0	289	166	1157	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		615	463	980	51	1262	677	1115	1925	900
v/s Ratio Prot	c0.04	0.05		0.09	0.10	c0.77	0.02	c0.32	0.12	c0.46	0.35	
v/s Ratio Perm												0.03
v/c Ratio	1.00	0.43		0.47	0.36	1.18	0.53	1.17	0.25	1.30	0.59	0.06
Uniform Delay, d1	68.7	58.1		51.4	41.6	24.7	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		0.2	0.7	92.1	4.5	83.5	0.3	140.3	0.5	0.0
Delay (s)	185.9	59.5		51.6	42.3	116.8	72.4	135.4	23.2	186.3	18.6	12.2
Level of Service	F	E		D	D	F	E	F	C	F	B	B
Approach Delay (s)		91.6			97.5			118.4			109.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	108.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	6.8
Intersection Capacity Utilization	106.2%	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	0.51
Control Delay	52.1	17.6	51.8	17.5	0.5	50.9	21.2	46.7	28.2
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	28.2
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	279
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	0.44

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)	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	0.97	
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	3174		1620	3068	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	3174		1620	3068	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)	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	183	
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	43.5	
Level of Service	D	B		E	B	A	D	D		D	D	
Approach Delay (s)		17.1			16.2			46.5			43.8	
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	598	48	1464	1397	107	498	685	220	384	40
v/c Ratio	0.45	0.65	0.14	1.52	0.92	0.71	0.58	0.46	0.66	0.44	0.09
Control Delay	65.9	43.3	11.2	265.8	32.4	72.8	38.8	8.9	57.1	35.4	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	65.9	43.3	11.2	265.8	32.4	72.8	38.8	8.9	57.1	35.4	10.3
Queue Length 50th (ft)	27	138	0	~731	456	73	161	88	76	118	0
Queue Length 95th (ft)	#63	180	32	m#739	m488	#155	217	118	117	166	27
Internal Link Dist (ft)		238			306		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	87	970	346	964	1513	155	857	1493	332	865	423
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	0.45	0.62	0.14	1.52	0.92	0.69	0.58	0.46	0.66	0.44	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.

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)	36	550	44	1347	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	1474
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	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)	39	598	48	1464	1143	254	107	498	685	220	384	40
RTOR Reduction (vph)	0	0	38	0	17	0	0	0	0	0	0	30
Lane Group Flow (vph)	39	598	10	1464	1380	0	107	498	685	220	384	10
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	21.5	21.5	32.0	49.9		9.8	24.5	56.5	11.0	25.7	25.7
Effective Green, g (s)	3.6	23.0	23.0	32.0	51.4		9.8	26.0	56.5	11.0	27.2	27.2
Actuated g/C Ratio	0.03	0.21	0.21	0.30	0.48		0.09	0.24	0.52	0.10	0.25	0.25
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)	52	991	315	964	1495		152	808	1416	332	816	371
v/s Ratio Prot	0.02	0.13		c0.45	c0.44		0.06	c0.15	0.25	c0.07	0.12	
v/s Ratio Perm			0.01									0.01
v/c Ratio	0.75	0.60	0.03	1.52	0.92		0.70	0.62	0.48	0.66	0.47	0.03
Uniform Delay, d1	51.8	38.4	33.7	38.0	26.5		47.7	36.6	16.4	46.7	34.3	30.4
Progression Factor	1.00	1.00	1.00	1.03	1.03		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	47.5	1.2	0.1	235.4	4.2		14.7	3.5	0.4	5.4	1.9	0.1
Delay (s)	99.2	39.6	33.7	274.5	31.4		62.4	40.1	16.8	52.1	36.2	30.6
Level of Service	F	D	C	F	C		E	D	B	D	D	C
Approach Delay (s)		42.6			155.8			29.6			41.3	
Approach LOS		D			F			C			D	

Intersection Summary			
HCM Average Control Delay	98.5	HCM Level of Service	F
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.0%	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)	146	1107	379	230	1902	149	153	85	347
v/c Ratio	1.08	0.57	0.44	0.72	0.79	0.52	0.53	0.24	0.95
Control Delay	136.9	16.5	1.7	55.2	25.8	44.3	44.3	8.0	58.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	136.9	16.5	1.7	55.2	25.8	44.3	44.3	8.0	58.7
Queue Length 50th (ft)	~114	110	0	147	353	102	105	0	57
Queue Length 95th (ft)	#246	285	0	#285	#656	135	137	34	#151
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	135	1929	856	324	2413	522	532	570	367
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	0.57	0.44	0.71	0.79	0.29	0.29	0.15	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.

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	1531	1678	4634		1539	1571	1514		3024	
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	4634		1539	1571	1514		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)	146	1107	379	230	1854	48	245	57	85	32	126	189
RTOR Reduction (vph)	0	0	222	0	2	0	0	0	69	0	177	0
Lane Group Flow (vph)	146	1107	157	230	1900	0	149	153	16	0	170	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)	8.0	43.8	43.8	19.4	55.2		19.4	19.4	19.4		6.2	
Effective Green, g (s)	9.0	44.8	44.8	20.4	56.2		20.0	20.0	20.0		6.8	
Actuated g/C Ratio	0.08	0.41	0.41	0.19	0.52		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)	135	1931	635	317	2411		285	291	280		190	
v/s Ratio Prot	c0.09	0.24		0.14	c0.41		0.10	c0.10			c0.06	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	1.08	0.57	0.25	0.73	0.79		0.52	0.53	0.06		0.89	
Uniform Delay, d1	49.5	24.3	20.6	41.2	21.1		39.7	39.7	36.2		50.2	
Progression Factor	0.72	0.57	0.03	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	99.4	1.2	0.9	8.5	2.7		2.2	2.2	0.1		37.8	
Delay (s)	134.8	15.0	1.5	49.7	23.8		41.9	41.9	36.3		88.0	
Level of Service	F	B	A	D	C		D	D	D		F	
Approach Delay (s)		22.6			26.6			40.7			88.0	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	108.0	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	1.62	0.67	1.07	0.97	2.05	0.30	0.33	0.40	0.74
Control Delay	349.8	24.6	81.2	17.5	521.6	29.1	5.5	53.3	31.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	349.8	24.6	81.2	17.5	521.6	29.1	5.5	53.3	31.3
Queue Length 50th (ft)	~144	184	~217	235	~132	66	0	16	142
Queue Length 95th (ft)	#272	234	m#183	m184	#212	89	46	36	180
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	102	1713	313	1603	132	1044	661	135	1066
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	1.62	0.67	1.07	0.97	2.05	0.24	0.28	0.40	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)	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	1660	3204	3034	
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	1660	3204	3034	
Peak-hour factor, PHF	0.92	0.92	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	84	0	0	1	0	0	0	139	0	98	0
Lane Group Flow (vph)	165	1056	0	334	1550	0	270	251	47	54	510	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)	6.1	32.8		18.1	44.8		5.0	24.6	24.6	4.0	23.6	
Effective Green, g (s)	6.0	33.8		18.0	45.8		4.0	24.2	24.2	3.0	23.2	
Actuated g/C Ratio	0.06	0.36		0.19	0.48		0.04	0.25	0.25	0.03	0.24	
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)	102	1601		313	1581		132	825	423	101	741	
v/s Ratio Prot	c0.10	0.23		c0.20	c0.47		c0.09	0.08		0.02	c0.17	
v/s Ratio Perm									0.03			
v/c Ratio	1.62	0.66		1.07	0.98		2.05	0.30	0.11	0.53	0.69	
Uniform Delay, d1	44.5	25.8		38.5	24.2		45.5	28.6	27.2	45.3	32.6	
Progression Factor	1.00	1.00		1.15	0.46		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	318.3	2.1		36.9	3.6		495.8	0.3	0.2	6.8	2.9	
Delay (s)	362.8	27.9		81.0	14.9		541.3	28.9	27.3	52.1	35.5	
Level of Service	F	C		F	B		F	C	C	D	D	
Approach Delay (s)		70.2			26.6			224.2			36.9	
Approach LOS		E			C			F			D	

Intersection Summary			
HCM Average Control Delay	71.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	95.0	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	798	1081
v/c Ratio	0.34	0.49	0.41	0.16	1.00	0.14	0.92	0.41
Control Delay	43.8	57.8	9.6	58.8	56.2	4.4	41.6	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	57.8	9.6	58.8	56.2	4.4	41.6	3.9
Queue Length 50th (ft)	23	46	0	13	~376	10	475	76
Queue Length 95th (ft)	58	88	34	m22	#520	m15	#818	95
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	219	234	602	104	976	511	867	2663
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	0.21	0.29	0.29	0.16	1.00	0.14	0.92	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.

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	734	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	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)		1698			1777	2787	1678	3355	1583	1770	3420	
Flt Permitted		0.73			0.77	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1286			1430	2787	1678	3355	1583	1770	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	798	991	90
RTOR Reduction (vph)	0	9	0	0	0	157	0	0	50	0	4	0
Lane Group Flow (vph)	0	36	0	0	67	17	17	977	22	798	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)		10.6			10.6	10.6	3.1	32.0	32.0	53.9	82.8	
Effective Green, g (s)		10.6			10.6	10.6	3.1	32.0	32.0	53.9	82.8	
Actuated g/C Ratio		0.10			0.10	0.10	0.03	0.29	0.29	0.49	0.75	
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)		124			138	269	47	976	461	867	2574	
v/s Ratio Prot							0.01	c0.29		c0.45	0.31	
v/s Ratio Perm		0.03			c0.05	0.01			0.01			
v/c Ratio		0.29			0.49	0.06	0.36	1.00	0.05	0.92	0.42	
Uniform Delay, d1		46.2			47.1	45.2	52.5	39.0	28.0	26.1	4.9	
Progression Factor		1.00			1.00	1.00	1.15	0.74	0.55	1.01	0.69	
Incremental Delay, d2		1.3			2.7	0.1	3.7	25.9	0.2	12.1	0.4	
Delay (s)		47.5			49.8	45.3	64.3	54.8	15.5	38.4	3.8	
Level of Service		D			D	D	E	D	B	D	A	
Approach Delay (s)		47.5			46.5			52.3			18.5	
Approach LOS		D			D			D			B	

Intersection Summary			
HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	203	255	178	436	126	203	982	43	992
v/c Ratio	0.85	0.52	0.55	0.81	1.04	0.28	0.90	0.64	0.39	0.78
Control Delay	87.1	44.4	10.4	65.0	91.3	10.9	86.9	20.8	64.0	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.1	44.4	10.4	65.0	91.3	10.9	86.9	20.8	64.0	32.5
Queue Length 50th (ft)	103	129	6	125	~345	33	150	205	29	320
Queue Length 95th (ft)	#218	205	80	#234	#537	67	#289	240	72	348
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	172	387	467	225	418	448	225	1537	113	1278
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	0.85	0.52	0.55	0.79	1.04	0.28	0.90	0.64	0.38	0.78

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)	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	4.6	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	1770	1863	1559	1652	3116		1770	3402	
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	1770	1863	1559	1652	3116		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	194	0	0	98	0	22	0	0	7	0
Lane Group Flow (vph)	146	203	61	178	436	28	203	960	0	43	985	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)	12.0	23.1	23.1	13.6	24.7	24.7	15.0	51.9		4.2	41.1	
Effective Green, g (s)	12.0	23.1	23.1	13.6	24.7	24.7	15.0	51.9		4.2	41.1	
Actuated g/C Ratio	0.11	0.21	0.21	0.12	0.22	0.22	0.14	0.47		0.04	0.37	
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)	172	387	274	219	418	350	225	1470		68	1271	
v/s Ratio Prot	c0.09	0.11		0.10	c0.23		c0.12	0.31		0.02	c0.29	
v/s Ratio Perm			0.05			0.02						
v/c Ratio	0.85	0.52	0.22	0.81	1.04	0.08	0.90	0.65		0.63	0.78	
Uniform Delay, d1	48.1	38.6	36.0	47.0	42.6	33.7	46.8	22.2		52.1	30.4	
Progression Factor	1.00	1.00	1.00	0.80	0.83	1.47	1.04	0.89		1.09	0.92	
Incremental Delay, d2	31.2	1.7	0.6	20.3	54.9	0.1	33.5	2.1		18.5	4.4	
Delay (s)	79.4	40.2	36.6	57.9	90.5	49.5	82.3	21.8		75.5	32.4	
Level of Service	E	D	D	E	F	D	F	C		E	C	
Approach Delay (s)		48.2			75.7			32.2			34.2	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM Average Control Delay	44.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	78.8%	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)	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	66.2	6.5	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	66.2	6.5	58.2	18.3	49.9	24.0	55.4	20.2	56.2
Queue Length 50th (ft)	31	16	69	366	11	1	23	1	15
Queue Length 95th (ft)	65	82	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	1.19	0.56		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)	67.3	5.8		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)		12.5			20.1			49.1			50.1	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	20.7	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	0.88	0.29	0.12	1.23	0.61	0.23	0.04	0.23	0.76
Control Delay	102.0	9.8	35.8	136.6	45.9	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	9.8	35.8	136.6	45.9	18.8	8.5	19.4	27.5
Queue Length 50th (ft)	38	51	5	~513	24	39	0	24	135
Queue Length 95th (ft)	#130	145	21	#830	#75	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	1082	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	0.29	0.12	1.23	0.45	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	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	1704		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	1924		1711	1704		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	215	96	12	902	59	66	126	14	78	224	205
RTOR Reduction (vph)	0	17	0	0	3	0	0	0	10	0	50	0
Lane Group Flow (vph)	89	294	0	12	958	0	66	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	1019		17	823		103	519	369	326	492	
v/s Ratio Prot	c0.05	c0.15		0.01	c0.56			0.07			c0.22	
v/s Ratio Perm							0.18		0.00	0.07		
v/c Ratio	0.93	0.29		0.71	1.16		0.64	0.24	0.01	0.24	0.77	
Uniform Delay, d1	33.6	9.3		35.2	18.5		22.6	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		88.4	87.2		14.2	0.3	0.0	0.5	7.8	
Delay (s)	102.1	9.5		123.6	105.6		36.8	20.3	18.6	20.4	31.4	
Level of Service	F	A		F	F		D	C	B	C	C	
Approach Delay (s)		30.1			105.9			25.5			29.7	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM Average Control Delay	64.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	71.4	Sum of lost time (s)	17.5
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	1.09	0.22	0.74	0.62	1.21	0.33	0.02	0.23	0.87
Control Delay	136.3	8.1	92.3	33.4	142.8	13.1	10.1	45.6	36.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	136.3	8.1	92.3	33.4	142.8	13.1	10.1	45.6	36.6
Queue Length 50th (ft)	~103	4	30	89	~361	71	1	14	193
Queue Length 95th (ft)	#274	38	#114	157	#684	182	13	44	#386
Internal Link Dist (ft)		1442		1508		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	160	702	77	638	464	1808	809	120	999
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	0.14	0.74	0.34	1.21	0.33	0.02	0.23	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)	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	1530		1652	1616		1652	3240	1447	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	1530		1652	1616		1652	3240	1447	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	65	0	0	30	0	0	0	4	0	104	0
Lane Group Flow (vph)	174	32	0	57	188	0	560	589	9	27	768	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)	8.1	21.2		4.0	17.1		24.2	48.0	48.0	2.2	26.0	
Effective Green, g (s)	8.1	21.2		4.0	17.1		24.2	48.0	48.0	2.2	26.0	
Actuated g/C Ratio	0.09	0.24		0.05	0.19		0.28	0.55	0.55	0.03	0.30	
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)	158	369		75	314		455	1769	790	43	940	
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	1.10	0.09		0.76	0.60		1.23	0.33	0.01	0.63	0.82	
Uniform Delay, d1	39.9	25.8		41.5	32.3		31.9	11.1	9.1	42.4	28.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	101.3	0.1		37.5	3.6		121.8	0.2	0.0	28.3	5.9	
Delay (s)	141.2	26.0		78.9	35.9		153.7	11.2	9.1	70.7	34.6	
Level of Service	F	C		E	D		F	B	A	E	C	
Approach Delay (s)		100.0			44.8			79.9			35.7	
Approach LOS		F			D			E			D	

Intersection Summary			
HCM Average Control Delay	63.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	87.9	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	1.1
Queue Delay	0.0	0.0	0.0	0.9	0.0
Total Delay	49.5	24.2	2.9	3.8	1.1
Queue Length 50th (ft)	26	0	1	76	13
Queue Length 95th (ft)	54	13	9	185	59
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	0.30	
Incremental Delay, d2	2.1	0.0	0.4	0.5	0.4	
Delay (s)	51.5	48.3	1.6	2.4	1.0	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.3	1.0	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	2.5	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	0.98	0.52	0.87	0.85	0.42	1.43
Control Delay	53.2	4.3	32.3	7.6	0.8	237.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.2	4.3	32.3	7.6	0.8	237.0
Queue Length 50th (ft)	263	10	334	256	0	~455
Queue Length 95th (ft)	#493	23	m#407	153	0	#593
Internal Link Dist (ft)	367			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1041	1270	1115	2370	1686	605
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	0.98	0.52	0.87	0.85	0.42	1.43

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)		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
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	450	0	0	0	0	0	0	0	0	31
Lane Group Flow (vph)	0	1022	211	975	2023	0	0	0	701	0	0	837
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		33.5	33.5	38.3	76.3				108.0			22.7
Effective Green, g (s)		33.5	33.5	38.3	76.3				108.0			22.7
Actuated g/C Ratio		0.31	0.31	0.35	0.71				1.00			0.21
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)		1041	820	1115	2370				1686			574
v/s Ratio Prot		c0.30		0.31	c0.60							
v/s Ratio Perm			0.08						0.42			c0.31
v/c Ratio		0.98	0.26	0.87	0.85				0.42			1.46
Uniform Delay, d1		36.9	27.9	32.6	11.7				0.0			42.6
Progression Factor		0.81	1.19	0.78	0.40				1.00			1.00
Incremental Delay, d2		21.8	0.1	6.3	2.6				0.8			215.9
Delay (s)		51.6	33.2	31.6	7.4				0.8			258.5
Level of Service		D	C	C	A				A			F
Approach Delay (s)		44.4			15.2			0.8			258.5	
Approach LOS		D			B			A			F	

Intersection Summary			
HCM Average Control Delay	55.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	108.0	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	0.78	0.34	0.70	0.58	0.32	0.88
Control Delay	43.5	0.2	8.2	6.6	0.5	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	0.2	8.2	6.6	0.5	8.2
Queue Length 50th (ft)	202	0	74	12	0	0
Queue Length 95th (ft)	m221	m0	m312	m181	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	975	3355	2321	1091	1611	1528
Starvation Cap Reductn	0	0	13	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	0.34	0.70	0.58	0.32	0.88

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)	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	32	0	0	0	0	0	0
Lane Group Flow (vph)	548	1124	0	0	1615	596	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)	24.3	108.0			74.7	74.7			108.0			108.0
Effective Green, g (s)	24.3	108.0			74.7	74.7			108.0			108.0
Actuated g/C Ratio	0.23	1.00			0.69	0.69			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)	707	3355			2321	1059			1611			1528
v/s Ratio Prot	0.17	0.33			0.48							
v/s Ratio Perm						0.39			0.32			c0.88
v/c Ratio	0.78	0.34			0.70	0.56			0.32			0.88
Uniform Delay, d1	39.3	0.0			9.9	8.4			0.0			0.0
Progression Factor	0.98	1.00			0.64	0.65			1.00			1.00
Incremental Delay, d2	3.5	0.0			1.1	1.4			0.5			7.4
Delay (s)	42.1	0.0			7.5	6.9			0.5			7.4
Level of Service	D	A			A	A			A			A
Approach Delay (s)		13.8			7.3			0.5			7.4	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	108.0	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	2.31	0.73	0.02	0.64	1.14	0.95
Control Delay	256.3	17.0	0.3	204.1	20.3	618.5	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	256.3	17.0	0.3	204.1	20.3	618.5	22.9	11.7	68.6	111.2	47.0
Queue Length 50th (ft)	~263	198	0	~494	5	~850	243	2	41	~346	198
Queue Length 95th (ft)	#424	286	0	#702	22	#1057	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	365	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	2.31	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	1.00	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	1652	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	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)	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	365	1442	531	92	800	376
v/s Ratio Prot	c0.16	0.22					c0.51	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	2.31	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	0.64	0.66	1.00		1.00	1.00	1.04	0.82	0.80	0.99	0.94	0.88
Incremental Delay, d2	236.8	0.9	0.3		173.4	0.0	596.5	3.5	0.1	34.7	78.2	30.8
Delay (s)	252.0	14.9	0.3		208.4	26.1	635.1	23.0	14.0	78.6	112.1	61.8
Level of Service	F	B	A		F	C	F	C	B	E	F	E
Approach Delay (s)		81.2			203.2			290.4			93.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	175.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	128.2%	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	1211	83	1956
v/c Ratio	0.17	0.10	0.01	0.28	0.25	0.64
Control Delay	46.3	19.5	6.0	3.4	5.1	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.8
Total Delay	46.3	19.5	6.0	3.4	5.1	5.8
Queue Length 50th (ft)	12	0	0	77	7	154
Queue Length 95th (ft)	31	18	m0	m101	44	500
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		115	
Base Capacity (vph)	250	297	137	4376	331	3076
Starvation Cap Reductn	0	0	0	0	0	704
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.05	0.01	0.28	0.25	0.82

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	1796	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	1651	4935		1618	3470	
Flt Permitted					0.74	1.00	0.09	1.00		0.22	1.00	
Satd. Flow (perm)					1222	1397	155	4935		372	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	1952	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	1956	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	133	4222		318	2968	
v/s Ratio Prot								0.25			c0.56	
v/s Ratio Perm					c0.01	0.00	0.01			0.22		
v/c Ratio					0.22	0.01	0.01	0.29		0.26	0.66	
Uniform Delay, d1					48.7	48.0	1.2	1.5		1.5	2.6	
Progression Factor					1.00	1.00	1.70	1.60		1.00	1.00	
Incremental Delay, d2					1.4	0.0	0.1	0.1		2.0	1.2	
Delay (s)					50.1	48.0	2.0	2.5		3.5	3.8	
Level of Service					D	D	A	A		A	A	
Approach Delay (s)		0.0			49.2			2.5			3.8	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	3.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	70.4%	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	45.6	2.5	1.4	53.6	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	2.5	1.4	53.6	19.0
Queue Length 50th (ft)	21	26	90	25	0
Queue Length 95th (ft)	m41	119	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

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

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	0.84	1.35	0.25		1.00	1.00
Incremental Delay, d2	3.2	0.3	0.3		1.9	0.1
Delay (s)	46.0	2.2	1.3		51.4	48.7
Level of Service	D	A	A		D	D
Approach Delay (s)		6.4	1.3		50.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	5.5	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	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	0.25	0.08	1.60	0.72	1.02	0.41	2.00	0.87	0.11
Control Delay	311.9	47.7	31.8	23.6	300.1	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	31.8	23.6	300.1	117.5	83.7	2.9	486.0	49.6	10.5
Queue Length 50th (ft)	~142	63	98	31	~1975	42	~419	17	~738	483	8
Queue Length 95th (ft)	#271	93	158	59	#2245	#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	1238	739	936	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	0.25	0.08	1.60	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		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)	113	130	53	315	58	1499	46	1180	424	1003	1064	68
RTOR Reduction (vph)	0	43	0	0	0	3	0	0	121	0	0	34
Lane Group Flow (vph)	113	140	0	315	58	1496	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		1231	735	940	54	1173	913	499	1223	571
v/s Ratio Prot	c0.07	0.05		0.10	0.03	c1.00	0.03	c0.25	0.21	c0.32	0.33	
v/s Ratio Perm												0.02
v/c Ratio	1.47	0.44		0.26	0.08	1.59	0.85	1.01	0.33	2.01	0.87	0.06
Uniform Delay, d1	67.6	59.7		30.3	23.4	26.5	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		0.0	0.1	271.4	68.8	27.7	0.3	461.6	7.3	0.1
Delay (s)	335.6	61.5		30.4	23.4	297.9	137.0	80.7	12.5	521.2	48.2	28.2
Level of Service	F	E		C	C	F	F	F	B	F	D	C
Approach Delay (s)		166.1			244.4			64.8			269.7	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	199.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	141.7	Sum of lost time (s)	11.8
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
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	1.00
Control Delay	130.3	68.0	72.8	108.5	3.1	65.5	65.9	87.5	63.1
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	63.1
Queue Length 50th (ft)	~132	~539	90	~691	0	49	60	~342	~248
Queue Length 95th (ft)	#270	#677	m127	m#791	m20	#108	#235	#464	#482
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	553
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	1.00

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	0.98	
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	3174		1620	3054	1319	1678	1431		3143	1443	
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	1443	
Peak-hour factor, PHF	0.92	0.92	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	385	
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	1.01	
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	47.2	
Delay (s)	130.7	67.3		66.7	105.8	4.1	50.8	119.5		88.2	85.7	
Level of Service	F	E		E	F	A	D	F		F	F	
Approach Delay (s)		74.6			77.6			105.5			87.2	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM Average Control Delay	81.1	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	690	117	1591	826	316	640	1140	414	243	20
v/c Ratio	0.54	0.80	0.32	1.69	0.65	1.96	0.83	0.81	0.74	0.25	0.04
Control Delay	69.9	57.8	10.1	344.8	28.2	484.9	57.8	18.9	59.3	34.3	12.2
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	69.9	57.8	10.1	344.8	28.2	484.9	57.8	18.9	59.3	34.3	12.2
Queue Length 50th (ft)	59	201	0	~991	240	~409	268	202	169	80	0
Queue Length 95th (ft)	111	250	52	m#933	m261	#595	#357	253	228	115	19
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	159	873	372	941	1280	161	768	1401	559	987	463
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	0.79	0.31	1.69	0.65	1.96	0.83	0.81	0.74	0.25	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)	68	635	108	1464	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	3109		1678	3355	2706	3255	3240	1474
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	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)	74	690	117	1591	625	201	316	640	1140	414	243	20
RTOR Reduction (vph)	0	0	95	0	23	0	0	0	0	0	0	14
Lane Group Flow (vph)	74	690	22	1591	803	0	316	640	1140	414	243	6
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)	9.7	23.0	23.0	37.0	50.3		12.3	27.0	64.0	22.0	36.7	36.7
Effective Green, g (s)	9.7	24.5	24.5	37.0	51.8		12.3	28.5	64.0	22.0	38.2	38.2
Actuated g/C Ratio	0.08	0.19	0.19	0.29	0.40		0.10	0.22	0.50	0.17	0.30	0.30
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)	118	891	283	941	1258		161	747	1353	559	967	440
v/s Ratio Prot	0.05	c0.15		c0.49	0.26		c0.19	c0.19	0.42	c0.13	0.08	
v/s Ratio Perm			0.02									0.00
v/c Ratio	0.63	0.77	0.08	1.69	0.64		1.96	0.86	0.84	0.74	0.25	0.01
Uniform Delay, d1	57.4	49.1	42.5	45.5	30.6		57.9	47.8	27.6	50.3	34.1	31.6
Progression Factor	1.00	1.00	1.00	1.08	0.89		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.3	4.5	0.2	313.1	0.6		454.9	12.1	5.2	5.6	0.6	0.1
Delay (s)	68.6	53.6	42.7	362.2	27.7		512.8	59.9	32.8	55.9	34.7	31.7
Level of Service	E	D	D	F	C		F	E	C	E	C	C
Approach Delay (s)		53.4			247.9			113.4			47.6	
Approach LOS		D			F			F			D	

Intersection Summary			
HCM Average Control Delay	150.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
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	1.09	1.04	0.28	0.74	0.72	0.68	0.67	0.36	1.08
Control Delay	105.5	58.0	1.0	59.0	35.1	57.7	57.2	8.0	106.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.5	58.0	1.0	59.0	35.1	57.7	57.2	8.0	106.8
Queue Length 50th (ft)	~372	~646	2	225	341	169	171	0	~63
Queue Length 95th (ft)	#574	#736	4	#471	#476	232	233	51	#156
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	367	1884	745	396	1918	440	447	540	241
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	1.04	0.28	0.74	0.72	0.47	0.47	0.28	1.08

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)	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	0.99	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		0.92	
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	1514		2989	
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	1514		2989	
Peak-hour factor, PHF	0.92	0.92	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	126	0	2	0	0	0	120	0	134	0
Lane Group Flow (vph)	400	1968	85	293	1378	0	207	209	30	0	126	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)	28.0	50.8	50.8	29.2	52.0		24.8	24.8	24.8		4.0	
Effective Green, g (s)	29.0	51.8	51.8	30.2	53.0		25.4	25.4	25.4		4.6	
Actuated g/C Ratio	0.23	0.40	0.40	0.24	0.41		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)	367	1884	619	396	1916		305	310	300		107	
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	1.09	1.04	0.14	0.74	0.72		0.68	0.67	0.10		1.18	
Uniform Delay, d1	49.5	38.1	24.0	45.3	31.3		47.5	47.5	41.9		61.7	
Progression Factor	0.74	0.67	0.06	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	69.1	31.7	0.4	7.6	2.4		6.4	6.2	0.2		142.5	
Delay (s)	105.9	57.2	1.9	52.8	33.6		53.9	53.7	42.1		204.2	
Level of Service	F	E	A	D	C		D	D	D		F	
Approach Delay (s)		60.2			37.0			50.7			204.2	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM Average Control Delay	58.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	128.0	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	0.84	1.07	0.69	0.72	1.23	0.22	0.72	0.49	0.78
Control Delay	69.4	75.6	52.7	21.0	161.4	23.1	21.6	54.8	39.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	75.6	52.7	21.0	161.4	23.1	21.6	54.8	39.1
Queue Length 50th (ft)	130	~460	65	163	~205	61	169	30	194
Queue Length 95th (ft)	#254	#558	m#105	m248	#307	87	287	57	249
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	249	1646	176	987	409	1218	771	192	980
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	1.07	0.69	0.72	1.23	0.21	0.70	0.49	0.68

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	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	3272		3143	3240	1661	3204	3129	
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	3272		3143	3240	1661	3204	3129	
Peak-hour factor, PHF	0.92	0.92	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	74	0	0	2	0	0	0	152	0	24	0
Lane Group Flow (vph)	208	1692	0	122	710	0	503	258	384	95	641	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	33.3		10.7	28.5		14.0	35.8	35.8	5.6	27.4	
Effective Green, g (s)	15.4	34.3		10.6	29.5		13.0	35.4	35.4	4.6	27.0	
Actuated g/C Ratio	0.15	0.34		0.11	0.29		0.13	0.35	0.35	0.05	0.27	
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	1548		175	965		409	1147	588	147	845	
v/s Ratio Prot	0.13	c0.38		0.07	c0.22		c0.16	0.08		0.03	c0.20	
v/s Ratio Perm									0.23			
v/c Ratio	0.84	1.09		0.70	0.74		1.23	0.22	0.65	0.65	0.76	
Uniform Delay, d1	41.1	32.9		43.2	31.7		43.5	22.7	27.1	46.9	33.5	
Progression Factor	1.00	1.00		0.88	0.55		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	20.8	52.8		6.8	2.7		123.2	0.1	2.9	10.4	4.2	
Delay (s)	61.9	85.7		44.6	20.3		166.7	22.8	30.0	57.3	37.7	
Level of Service	E	F		D	C		F	C	C	E	D	
Approach Delay (s)		83.2			23.9			81.6			40.1	
Approach LOS		F			C			F			D	

Intersection Summary			
HCM Average Control Delay	65.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
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	1065	872
v/c Ratio	0.84	1.21	0.61	0.03	1.24	0.36	1.56	0.36
Control Delay	88.9	165.1	5.9	53.7	131.1	2.8	284.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.9	165.1	5.9	53.7	131.1	2.8	284.9	6.2
Queue Length 50th (ft)	51	~255	0	2	~582	10	~1054	95
Queue Length 95th (ft)	#151	#426	52	m3	m#528	m9	#1314	130
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	108	245	1038	92	1022	599	684	2454
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	1.21	0.61	0.03	1.24	0.36	1.56	0.36

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)	56	2	26	272	0	586	3	1165	199	980	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	1.00	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	1770	3438	
Flt Permitted		0.29			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		502			1318	2787	1678	3355	1583	1770	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)	61	2	28	296	0	637	3	1266	216	1065	824	48
RTOR Reduction (vph)	0	15	0	0	0	518	0	0	117	0	4	0
Lane Group Flow (vph)	0	76	0	0	296	119	3	1266	99	1065	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)		20.5			20.5	20.5	1.2	33.5	33.5	42.5	74.8	
Effective Green, g (s)		20.5			20.5	20.5	1.2	33.5	33.5	42.5	74.8	
Actuated g/C Ratio		0.19			0.19	0.19	0.01	0.30	0.30	0.39	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)		94			246	519	18	1022	482	684	2338	
v/s Ratio Prot							0.00	c0.38		c0.60	0.25	
v/s Ratio Perm		0.15			c0.22	0.04			0.06			
v/c Ratio		0.81			1.20	0.23	0.17	1.24	0.21	1.56	0.37	
Uniform Delay, d1		42.9			44.8	38.0	53.9	38.2	28.4	33.8	7.5	
Progression Factor		1.00			1.00	1.00	1.08	0.54	0.33	1.08	0.92	
Incremental Delay, d2		39.3			123.5	0.2	0.4	108.3	0.1	256.1	0.3	
Delay (s)		82.3			168.3	38.3	58.7	128.9	9.5	292.5	7.2	
Level of Service		F			F	D	E	F	A	F	A	
Approach Delay (s)		82.3			79.5			111.4			164.1	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	127.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	351	505	167	111	518	121	233	1290	92	925
v/c Ratio	1.02	0.81	0.31	0.86	1.45	0.32	0.88	1.10	0.81	0.99
Control Delay	97.2	45.2	7.6	95.7	247.5	9.5	79.2	86.8	89.6	62.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	0.0	0.0
Total Delay	97.2	45.2	7.6	95.7	247.5	9.5	79.2	130.3	89.6	62.4
Queue Length 50th (ft)	~257	323	10	72	~499	15	170	~538	64	~271
Queue Length 95th (ft)	#445	#490	58	#182	#707	34	#308	#658	m#130	m#296
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	344	622	538	129	357	383	270	1177	113	937
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	99	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.81	0.31	0.86	1.45	0.32	0.86	1.20	0.81	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)	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	4.6	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	1770	1863	1559	1652	3135		1770	3394	
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	1770	1863	1559	1652	3135		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	97	0	0	84	0	18	0	0	9	0
Lane Group Flow (vph)	351	505	70	111	518	37	233	1272	0	92	916	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)	24.0	37.1	37.1	8.0	21.1	21.1	17.6	40.7		7.0	30.1	
Effective Green, g (s)	24.0	37.1	37.1	8.0	21.1	21.1	17.6	40.7		7.0	30.1	
Actuated g/C Ratio	0.22	0.34	0.34	0.07	0.19	0.19	0.16	0.37		0.06	0.27	
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)	344	622	440	129	357	299	264	1160		113	929	
v/s Ratio Prot	c0.22	0.27		0.06	c0.28		c0.14	c0.41		0.05	0.27	
v/s Ratio Perm			0.05			0.02						
v/c Ratio	1.02	0.81	0.16	0.86	1.45	0.12	0.88	1.10		0.81	0.99	
Uniform Delay, d1	43.0	33.3	25.5	50.4	44.4	36.8	45.2	34.6		50.9	39.7	
Progression Factor	1.00	1.00	1.00	0.93	0.82	0.72	1.08	0.93		0.97	0.96	
Incremental Delay, d2	53.8	8.3	0.2	40.3	217.4	0.2	26.3	56.2		30.5	23.6	
Delay (s)	96.8	41.6	25.7	87.2	253.7	26.7	75.0	88.2		79.9	61.9	
Level of Service	F	D	C	F	F	C	E	F		E	E	
Approach Delay (s)		58.0			192.4			86.2			63.5	
Approach LOS		E			F			F			E	

Intersection Summary			
HCM Average Control Delay	92.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
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	67.1	18.3	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	67.1	19.0	55.2	22.2	41.8	10.3	71.2	9.6	67.7
Queue Length 50th (ft)	30	325	15	396	52	1	146	1	30
Queue Length 95th (ft)	m52	#506	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	0.78		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)	77.1	18.3		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)		21.2			22.7			37.7			56.7	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	29.3	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	2.0
Queue Delay	0.0	0.0	0.0	1.6	0.0
Total Delay	56.7	19.1	2.4	5.1	2.0
Queue Length 50th (ft)	50	0	0	107	19
Queue Length 95th (ft)	94	25	3	175	m27
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

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

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	0.58	
Incremental Delay, d2	4.4	0.1	0.1	0.6	0.4	
Delay (s)	52.9	46.5	1.6	3.1	1.8	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.3			3.1	1.8	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	4.2	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	1.00	0.72	0.81	0.61	0.49	1.43
Control Delay	54.3	8.4	46.1	4.1	1.0	236.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	8.4	46.1	4.1	1.0	236.3
Queue Length 50th (ft)	639	96	266	112	0	~521
Queue Length 95th (ft)	#836	176	337	131	0	#667
Internal Link Dist (ft)	365			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1533	1672	773	2477	1686	623
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	1.00	0.72	0.81	0.61	0.49	1.43

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	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)		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
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	465	0	0	0	0	0	0	0	0	100
Lane Group Flow (vph)	0	1532	746	625	1518	0	0	0	826	0	0	792
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		58.5	58.5	31.5	94.5				128.0			24.5
Effective Green, g (s)		58.5	58.5	31.5	94.5				128.0			24.5
Actuated g/C Ratio		0.46	0.46	0.25	0.74				1.00			0.19
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)		1533	1207	773	2477				1686			523
v/s Ratio Prot		c0.46		c0.20	0.45							
v/s Ratio Perm			0.28						0.49			c0.29
v/c Ratio		1.00	0.62	0.81	0.61				0.49			1.51
Uniform Delay, d1		34.7	26.3	45.4	8.0				0.0			51.8
Progression Factor		0.93	0.81	0.84	0.39				1.00			1.00
Incremental Delay, d2		21.4	0.9	7.6	1.0				1.0			241.0
Delay (s)		53.8	22.2	45.7	4.1				1.0			292.7
Level of Service		D	C	D	A				A			F
Approach Delay (s)		39.8			16.2			1.0			292.7	
Approach LOS		D			B			A			F	

Intersection Summary			
HCM Average Control Delay	61.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	13.5
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	0.99	0.51	0.47	0.55	0.68	0.65
Control Delay	70.8	0.6	0.7	3.0	2.4	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.8	0.6	0.7	3.0	2.4	2.2
Queue Length 50th (ft)	290	0	5	3	0	0
Queue Length 95th (ft)	m#332	m0	m6	m37	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	651	3355	2425	1111	1611	1528
Starvation Cap Reductn	0	0	0	26	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.51	0.47	0.57	0.68	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)	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	4	0	0	0	0	0	0
Lane Group Flow (vph)	646	1712	0	0	1142	611	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)	26.5	128.0			92.5	92.5			128.0			128.0
Effective Green, g (s)	26.5	128.0			92.5	92.5			128.0			128.0
Actuated g/C Ratio	0.21	1.00			0.72	0.72			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)	651	3355			2425	1106			1611			1528
v/s Ratio Prot	c0.21	0.51			0.34							
v/s Ratio Perm						0.40			c0.68			0.65
v/c Ratio	0.99	0.51			0.47	0.55			0.68			0.65
Uniform Delay, d1	50.6	0.0			7.5	8.2			0.0			0.0
Progression Factor	0.91	1.00			0.03	0.19			1.00			1.00
Incremental Delay, d2	24.0	0.1			0.5	1.4			2.4			2.2
Delay (s)	70.2	0.1			0.7	2.9			2.4			2.2
Level of Service	E	A			A	A			A			A
Approach Delay (s)		19.3			1.5			2.4			2.2	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	4.5
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	1.40	1.02	0.52	0.87	0.14	1.17	0.66	0.03	0.58	1.03	0.43
Control Delay	210.5	49.9	1.4	62.0	12.8	152.1	29.8	16.3	56.6	72.8	19.2
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	210.5	49.9	1.4	62.0	12.8	152.1	29.8	16.3	56.6	72.8	19.2
Queue Length 50th (ft)	~345	~503	0	181	5	~221	253	3	61	~375	67
Queue Length 95th (ft)	m#406	m#573	m0	#331	36	#384	324	18	116	#503	136
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	374	744	1770	342	393	246	1328	494	182	1001	533
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	1.40	1.02	0.52	0.87	0.14	1.17	0.66	0.03	0.55	1.03	0.43

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)	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	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		1737	1475	1652	3539	1337	1652	3303	1551
Flt Permitted	0.28	1.00	1.00		0.81	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	479	1739	1770		1401	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)	523	758	914	5	291	55	289	876	16	100	1035	228
RTOR Reduction (vph)	0	0	0	0	0	33	0	0	5	0	0	63
Lane Group Flow (vph)	523	758	914	0	296	22	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)	42.3	42.3	100.0		23.9	23.9	13.9	35.6	35.6	8.1	29.3	29.3
Effective Green, g (s)	42.8	42.8	100.0		24.4	24.4	14.9	36.6	35.6	9.0	30.3	30.3
Actuated g/C Ratio	0.43	0.43	1.00		0.24	0.24	0.15	0.37	0.36	0.09	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)	374	744	1770		342	360	246	1295	476	149	1001	470
v/s Ratio Prot	c0.20	0.44					c0.17	0.25		0.06	c0.31	
v/s Ratio Perm	c0.40		0.52		0.21	0.01			0.01			0.11
v/c Ratio	1.40	1.02	0.52		0.87	0.06	1.17	0.68	0.02	0.67	1.03	0.35
Uniform Delay, d1	24.9	28.6	0.0		36.2	29.0	42.5	26.7	20.9	44.1	34.9	27.2
Progression Factor	0.85	0.61	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	188.4	29.7	0.6		20.4	0.1	112.9	2.9	0.1	11.7	37.6	2.0
Delay (s)	209.7	47.1	0.6		56.6	29.1	155.5	29.6	21.0	55.8	72.4	29.2
Level of Service	F	D	A		E	C	F	C	C	E	E	C
Approach Delay (s)		66.5			52.3			60.3			64.0	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM Average Control Delay	63.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.6%	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	1989	141	1939
v/c Ratio	0.39	0.56	0.47	1.11	0.66
Control Delay	54.1	45.7	1.7	131.2	5.5
Queue Delay	0.0	0.0	0.0	0.0	1.1
Total Delay	54.1	45.7	1.7	131.2	6.6
Queue Length 50th (ft)	32	43	38	~116	209
Queue Length 95th (ft)	67	90	m67	#170	390
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	255	307	4196	127	2950
Starvation Cap Reductn	0	0	0	0	697
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.29	0.47	1.11	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	0	0	44	0	83	0	1796	34	130	1783	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		4938		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.09	1.00	
Satd. Flow (perm)					1245	1395		4938		150	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	1938	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	1988	0	141	1939	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)					9.6	9.6		91.8		91.8	91.8	
Effective Green, g (s)					9.6	9.6		91.8		91.8	91.8	
Actuated g/C Ratio					0.09	0.09		0.83		0.83	0.83	
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)					109	122		4121		125	2897	
v/s Ratio Prot								0.40			0.56	
v/s Ratio Perm					0.04	c0.05				c0.94		
v/c Ratio					0.44	0.54		0.48		1.13	0.67	
Uniform Delay, d1					47.7	48.1		2.5		9.1	3.4	
Progression Factor					1.00	1.00		0.55		1.00	1.00	
Incremental Delay, d2					2.8	4.5		0.0		119.0	1.2	
Delay (s)					50.5	52.5		1.4		128.1	4.7	
Level of Service					D	D		A		F	A	
Approach Delay (s)		0.0			51.8			1.4			13.0	
Approach LOS		A			D			A			B	

Intersection Summary			
HCM Average Control Delay	8.8	HCM Level of Service	A
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	110.0	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)	41	864	856	215	78
v/c Ratio	0.34	0.62	0.36	0.72	0.23
Control Delay	44.5	15.8	5.3	56.6	9.9
Queue Delay	0.0	4.3	0.0	0.0	0.0
Total Delay	44.5	20.1	5.3	56.6	9.9
Queue Length 50th (ft)	28	369	53	145	0
Queue Length 95th (ft)	m34	m540	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	445	0	0	0
Spillback Cap Reductn	0	11	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.91	0.36	0.52	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)	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	0.83	1.93	0.55		1.00	1.00
Incremental Delay, d2	3.0	1.1	0.4		8.3	0.1
Delay (s)	45.5	13.5	4.9		51.6	38.5
Level of Service	D	B	A		D	D
Approach Delay (s)		14.9	4.9		48.1	
Approach LOS		B	A		D	

Intersection Summary			
HCM Average Control Delay	15.5	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	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	1.07	0.58	0.24	0.30	1.12	0.51	0.80	0.23	1.18	0.49	0.08
Control Delay	175.5	57.6	35.8	30.7	93.7	89.2	55.9	1.7	146.1	32.9	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	175.5	57.6	35.8	30.7	93.7	89.2	55.9	1.7	146.1	32.9	7.0
Queue Length 50th (ft)	~98	92	88	128	~1108	33	282	0	~417	232	0
Queue Length 95th (ft)	#218	126	140	195	#1372	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)	90	1017	1094	673	940	86	1166	933	619	1313	645
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	1.07	0.22	0.24	0.30	1.12	0.42	0.77	0.22	1.18	0.49	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		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	3093		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	3093		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)	96	176	45	262	205	1051	36	895	208	732	643	54
RTOR Reduction (vph)	0	21	0	0	0	9	0	0	87	0	0	32
Lane Group Flow (vph)	96	200	0	262	205	1042	36	895	121	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)	7.5	16.2		47.0	55.7	87.7	5.3	34.4	81.4	27.5	56.6	56.6
Effective Green, g (s)	7.5	16.2		47.0	55.7	87.7	5.3	34.4	81.4	27.5	56.6	56.6
Actuated g/C Ratio	0.05	0.12		0.33	0.40	0.62	0.04	0.25	0.58	0.20	0.40	0.40
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)	90	357		1090	670	938	61	1141	840	616	1306	610
v/s Ratio Prot	c0.06	0.06		0.08	0.12	c0.69	0.02	c0.19	0.08	c0.23	0.20	
v/s Ratio Perm												0.01
v/c Ratio	1.07	0.56		0.24	0.31	1.11	0.59	0.78	0.14	1.19	0.49	0.04
Uniform Delay, d1	66.5	58.7		33.8	29.1	26.4	66.5	49.5	13.5	56.5	31.2	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	114.1	2.8		0.0	0.4	64.7	9.8	3.6	0.1	100.3	0.3	0.0
Delay (s)	180.6	61.5		33.8	29.4	91.1	76.2	53.1	13.6	156.8	31.5	25.4
Level of Service	F	E		C	C	F	E	D	B	F	C	C
Approach Delay (s)		97.6			72.9			46.7			95.4	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM Average Control Delay	75.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	140.4	Sum of lost time (s)	11.8
Intersection Capacity Utilization	92.3%	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)	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	22.4
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	22.4
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	160
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	435
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	0.97	
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	0.99	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	1450	
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	1450	
Peak-hour factor, PHF	0.92	0.92	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	279	
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	0.45	
Uniform Delay, d1	53.6	20.3		52.1	28.1	19.4	53.9	54.8		47.7	42.8	
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	1.1	
Delay (s)	107.1	22.4		74.0	36.6	16.1	55.0	71.8		69.0	44.0	
Level of Service	F	C		E	D	B	D	E		E	D	
Approach Delay (s)		32.7			32.4			68.7			60.7	
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	579	128	1796	1206	197	326	577	193	239	15
v/c Ratio	0.38	0.64	0.33	1.39	0.72	1.11	0.53	0.36	0.58	0.41	0.05
Control Delay	66.5	50.0	9.7	210.0	26.3	150.9	49.6	8.1	62.0	47.1	18.1
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	50.0	9.7	210.0	26.3	150.9	49.6	8.1	62.0	47.1	18.1
Queue Length 50th (ft)	36	158	0	~1007	390	~185	127	75	77	90	0
Queue Length 95th (ft)	85	217	55	#1321	547	#384	183	115	129	135	19
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	138	1137	457	1295	1750	178	868	1797	376	870	406
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	0.34	0.51	0.28	1.39	0.69	1.11	0.38	0.32	0.51	0.27	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	533	118	1652	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	579	128	1796	922	284	197	326	577	193	239	15
RTOR Reduction (vph)	0	0	102	0	19	0	0	0	0	0	0	12
Lane Group Flow (vph)	47	579	26	1796	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	23.5	23.5	48.4	64.4		13.1	21.1	69.5	12.8	20.8	20.8
Effective Green, g (s)	8.4	25.0	25.0	49.3	65.9		13.1	22.6	71.3	12.8	22.3	22.3
Actuated g/C Ratio	0.07	0.20	0.20	0.40	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	932	296	1286	1644		176	608	1546	334	579	263
v/s Ratio Prot	0.03	0.12		c0.55	c0.38		c0.12	c0.10	0.21	c0.06	0.07	
v/s Ratio Perm			0.02									0.00
v/c Ratio	0.45	0.62	0.09	1.40	0.72		1.12	0.54	0.37	0.58	0.41	0.01
Uniform Delay, d1	56.0	45.6	40.6	37.8	22.5		55.9	46.3	14.6	53.4	45.4	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	4.1	1.5	0.2	183.3	1.7		103.5	1.2	0.2	2.9	0.7	0.0
Delay (s)	60.1	47.0	40.8	221.0	24.2		159.3	47.5	14.8	56.3	46.1	42.2
Level of Service	E	D	D	F	C		F	D	B	E	D	D
Approach Delay (s)		46.8			141.9			50.4			50.4	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	101.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	124.8	Sum of lost time (s)	11.1
Intersection Capacity Utilization	87.7%	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)	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	1142	785
v/c Ratio	0.10	0.99	0.41	0.05	1.08	0.48	1.33	0.31
Control Delay	34.0	105.9	6.7	39.6	104.4	22.0	182.1	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0
Total Delay	34.0	105.9	6.7	39.6	104.4	22.0	184.2	5.6
Queue Length 50th (ft)	10	153	0	3	~353	74	~1048	76
Queue Length 95th (ft)	33	#308	40	m5	#483	146	#1301	147
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	202	217	693	92	763	573	861	2527
Starvation Cap Reductn	0	0	0	0	0	0	3	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	0.10	0.99	0.41	0.05	1.08	0.48	1.33	0.31

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)	15	0	5	196	2	260	5	758	254	1051	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	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)		1696			1775	2787	1678	3355	1583	1770	3432	
Flt Permitted		0.69			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1209			1328	2787	1678	3355	1583	1770	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	1142	734	51
RTOR Reduction (vph)	0	4	0	0	0	237	0	0	213	0	4	0
Lane Group Flow (vph)	0	17	0	0	215	46	5	824	63	1142	781	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)		18.0			18.0	18.0	1.2	25.0	25.0	53.5	77.3	
Effective Green, g (s)		18.0			18.0	18.0	1.2	25.0	25.0	53.5	77.3	
Actuated g/C Ratio		0.16			0.16	0.16	0.01	0.23	0.23	0.49	0.70	
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)		198			217	456	18	763	360	861	2412	
v/s Ratio Prot							0.00	c0.25		c0.65	0.23	
v/s Ratio Perm		0.01			c0.16	0.02			0.04			
v/c Ratio		0.08			0.99	0.10	0.28	1.08	0.17	1.33	0.32	
Uniform Delay, d1		39.0			45.9	39.1	54.0	42.5	34.2	28.2	6.3	
Progression Factor		1.00			1.00	1.00	0.78	1.28	4.41	1.00	1.00	
Incremental Delay, d2		0.2			58.3	0.1	7.0	54.0	0.9	154.9	0.4	
Delay (s)		39.2			104.2	39.2	49.0	108.3	151.7	183.2	6.6	
Level of Service		D			F	D	D	F	F	F	A	
Approach Delay (s)		39.2			67.3			118.9			111.3	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM Average Control Delay	107.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	197	117	125	240	201	152	836	82	872
v/c Ratio	0.73	0.54	0.33	0.60	0.74	0.46	0.70	0.58	0.51	0.65
Control Delay	63.8	44.9	9.2	55.9	57.5	13.8	62.6	25.6	54.6	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	44.9	9.2	55.9	57.5	13.8	62.6	25.6	54.6	36.0
Queue Length 50th (ft)	108	123	0	87	134	9	102	243	57	284
Queue Length 95th (ft)	#192	195	47	154	237	114	#173	320	m95	m336
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	245	409	381	241	379	478	241	1452	178	1351
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	0.66	0.48	0.31	0.52	0.63	0.42	0.63	0.58	0.46	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)	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	4.6	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	1770	1863	1559	1652	3153		1770	3392	
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	1770	1863	1559	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	94	0	0	166	0	12	0	0	8	0
Lane Group Flow (vph)	161	197	23	125	240	35	152	824	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		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	15.5	21.8	21.8	13.0	19.3	19.3	14.5	49.4		8.6	43.5	
Effective Green, g (s)	15.5	21.8	21.8	13.0	19.3	19.3	14.5	49.4		8.6	43.5	
Actuated g/C Ratio	0.14	0.20	0.20	0.12	0.18	0.18	0.13	0.45		0.08	0.40	
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)	222	366	259	209	327	274	218	1416		138	1341	
v/s Ratio Prot	c0.10	0.11		0.07	c0.13		c0.09	0.26		0.05	c0.25	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	0.73	0.54	0.09	0.60	0.73	0.13	0.70	0.58		0.59	0.64	
Uniform Delay, d1	45.2	39.6	36.0	46.0	42.9	38.3	45.7	22.6		49.0	27.0	
Progression Factor	1.00	1.00	1.00	0.96	1.03	1.91	1.00	1.00		0.94	1.19	
Incremental Delay, d2	11.9	1.9	0.2	5.2	8.7	0.3	10.0	1.8		7.1	2.2	
Delay (s)	57.1	41.5	36.2	49.3	52.8	73.3	55.7	24.3		53.2	34.3	
Level of Service	E	D	D	D	D	E	E	C		D	C	
Approach Delay (s)		45.5			59.3			29.2			36.0	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	64.9%	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	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	53.3	7.0	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	53.3	7.0	53.4	7.6	44.5	0.0	51.7	16.2	53.2
Queue Length 50th (ft)	8	72	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	1.05	0.88		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)	69.6	5.9		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)		8.1			9.6			47.0			48.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	14.4	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	1.14	0.77	0.74	0.85	0.49	1.72
Control Delay	117.7	18.5	37.6	14.6	1.0	362.7
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	117.7	18.5	37.6	14.7	1.0	362.7
Queue Length 50th (ft)	~644	155	340	655	0	~889
Queue Length 95th (ft)	#783	252	m322	m587	0	#1041
Internal Link Dist (ft)	366			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1018	1244	1134	2337	1686	684
Starvation Cap Reductn	0	0	0	13	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	0.77	0.74	0.86	0.49	1.72

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)		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
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	442	0	0	0	0	0	0	0	0	30
Lane Group Flow (vph)	0	1157	510	836	1995	0	0	0	826	0	0	1148
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		42.5	42.5	50.5	97.5				140.0			33.5
Effective Green, g (s)		42.5	42.5	50.5	97.5				140.0			33.5
Actuated g/C Ratio		0.30	0.30	0.36	0.70				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)		1018	802	1134	2337				1686			654
v/s Ratio Prot		c0.34		0.27	c0.59							
v/s Ratio Perm			0.19						0.49			c0.42
v/c Ratio		1.14	0.64	0.74	0.85				0.49			1.76
Uniform Delay, d1		48.8	42.1	39.0	15.9				0.0			53.2
Progression Factor		1.00	1.00	0.90	0.77				1.00			1.00
Incremental Delay, d2		73.7	3.8	1.9	1.9				1.0			346.4
Delay (s)		122.5	45.9	37.2	14.2				1.0			399.7
Level of Service		F	D	D	B				A			F
Approach Delay (s)		87.9			21.0			1.0			399.7	
Approach LOS		F			C			A			F	

Intersection Summary			
HCM Average Control Delay	103.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
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	0.99	0.38	0.51	0.71	0.59	1.14
Control Delay	48.9	0.4	10.1	16.2	1.6	80.0
Queue Delay	0.0	0.0	0.5	2.3	0.0	7.7
Total Delay	48.9	0.4	10.5	18.5	1.6	87.7
Queue Length 50th (ft)	302	0	239	373	0	~416
Queue Length 95th (ft)	m306	m0	285	530	0	#678
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	707	3355	2384	1093	1611	1528
Starvation Cap Reductn	0	0	645	189	0	0
Spillback Cap Reductn	0	0	51	0	0	23
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.38	0.70	0.86	0.59	1.16

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.

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)	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	5	0	0	0	0	0	0
Lane Group Flow (vph)	697	1286	0	0	1211	775	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)	31.5	140.0			99.5	99.5			140.0			140.0
Effective Green, g (s)	31.5	140.0			99.5	99.5			140.0			140.0
Actuated g/C Ratio	0.22	1.00			0.71	0.71			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)	707	3355			2384	1088			1611			1528
v/s Ratio Prot	0.22	0.38			0.36							
v/s Ratio Perm						0.51			0.59			c1.14
v/c Ratio	0.99	0.38			0.51	0.71			0.59			1.14
Uniform Delay, d1	54.0	0.0			9.2	11.9			0.0			70.0
Progression Factor	0.50	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	19.7	0.2			0.8	4.0			1.6			73.1
Delay (s)	46.8	0.2			9.9	15.9			1.6			143.1
Level of Service	D	A			A	B			A			F
Approach Delay (s)		16.6			12.3			1.6			143.1	
Approach LOS		B			B			A			F	

Intersection Summary			
HCM Average Control Delay	46.3	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	1.10	0.68	0.29	1.09	0.07	1.07	0.49	0.03	0.44	0.94	0.62
Control Delay	113.8	35.6	0.4	116.5	25.3	102.5	24.8	14.0	61.4	66.1	28.4
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	113.8	35.6	0.4	116.5	25.3	102.5	24.8	14.0	61.4	66.1	28.4
Queue Length 50th (ft)	~229	280	0	~338	7	~419	220	3	42	269	99
Queue Length 95th (ft)	#413	402	0	#534	29	#629	278	16	86	#386	193
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	295	676	1770	368	320	470	1582	590	142	737	444
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	1.10	0.68	0.29	1.09	0.07	1.07	0.49	0.03	0.41	0.94	0.62

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	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	1469	1652	3539	1336	1652	3303	1549
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)	243	1739	1770		1733	1469	1652	3539	1336	1652	3303	1549
Peak-hour factor, PHF	0.92	0.92	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	97
Lane Group Flow (vph)	325	458	512	0	401	13	504	770	10	58	693	178
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)	44.6	44.6	116.9		24.1	24.1	32.0	50.8	50.8	7.1	25.8	25.8
Effective Green, g (s)	45.1	45.1	116.9		24.6	24.6	33.0	51.8	50.8	8.0	26.8	26.8
Actuated g/C Ratio	0.39	0.39	1.00		0.21	0.21	0.28	0.44	0.43	0.07	0.23	0.23
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)	293	671	1770		365	309	466	1568	581	113	757	355
v/s Ratio Prot	c0.16	0.26					c0.31	0.22		0.04	c0.21	
v/s Ratio Perm	c0.27		0.29		0.23	0.01			0.01			0.11
v/c Ratio	1.11	0.68	0.29		1.10	0.04	1.08	0.49	0.02	0.51	0.92	0.50
Uniform Delay, d1	33.6	29.9	0.0		46.2	36.8	42.0	23.2	18.8	52.6	43.9	39.2
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	85.2	3.1	0.4		76.3	0.1	65.4	0.7	0.0	4.5	16.9	3.1
Delay (s)	118.7	33.0	0.4		122.5	36.8	107.4	23.9	18.9	57.1	60.8	42.3
Level of Service	F	C	A		F	D	F	C	B	E	E	D
Approach Delay (s)		41.6			118.2			56.5			55.7	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM Average Control Delay	58.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	116.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	28	90	1017	160	1899
v/c Ratio	0.14	0.30	0.28	0.47	0.74
Control Delay	18.7	7.2	4.1	14.4	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	7.2	4.1	14.4	10.7
Queue Length 50th (ft)	9	0	30	16	143
Queue Length 95th (ft)	21	25	90	#125	#501
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	426	538	3635	340	2564
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	0.28	0.47	0.74

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	0	83	0	894	41	147	1745	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)					1562	1399		4916		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.27	1.00	
Satd. Flow (perm)					1245	1399		4916		459	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	28	0	90	0	972	45	160	1897	2
RTOR Reduction (vph)	0	0	0	0	0	78	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	28	12	0	1012	0	160	1899	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)					7.4	7.4		39.1		39.1	39.1	
Effective Green, g (s)					7.4	7.4		39.1		39.1	39.1	
Actuated g/C Ratio					0.13	0.13		0.71		0.71	0.71	
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)					167	188		3488		326	2463	
v/s Ratio Prot								0.21			c0.55	
v/s Ratio Perm					c0.02	0.01				0.35		
v/c Ratio					0.17	0.06		0.29		0.49	0.77	
Uniform Delay, d1					21.1	20.8		2.9		3.6	5.1	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.5	0.1		0.0		0.4	1.4	
Delay (s)					21.6	21.0		2.9		4.0	6.5	
Level of Service					C	C		A		A	A	
Approach Delay (s)		0.0			21.1			2.9			6.3	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM Average Control Delay	5.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	8.6
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	11	334	646	42	26
v/c Ratio	0.11	0.21	0.22	0.32	0.18
Control Delay	69.1	0.5	1.7	54.0	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	69.1	0.5	1.7	54.0	19.8
Queue Length 50th (ft)	8	5	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	1.38	0.17	0.62		1.00	1.00
Incremental Delay, d2	11.6	0.3	0.2		2.1	0.1
Delay (s)	85.9	0.5	1.9		51.4	48.3
Level of Service	F	A	A		D	D
Approach Delay (s)		3.2	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	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	0.47	0.36	1.23	0.38	1.09	0.34	1.27	0.62	0.10
Control Delay	173.0	55.2	54.7	43.6	136.6	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	54.7	43.6	136.6	80.0	100.7	6.5	165.2	20.4	2.7
Queue Length 50th (ft)	54	73	120	123	~1364	24	~501	33	~846	382	0
Queue Length 95th (ft)	#151	102	#198	192	#1632	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	621	467	984	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	0.47	0.36	1.23	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		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	0.98
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		3255	1689	1501	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		3255	1689	1501	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	5	0	0	89	0	0	37
Lane Group Flow (vph)	58	161	0	289	166	1203	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		615	463	980	51	1262	677	1115	1925	900
v/s Ratio Prot	c0.03	0.05		0.09	0.10	c0.80	0.02	c0.29	0.12	c0.45	0.37	
v/s Ratio Perm												0.04
v/c Ratio	0.98	0.43		0.47	0.36	1.23	0.53	1.06	0.25	1.28	0.63	0.06
Uniform Delay, d1	68.7	58.1		51.4	41.6	24.7	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		0.2	0.7	111.6	4.5	41.9	0.3	132.5	0.6	0.0
Delay (s)	179.0	59.5		51.6	42.3	136.3	72.4	93.8	23.1	178.5	19.4	12.2
Level of Service	F	E		D	D	F	E	F	C	F	B	B
Approach Delay (s)		89.5			112.2			82.2			102.4	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	99.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	6.8
Intersection Capacity Utilization	106.5%	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)	149	1713	25	1561	165	28	148	187	124
v/c Ratio	0.60	0.78	0.15	0.89	0.20	0.25	0.64	0.49	0.51
Control Delay	52.8	17.4	52.9	18.7	0.5	50.9	21.2	46.7	28.2
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	18.7	0.5	50.9	21.4	46.7	28.2
Queue Length 50th (ft)	95	245	17	90	0	18	1	62	36
Queue Length 95th (ft)	162	#758	m24	#752	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	279
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	0.89	0.20	0.13	0.49	0.40	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)	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	0.91	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	3174		1620	3068	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	3174		1620	3068	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)	149	1696	17	25	1543	183	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)	149	1713	0	25	1561	100	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	183	
v/s Ratio Prot	0.09	c0.54		0.02	c0.51		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.08						
v/c Ratio	0.54	0.79		0.32	0.91	0.14	0.25	0.12		0.49	0.36	
Uniform Delay, d1	39.9	11.7		48.4	21.0	11.1	46.6	46.2		43.0	42.3	
Progression Factor	1.00	1.00		1.19	0.51	0.02	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	3.1		0.8	7.8	0.3	0.4	0.2		1.0	1.2	
Delay (s)	41.0	14.9		58.2	18.4	0.5	47.1	46.4		44.0	43.5	
Level of Service	D	B		E	B	A	D	D		D	D	
Approach Delay (s)		17.0			17.3			46.5			43.8	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
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	262	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.94	0.85	0.59	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	604	100	1721	1305	186	470	800	258	514	45
v/c Ratio	0.39	0.66	0.27	1.79	0.87	1.05	0.54	0.53	0.78	0.62	0.11
Control Delay	62.6	43.9	9.2	381.1	28.5	130.7	37.7	9.6	64.2	39.6	13.2
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	62.6	43.9	9.2	381.1	28.5	130.7	37.7	9.6	64.2	39.6	13.2
Queue Length 50th (ft)	23	140	0	~926	432	~157	150	110	91	166	4
Queue Length 95th (ft)	56	181	44	m#842	m406	#298	205	144	#152	224	33
Internal Link Dist (ft)		238			306		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	87	970	387	964	1503	177	866	1501	332	825	403
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	0.62	0.26	1.79	0.87	1.05	0.54	0.53	0.78	0.62	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.

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)	31	556	92	1583	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	3137		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	3137		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)	34	604	100	1721	1054	251	186	470	800	258	514	45
RTOR Reduction (vph)	0	0	79	0	18	0	0	0	0	0	0	28
Lane Group Flow (vph)	34	604	21	1721	1287	0	186	470	800	258	514	17
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	21.2	21.2	32.0	49.6		11.4	24.8	56.8	11.0	24.4	24.4
Effective Green, g (s)	3.6	22.7	22.7	32.0	51.1		11.4	26.3	56.8	11.0	25.9	25.9
Actuated g/C Ratio	0.03	0.21	0.21	0.30	0.47		0.11	0.24	0.53	0.10	0.24	0.24
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)	52	978	310	964	1484		177	817	1423	332	777	353
v/s Ratio Prot	0.02	0.13		c0.53	c0.41		c0.11	0.14	0.30	0.08	c0.16	
v/s Ratio Perm			0.01									0.01
v/c Ratio	0.65	0.62	0.07	1.79	0.87		1.05	0.58	0.56	0.78	0.66	0.05
Uniform Delay, d1	51.6	38.7	34.2	38.0	25.4		48.3	35.9	17.2	47.3	37.1	31.6
Progression Factor	1.00	1.00	1.00	1.00	1.03		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.2	1.3	0.1	354.4	1.5		81.7	2.9	0.6	11.5	4.4	0.3
Delay (s)	79.8	40.0	34.3	392.4	27.7		130.0	38.9	17.9	58.8	41.5	31.8
Level of Service	E	D	C	F	C		F	D	B	E	D	C
Approach Delay (s)		41.1			235.1			39.0			46.4	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	138.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	189	1120	379	253	1908	150	153	89	368
v/c Ratio	1.40	0.61	0.45	0.73	0.79	0.53	0.53	0.25	0.98
Control Delay	248.1	17.9	1.8	53.6	25.9	44.4	44.3	8.0	66.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	248.1	17.9	1.8	53.6	25.9	44.4	44.3	8.0	66.4
Queue Length 50th (ft)	~176	119	0	159	356	103	105	0	63
Queue Length 95th (ft)	#322	291	0	#324	#659	135	137	34	#162
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	135	1846	836	347	2411	522	532	573	375
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	1.40	0.61	0.45	0.73	0.79	0.29	0.29	0.16	0.98

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	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		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		0.92	
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	1571	1514		3024	
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	1571	1514		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)	189	1120	379	253	1840	68	246	57	89	45	126	197
RTOR Reduction (vph)	0	0	229	0	3	0	0	0	73	0	185	0
Lane Group Flow (vph)	189	1120	150	253	1905	0	150	153	16	0	183	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)	8.0	41.8	41.8	21.4	55.2		19.4	19.4	19.4		6.2	
Effective Green, g (s)	9.0	42.8	42.8	22.4	56.2		20.0	20.0	20.0		6.8	
Actuated g/C Ratio	0.08	0.40	0.40	0.21	0.52		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)	135	1845	607	348	2407		285	291	280		190	
v/s Ratio Prot	c0.12	0.24		0.15	c0.41		c0.10	0.10			c0.06	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	1.40	0.61	0.25	0.73	0.79		0.53	0.53	0.06		0.97	
Uniform Delay, d1	49.5	25.9	21.8	39.9	21.1		39.7	39.7	36.2		50.5	
Progression Factor	0.72	0.58	0.03	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	216.9	1.4	0.9	7.9	2.8		2.3	2.2	0.1		55.0	
Delay (s)	252.6	16.5	1.6	47.8	23.9		42.0	41.9	36.4		105.5	
Level of Service	F	B	A	D	C		D	D	D		F	
Approach Delay (s)		39.6			26.7			40.7			105.5	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM Average Control Delay	38.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	108.0	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	1.49	0.71	1.48	0.96	1.99	0.29	0.37	0.40	0.74
Control Delay	299.1	25.5	252.4	17.6	498.9	28.2	5.4	53.3	33.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	299.1	25.5	252.4	17.6	498.9	28.2	5.4	53.3	33.8
Queue Length 50th (ft)	~128	201	~366	260	~128	64	0	16	156
Queue Length 95th (ft)	#250	254	m#260	m172	#207	87	50	36	195
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	102	1715	296	1569	132	1044	688	135	1044
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	1.49	0.71	1.48	0.96	1.99	0.24	0.33	0.40	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)	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	1660	3204	3074	
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	1660	3204	3074	
Peak-hour factor, PHF	0.92	0.92	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	88	0	0	2	0	0	0	166	0	59	0
Lane Group Flow (vph)	152	1124	0	439	1501	0	263	248	60	54	551	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)	6.1	32.8		17.1	43.8		5.0	25.6	25.6	4.0	24.6	
Effective Green, g (s)	6.0	33.8		17.0	44.8		4.0	25.2	25.2	3.0	24.2	
Actuated g/C Ratio	0.06	0.36		0.18	0.47		0.04	0.27	0.27	0.03	0.25	
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)	102	1599		296	1546		132	859	440	101	783	
v/s Ratio Prot	c0.09	0.25		c0.27	c0.46		c0.08	0.08		0.02	c0.18	
v/s Ratio Perm									0.04			
v/c Ratio	1.49	0.70		1.48	0.97		1.99	0.29	0.14	0.53	0.70	
Uniform Delay, d1	44.5	26.3		39.0	24.5		45.5	27.8	26.6	45.3	32.1	
Progression Factor	1.00	1.00		1.13	0.50		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	265.2	2.6		219.1	2.9		472.5	0.3	0.2	6.8	3.1	
Delay (s)	309.7	28.9		263.0	15.0		518.0	28.0	26.8	52.1	35.2	
Level of Service	F	C		F	B		F	C	C	D	D	
Approach Delay (s)		60.2			71.1			202.5			36.6	
Approach LOS		E			E			F			D	

Intersection Summary			
HCM Average Control Delay	83.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
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	1109	1270
v/c Ratio	0.33	0.48	0.52	0.17	1.19	0.16	1.24	0.48
Control Delay	43.2	57.1	9.1	56.1	119.3	4.0	140.5	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	57.1	9.1	56.1	119.3	4.0	140.5	5.1
Queue Length 50th (ft)	23	46	0	13	~493	10	~978	98
Queue Length 95th (ft)	57	87	40	m0	#614	m12	#1287	169
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	219	234	678	103	915	480	897	2663
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	0.21	0.29	0.39	0.17	1.19	0.16	1.24	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)	32	0	9	60	2	244	16	1001	72	1020	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	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)		1698			1777	2787	1678	3355	1583	1770	3427	
Flt Permitted		0.73			0.77	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1286			1428	2787	1678	3355	1583	1770	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	1109	1179	91
RTOR Reduction (vph)	0	9	0	0	0	239	0	0	49	0	4	0
Lane Group Flow (vph)	0	36	0	0	67	26	17	1088	29	1109	1266	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)		10.8			10.8	10.8	3.0	30.0	30.0	55.7	82.7	
Effective Green, g (s)		10.8			10.8	10.8	3.0	30.0	30.0	55.7	82.7	
Actuated g/C Ratio		0.10			0.10	0.10	0.03	0.27	0.27	0.51	0.75	
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)		126			140	274	46	915	432	896	2576	
v/s Ratio Prot							0.01	c0.32		c0.63	0.37	
v/s Ratio Perm		0.03			c0.05	0.01			0.02			
v/c Ratio		0.29			0.48	0.09	0.37	1.19	0.07	1.24	0.49	
Uniform Delay, d1		46.0			46.9	45.2	52.6	40.0	29.6	27.1	5.4	
Progression Factor		1.00			1.00	1.00	1.10	0.64	0.37	1.00	0.82	
Incremental Delay, d2		1.3			2.6	0.2	3.4	92.8	0.2	113.7	0.5	
Delay (s)		47.3			49.5	45.3	61.2	118.5	11.1	140.9	4.8	
Level of Service		D			D	D	E	F	B	F	A	
Approach Delay (s)		47.3			46.2			110.6			68.3	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM Average Control Delay	78.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	220	328	175	441	145	229	1164	43	1214
v/c Ratio	0.85	0.57	0.72	0.80	1.06	0.31	1.02	0.76	0.39	0.95
Control Delay	87.1	45.7	22.4	62.0	98.2	13.0	111.0	24.4	65.7	44.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.1	45.7	22.4	62.0	98.2	13.0	111.0	24.4	65.7	44.7
Queue Length 50th (ft)	103	141	60	124	~352	28	~174	244	28	425
Queue Length 95th (ft)	#218	222	172	#234	#557	86	#336	292	m69	#573
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	172	388	457	225	418	463	225	1538	113	1280
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	0.85	0.57	0.72	0.78	1.06	0.31	1.02	0.76	0.38	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)	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	4.6	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	1770	1863	1559	1652	3117		1770	3409	
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	1770	1863	1559	1652	3117		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	182	0	0	112	0	22	0	0	6	0
Lane Group Flow (vph)	146	220	146	175	441	33	229	1142	0	43	1208	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)	12.0	23.1	23.1	13.6	24.7	24.7	15.0	51.9		4.2	41.1	
Effective Green, g (s)	12.0	23.1	23.1	13.6	24.7	24.7	15.0	51.9		4.2	41.1	
Actuated g/C Ratio	0.11	0.21	0.21	0.12	0.22	0.22	0.14	0.47		0.04	0.37	
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)	172	387	274	219	418	350	225	1471		68	1274	
v/s Ratio Prot	c0.09	0.12		0.10	c0.24		c0.14	0.37		0.02	c0.35	
v/s Ratio Perm			0.11			0.02						
v/c Ratio	0.85	0.57	0.53	0.80	1.06	0.09	1.02	0.78		0.63	0.95	
Uniform Delay, d1	48.1	39.0	38.6	46.9	42.6	33.8	47.5	24.2		52.1	33.4	
Progression Factor	1.00	1.00	1.00	0.78	0.97	1.92	1.04	0.90		1.14	0.89	
Incremental Delay, d2	31.2	2.3	2.5	17.6	57.2	0.1	61.7	3.7		17.9	14.5	
Delay (s)	79.4	41.3	41.1	54.3	98.7	64.9	111.0	25.5		77.0	44.1	
Level of Service	E	D	D	D	F	E	F	C		E	D	
Approach Delay (s)		49.2			82.0			39.6			45.3	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	50.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	86.0%	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)	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	70.4	10.4	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	70.4	10.4	59.9	29.9	47.8	22.8	57.3	17.4	56.4
Queue Length 50th (ft)	51	55	69	546	11	1	34	2	15
Queue Length 95th (ft)	#137	240	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	1.15	0.90		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)	60.1	9.1		51.9	33.6		48.5	47.2		52.3	47.5	
Level of Service	E	A		D	C		D	D		D	D	
Approach Delay (s)		18.1			35.1			47.9			49.7	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	32.6	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	0.89	0.30	0.12	1.22	0.62	0.23	0.04	0.23	0.76
Control Delay	104.1	9.8	35.8	133.4	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	104.1	9.8	35.8	133.4	46.9	18.8	8.5	19.4	27.5
Queue Length 50th (ft)	38	53	5	~508	24	39	0	24	135
Queue Length 95th (ft)	#131	150	21	#823	#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	1080	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	0.89	0.30	0.12	1.22	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)	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	1704		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	1918		1711	1704		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)	90	216	104	12	896	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)	90	302	0	12	952	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	1015		17	823		103	519	369	326	492	
v/s Ratio Prot	c0.05	c0.16		0.01	c0.56			0.07			c0.22	
v/s Ratio Perm							0.18		0.00	0.07		
v/c Ratio	0.94	0.30		0.71	1.16		0.65	0.24	0.01	0.24	0.77	
Uniform Delay, d1	33.6	9.4		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	71.6	0.2		88.4	84.3		15.1	0.3	0.0	0.5	7.8	
Delay (s)	105.1	9.6		123.6	102.7		37.8	20.3	18.6	20.4	31.4	
Level of Service	F	A		F	F		D	C	B	C	C	
Approach Delay (s)		30.6			103.0			25.8			29.7	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM Average Control Delay	63.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	71.4	Sum of lost time (s)	17.5
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	1.10	0.21	0.05	0.12	1.13	0.35	0.01	0.21	1.00
Control Delay	137.2	7.9	42.2	18.3	108.9	11.2	9.4	42.3	52.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	137.2	7.9	42.2	18.3	108.9	11.2	9.4	42.3	52.3
Queue Length 50th (ft)	~100	4	2	5	~299	57	1	12	222
Queue Length 95th (ft)	#300	38	14	25	#688	212	14	44	#525
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	173	750	83	653	500	1949	871	130	1072
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	1.10	0.13	0.05	0.04	1.13	0.35	0.01	0.21	1.00

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)	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	1530		1652	1572		1652	3240	1449	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	1530		1652	1572		1652	3240	1449	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	64	0	0	13	0	0	0	3	0	110	0
Lane Group Flow (vph)	191	32	0	4	15	0	563	674	10	27	957	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)	8.1	20.9		0.6	13.4		24.3	48.3	48.3	2.2	26.2	
Effective Green, g (s)	8.1	20.9		0.6	13.4		24.3	48.3	48.3	2.2	26.2	
Actuated g/C Ratio	0.10	0.25		0.01	0.16		0.29	0.57	0.57	0.03	0.31	
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)	164	378		12	249		475	1852	828	45	985	
v/s Ratio Prot	c0.11	c0.02		0.00	0.01		c0.34	0.21		0.02	c0.30	
v/s Ratio Perm									0.01			
v/c Ratio	1.16	0.08		0.33	0.06		1.19	0.36	0.01	0.60	0.97	
Uniform Delay, d1	38.2	24.4		41.8	30.2		30.1	9.8	7.8	40.7	28.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	121.4	0.1		21.0	0.1		103.0	0.2	0.0	22.7	22.1	
Delay (s)	159.6	24.6		62.8	30.3		133.1	10.0	7.8	63.4	50.8	
Level of Service	F	C		E	C		F	A	A	E	D	
Approach Delay (s)		114.5			34.4			65.4			51.2	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	64.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	84.5	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	1.5
Queue Delay	0.0	0.0	0.0	1.1	0.0
Total Delay	49.5	24.2	3.2	4.2	1.5
Queue Length 50th (ft)	26	0	1	92	42
Queue Length 95th (ft)	54	13	9	221	m84
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

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

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	0.40	
Incremental Delay, d2	2.1	0.0	0.6	0.6	0.4	
Delay (s)	51.5	48.3	1.8	2.6	1.2	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.6	1.2	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	2.6	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	1.17	0.63	1.08	0.97	0.50	1.61
Control Delay	117.1	6.0	72.9	18.0	1.2	311.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.1	6.0	72.9	18.0	1.2	311.3
Queue Length 50th (ft)	~455	16	~437	291	0	~489
Queue Length 95th (ft)	#596	62	m#522	m#880	0	#627
Internal Link Dist (ft)	367			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	937	1232	1003	2134	1517	545
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	1.17	0.63	1.08	0.97	0.50	1.61

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)		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
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			2460
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			2460
Peak-hour factor, PHF	0.92	0.92	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	495	0	0	0	0	0	0	0	0	28
Lane Group Flow (vph)	0	1097	283	1079	2077	0	0	0	763	0	0	848
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		33.5	33.5	38.3	76.3				108.0			22.7
Effective Green, g (s)		33.5	33.5	38.3	76.3				108.0			22.7
Actuated g/C Ratio		0.31	0.31	0.35	0.71				1.00			0.21
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)		937	738	1003	2134				1517			517
v/s Ratio Prot		c0.36		c0.38	0.69							
v/s Ratio Perm			0.12						0.50			c0.34
v/c Ratio		1.17	0.38	1.08	0.97				0.50			1.64
Uniform Delay, d1		37.2	29.2	34.9	14.9				0.0			42.6
Progression Factor		0.83	1.09	0.79	0.48				1.00			1.00
Incremental Delay, d2		86.9	0.3	44.5	9.3				1.2			297.1
Delay (s)		117.8	32.2	72.1	16.5				1.2			339.7
Level of Service		F	C	E	B				A			F
Approach Delay (s)		82.3			35.5			1.2			339.7	
Approach LOS		F			D			A			F	

Intersection Summary			
HCM Average Control Delay	84.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	97.5%	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)	627	1182	1638	516	565	1468
v/c Ratio	0.80	0.35	0.73	0.49	0.35	0.96
Control Delay	41.8	0.1	9.3	4.7	0.6	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	0.1	9.3	4.7	0.6	17.7
Queue Length 50th (ft)	230	0	78	9	0	0
Queue Length 95th (ft)	m227	m0	m322	m95	0	#175
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	975	3355	2236	1045	1611	1528
Starvation Cap Reductn	0	0	9	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	0.64	0.35	0.74	0.49	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	25	0	0	0	0	0	0
Lane Group Flow (vph)	627	1182	0	0	1638	491	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)	27.0	108.0			72.0	72.0			108.0			108.0
Effective Green, g (s)	27.0	108.0			72.0	72.0			108.0			108.0
Actuated g/C Ratio	0.25	1.00			0.67	0.67			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)	786	3355			2237	1021			1611			1528
v/s Ratio Prot	0.20	0.35			0.49							
v/s Ratio Perm						0.32			0.35			c0.96
v/c Ratio	0.80	0.35			0.73	0.48			0.35			0.96
Uniform Delay, d1	37.9	0.0			11.7	8.8			0.0			0.0
Progression Factor	1.02	1.00			0.61	0.43			1.00			1.00
Incremental Delay, d2	2.5	0.0			1.4	1.0			0.6			15.4
Delay (s)	41.1	0.0			8.5	4.8			0.6			15.4
Level of Service	D	A			A	A			A			B
Approach Delay (s)		14.3			7.6			0.6			15.4	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	108.0	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	2.29	0.75	0.02	0.65	1.25	1.01
Control Delay	301.1	16.8	0.3	247.0	20.1	610.1	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	301.1	16.8	0.3	247.0	20.1	610.1	23.8	11.7	70.2	153.3	63.7
Queue Length 50th (ft)	~294	202	0	~553	6	~841	255	2	42	~404	~236
Queue Length 95th (ft)	#461	291	0	#766	24	#1050	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	365	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	2.29	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	1.00	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	1652	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	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)	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	365	1442	531	92	800	376
v/s Ratio Prot	c0.17	0.23					c0.51	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	2.29	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	0.65	0.65	1.00		1.00	1.00	1.04	0.82	0.81	0.99	0.95	0.89
Incremental Delay, d2	281.8	0.9	0.3		217.7	0.1	588.0	4.0	0.1	38.8	121.7	51.3
Delay (s)	297.3	14.8	0.3		252.7	26.1	626.5	23.9	14.1	82.7	155.8	83.4
Level of Service	F	B	A		F	C	F	C	B	F	F	F
Approach Delay (s)		96.6			245.7			280.7			127.9	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	189.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.65		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	133.6%	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	2295
v/c Ratio	0.17	0.10	0.01	0.30	0.28	0.75
Control Delay	46.3	19.5	5.0	2.9	6.0	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.4
Total Delay	46.3	19.5	5.0	2.9	6.0	8.7
Queue Length 50th (ft)	12	0	0	67	7	233
Queue Length 95th (ft)	31	18	m0	m85	48	773
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		115	
Base Capacity (vph)	250	297	83	4376	293	3076
Starvation Cap Reductn	0	0	0	0	0	533
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.05	0.01	0.30	0.28	0.90

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	2108	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	1652	4935		1618	3470	
Flt Permitted					0.74	1.00	0.05	1.00		0.19	1.00	
Satd. Flow (perm)					1222	1397	93	4935		330	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	2291	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	2295	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	80	4222		282	2968	
v/s Ratio Prot								0.27			c0.66	
v/s Ratio Perm					c0.01	0.00	0.01			0.25		
v/c Ratio					0.22	0.01	0.01	0.31		0.29	0.77	
Uniform Delay, d1					48.7	48.0	1.2	1.6		1.5	3.4	
Progression Factor					1.00	1.00	1.44	1.33		1.00	1.00	
Incremental Delay, d2					1.4	0.0	0.0	0.0		2.6	2.0	
Delay (s)					50.1	48.0	1.7	2.1		4.2	5.4	
Level of Service					D	D	A	A		A	A	
Approach Delay (s)		0.0			49.2			2.1			5.4	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	75	440	1212	57	64
v/c Ratio	0.47	0.27	0.47	0.39	0.34
Control Delay	66.0	0.7	3.8	55.0	16.6
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay	66.0	0.7	4.0	55.0	16.6
Queue Length 50th (ft)	54	6	62	39	0
Queue Length 95th (ft)	m72	17	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	1.26	0.20	0.47		1.00	1.00
Incremental Delay, d2	2.7	0.3	0.5		2.6	0.1
Delay (s)	63.8	0.7	3.5		51.6	47.8
Level of Service	E	A	A		D	D
Approach Delay (s)		9.9	3.5		49.6	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.3	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	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	0.25	0.08	1.59	0.72	1.05	0.44	1.98	0.85	0.12
Control Delay	316.7	47.7	31.8	23.6	294.9	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	31.8	23.6	294.9	117.5	91.2	3.2	477.4	48.6	10.3
Queue Length 50th (ft)	~143	63	98	31	~1954	42	~442	20	~728	471	8
Queue Length 95th (ft)	#275	93	158	59	#2224	#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	1238	739	936	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	0.25	0.08	1.59	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		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)	114	130	53	315	58	1488	46	1213	451	993	1047	70
RTOR Reduction (vph)	0	43	0	0	0	3	0	0	125	0	0	35
Lane Group Flow (vph)	114	140	0	315	58	1485	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		1231	735	940	54	1173	913	499	1223	571
v/s Ratio Prot	c0.07	0.05		0.10	0.03	c0.99	0.03	c0.26	0.22	c0.32	0.32	
v/s Ratio Perm												0.02
v/c Ratio	1.48	0.44		0.26	0.08	1.58	0.85	1.03	0.36	1.99	0.86	0.06
Uniform Delay, d1	67.6	59.7		30.3	23.4	26.5	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		0.0	0.1	266.2	68.8	35.5	0.3	452.6	6.5	0.1
Delay (s)	340.8	61.5		30.4	23.4	292.7	137.0	88.5	12.8	512.2	47.1	28.2
Level of Service	F	E		C	C	F	F	F	B	F	D	C
Approach Delay (s)		168.7			239.9			69.8			265.4	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	196.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	141.7	Sum of lost time (s)	11.8
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
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	1553	571	74	290	901	557
v/c Ratio	1.05	1.04	0.80	1.18	0.67	0.58	0.99	1.08	1.01
Control Delay	130.3	67.1	72.7	108.4	3.1	65.5	67.8	90.9	64.0
Queue Delay	0.0	232.4	0.0	0.4	1.6	0.0	53.2	5.2	0.0
Total Delay	130.3	299.5	72.7	108.8	4.6	65.5	121.0	96.1	64.0
Queue Length 50th (ft)	~132	~536	90	~691	0	49	62	~348	~253
Queue Length 95th (ft)	#270	#674	m126	m#792	m24	#108	#238	#471	#485
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	170	1309	216	1312	850	128	293	838	553
Starvation Cap Reductn	0	0	0	1	133	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	1.18	0.80	0.58	1.15	1.09	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	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	0.91	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	3174		1620	3054	1319	1678	1431		3143	1443	
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	1443	
Peak-hour factor, PHF	0.92	0.92	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	3	273	0	184	0	0	168	0
Lane Group Flow (vph)	179	1359	0	157	1550	298	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	1309	578	128	109		838	385	
v/s Ratio Prot	0.11	c0.43		0.10	c0.51		0.04	c0.07		c0.29	0.27	
v/s Ratio Perm						0.23						
v/c Ratio	1.05	1.04		0.80	1.18	0.52	0.58	0.97		1.08	1.01	
Uniform Delay, d1	47.0	30.9		44.9	30.0	21.4	46.9	48.4		38.5	38.5	
Progression Factor	1.00	1.00		1.20	0.58	0.10	1.00	1.00		1.00	1.00	
Incremental Delay, d2	83.7	35.5		13.0	88.1	2.1	3.9	77.1		53.3	48.5	
Delay (s)	130.7	66.3		66.7	105.6	4.1	50.8	125.5		91.8	87.0	
Level of Service	F	E		E	F	A	D	F		F	F	
Approach Delay (s)		73.8			77.5			110.3			90.0	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM Average Control Delay	81.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	106.8%	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	0.5	0.0	0.0	0.0	0.2
Total Delay	40.8	140.0	70.0	17.4	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	245	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	0.84	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	690	121	1693	826	401	688	1178	414	243	20
v/c Ratio	0.54	0.80	0.33	1.80	0.65	2.49	0.90	0.84	0.74	0.25	0.04
Control Delay	69.9	57.8	10.1	389.8	29.0	712.7	63.5	20.4	59.3	34.3	12.2
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	69.9	57.8	10.1	389.8	29.0	712.7	63.5	20.4	59.3	34.3	12.2
Queue Length 50th (ft)	59	201	0	~1081	254	~555	294	214	169	80	0
Queue Length 95th (ft)	111	250	53	m#965	m260	#757	#403	268	228	115	19
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	159	873	375	941	1280	161	768	1401	559	987	463
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	0.79	0.32	1.80	0.65	2.49	0.90	0.84	0.74	0.25	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)	68	635	111	1558	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	3109		1678	3355	2706	3255	3240	1474
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	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)	74	690	121	1693	625	201	401	688	1178	414	243	20
RTOR Reduction (vph)	0	0	98	0	23	0	0	0	0	0	0	14
Lane Group Flow (vph)	74	690	23	1693	803	0	401	688	1178	414	243	6
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)	9.7	23.0	23.0	37.0	50.3		12.3	27.0	64.0	22.0	36.7	36.7
Effective Green, g (s)	9.7	24.5	24.5	37.0	51.8		12.3	28.5	64.0	22.0	38.2	38.2
Actuated g/C Ratio	0.08	0.19	0.19	0.29	0.40		0.10	0.22	0.50	0.17	0.30	0.30
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)	118	891	283	941	1258		161	747	1353	559	967	440
v/s Ratio Prot	0.05	c0.15		c0.52	0.26		c0.24	c0.21	0.44	c0.13	0.08	
v/s Ratio Perm			0.02									0.00
v/c Ratio	0.63	0.77	0.08	1.80	0.64		2.49	0.92	0.87	0.74	0.25	0.01
Uniform Delay, d1	57.4	49.1	42.5	45.5	30.6		57.9	48.6	28.3	50.3	34.1	31.6
Progression Factor	1.00	1.00	1.00	1.07	0.94		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.3	4.5	0.2	360.0	0.1		689.0	18.5	6.6	5.6	0.6	0.1
Delay (s)	68.6	53.6	42.7	408.6	29.0		746.8	67.1	34.9	55.9	34.7	31.7
Level of Service	E	D	D	F	C		F	E	C	E	C	C
Approach Delay (s)		53.4			284.1			170.6			47.6	
Approach LOS		D			F			F			D	

Intersection Summary			
HCM Average Control Delay	186.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	423	1996	214	299	1434	265	266	178	299
v/c Ratio	1.15	1.06	0.29	0.87	0.81	0.75	0.74	0.37	1.08
Control Delay	126.1	62.5	1.2	75.3	40.6	58.6	58.0	7.2	101.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.1	62.5	1.2	75.3	40.6	58.6	58.0	7.2	101.3
Queue Length 50th (ft)	~413	~664	2	244	389	214	214	0	~66
Queue Length 95th (ft)	#617	#754	4	#483	#524	300	300	55	#164
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	367	1884	747	343	1773	440	445	560	276
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	1.15	1.06	0.29	0.87	0.81	0.60	0.60	0.32	1.08

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)	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		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		0.91	
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	4627		1539	1559	1514		2960	
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	4627		1539	1559	1514		2960	
Peak-hour factor, PHF	0.92	0.92	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	0	127	0	2	0	0	0	137	0	170	0
Lane Group Flow (vph)	423	1996	87	299	1432	0	265	266	41	0	129	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)	28.0	50.8	50.8	25.2	48.0		28.8	28.8	28.8		4.0	
Effective Green, g (s)	29.0	51.8	51.8	26.2	49.0		29.4	29.4	29.4		4.6	
Actuated g/C Ratio	0.23	0.40	0.40	0.20	0.38		0.23	0.23	0.23		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)	367	1884	619	343	1771		353	358	348		106	
v/s Ratio Prot	c0.26	c0.43		c0.18	0.31		c0.17	0.17			c0.04	
v/s Ratio Perm			0.06						0.03			
v/c Ratio	1.15	1.06	0.14	0.87	0.81		0.75	0.74	0.12		1.22	
Uniform Delay, d1	49.5	38.1	24.0	49.3	35.3		45.9	45.8	39.0		61.7	
Progression Factor	0.73	0.65	0.14	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	91.4	36.9	0.4	21.3	4.1		9.2	8.6	0.2		158.0	
Delay (s)	127.7	61.6	3.7	70.6	39.4		55.1	54.4	39.2		219.7	
Level of Service	F	E	A	E	D		E	D	D		F	
Approach Delay (s)		67.5			44.8			50.9			219.7	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM Average Control Delay	66.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	87.0%	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)	265	1822	170	764	495	295	563	92	701
v/c Ratio	1.06	1.15	0.91	0.80	1.21	0.25	0.75	0.48	0.80
Control Delay	117.1	107.5	74.7	25.4	154.0	23.0	22.7	54.2	39.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	117.1	107.5	74.7	25.4	154.0	23.0	22.7	54.2	39.2
Queue Length 50th (ft)	~187	~488	~100	212	~200	69	187	29	204
Queue Length 95th (ft)	#345	#586	m#170	m255	#302	98	314	56	264
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	249	1578	187	958	409	1224	775	192	981
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	1.06	1.15	0.91	0.80	1.21	0.24	0.73	0.48	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.

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	1661	3204	3124	
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	1661	3204	3124	
Peak-hour factor, PHF	0.92	0.92	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	76	0	0	2	0	0	0	150	0	26	0
Lane Group Flow (vph)	265	1746	0	170	762	0	495	295	413	92	675	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	31.7		11.4	27.6		14.0	36.7	36.7	5.6	28.3	
Effective Green, g (s)	15.4	32.7		11.3	28.6		13.0	36.3	36.3	4.6	27.9	
Actuated g/C Ratio	0.15	0.33		0.11	0.29		0.13	0.36	0.36	0.05	0.28	
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	1475		187	936		409	1176	603	147	872	
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	1.06	1.18		0.91	0.81		1.21	0.25	0.68	0.63	0.77	
Uniform Delay, d1	42.3	33.6		43.8	33.2		43.5	22.3	27.0	46.9	33.2	
Progression Factor	1.00	1.00		0.84	0.60		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	75.0	89.9		28.5	4.6		115.4	0.2	3.5	9.1	4.6	
Delay (s)	117.3	123.5		65.4	24.7		158.9	22.5	30.5	55.9	37.7	
Level of Service	F	F		E	C		F	C	C	E	D	
Approach Delay (s)		122.8			32.1			75.7			39.9	
Approach LOS		F			C			E			D	

Intersection Summary			
HCM Average Control Delay	81.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	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	1135	871
v/c Ratio	0.75	1.04	0.74	0.03	1.26	0.34	1.55	0.34
Control Delay	71.1	117.7	7.1	49.0	142.8	4.3	283.3	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.1	117.7	7.1	49.0	142.8	4.3	283.3	6.4
Queue Length 50th (ft)	53	~168	0	2	~577	10	~1124	85
Queue Length 95th (ft)	#145	#322	58	m3	m#532	m8	#1427	198
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	126	213	1185	92	1007	581	732	2532
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	0.75	1.04	0.74	0.03	1.26	0.34	1.55	0.34

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)	57	3	28	203	0	802	3	1165	180	1044	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	1.00	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)		1685			1770	2787	1678	3355	1583	1770	3438	
Flt Permitted		0.39			0.70	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		675			1303	2787	1678	3355	1583	1770	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	1135	824	47
RTOR Reduction (vph)	0	15	0	0	0	729	0	0	106	0	3	0
Lane Group Flow (vph)	0	80	0	0	221	143	3	1266	90	1135	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)		18.0			18.0	18.0	1.2	33.0	33.0	45.5	77.3	
Effective Green, g (s)		18.0			18.0	18.0	1.2	33.0	33.0	45.5	77.3	
Actuated g/C Ratio		0.16			0.16	0.16	0.01	0.30	0.30	0.41	0.70	
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			213	456	18	1007	475	732	2416	
v/s Ratio Prot							0.00	c0.38		c0.64	0.25	
v/s Ratio Perm		0.12			c0.17	0.05			0.06			
v/c Ratio		0.73			1.04	0.31	0.17	1.26	0.19	1.55	0.36	
Uniform Delay, d1		43.7			46.0	40.5	53.9	38.5	28.6	32.2	6.5	
Progression Factor		1.00			1.00	1.00	0.99	0.68	0.49	1.26	1.11	
Incremental Delay, d2		21.1			71.8	0.4	0.4	116.5	0.1	252.6	0.3	
Delay (s)		64.8			117.8	40.9	53.7	142.7	14.1	293.3	7.5	
Level of Service		E			F	D	D	F	B	F	A	
Approach Delay (s)		64.8			56.5			125.3			169.2	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM Average Control Delay	126.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	117.0%	ICU Level of Service	H
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	350	489	243	153	580	105	282	1276	86	933
v/c Ratio	1.02	0.79	0.41	1.19	1.62	0.29	1.04	1.08	0.76	1.01
Control Delay	96.5	43.4	7.1	176.0	319.1	8.5	112.5	82.3	79.1	71.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.1	13.1	0.0
Total Delay	96.5	43.4	7.1	176.0	319.1	8.5	112.5	141.3	92.2	71.2
Queue Length 50th (ft)	~256	309	10	~129	~586	10	~220	~527	61	~278
Queue Length 95th (ft)	#443	#446	70	#262	#808	53	#396	#646	m#119	m#458
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	344	622	587	129	357	365	270	1178	113	925
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	132	15	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.79	0.41	1.19	1.62	0.29	1.04	1.22	0.88	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)	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	4.6	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	1770	1863	1559	1652	3137		1770	3394	
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	1770	1863	1559	1652	3137		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	146	0	0	65	0	17	0	0	9	0
Lane Group Flow (vph)	350	489	97	153	580	40	282	1259	0	86	924	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)	24.0	37.1	37.1	8.0	21.1	21.1	18.0	40.7		7.0	29.7	
Effective Green, g (s)	24.0	37.1	37.1	8.0	21.1	21.1	18.0	40.7		7.0	29.7	
Actuated g/C Ratio	0.22	0.34	0.34	0.07	0.19	0.19	0.16	0.37		0.06	0.27	
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)	344	622	440	129	357	299	270	1161		113	916	
v/s Ratio Prot	c0.22	0.27		0.09	c0.31		c0.17	c0.40		0.05	0.27	
v/s Ratio Perm			0.07			0.03						
v/c Ratio	1.02	0.79	0.22	1.19	1.62	0.13	1.04	1.08		0.76	1.01	
Uniform Delay, d1	43.0	32.9	26.1	51.0	44.4	36.9	46.0	34.6		50.7	40.1	
Progression Factor	1.00	1.00	1.00	0.89	0.73	0.52	1.06	0.93		0.86	1.04	
Incremental Delay, d2	53.0	6.9	0.3	134.8	292.7	0.3	64.7	51.5		24.2	30.1	
Delay (s)	96.0	39.7	26.4	180.0	325.0	19.4	113.6	83.7		67.6	71.7	
Level of Service	F	D	C	F	F	B	F	F		E	E	
Approach Delay (s)		55.0			260.2			89.1			71.4	
Approach LOS		D			F			F			E	

Intersection Summary			
HCM Average Control Delay	108.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
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	75.3	21.6	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	75.3	22.8	55.6	33.6	35.4	8.7	67.3	6.4	76.5
Queue Length 50th (ft)	43	269	15	444	47	1	210	1	31
Queue Length 95th (ft)	m#82	#525	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	1.15	0.68		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)	76.9	22.9		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)		27.2			34.5			31.0			51.2	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	36.4	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	1.9
Queue Delay	0.0	0.0	0.0	1.6	0.0
Total Delay	56.7	18.5	2.4	5.2	1.9
Queue Length 50th (ft)	50	0	0	110	18
Queue Length 95th (ft)	94	26	3	178	m25
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

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

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	0.56	
Incremental Delay, d2	4.4	0.1	0.1	0.6	0.3	
Delay (s)	52.9	46.5	1.6	3.1	1.7	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.2			3.1	1.7	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	4.2	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	1.23	0.78	1.02	0.75	0.56	1.64
Control Delay	139.7	12.0	75.0	5.9	1.5	327.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.7	12.0	75.0	5.9	1.5	327.7
Queue Length 50th (ft)	~913	133	~324	166	0	~578
Queue Length 95th (ft)	#1058	211	#450	188	0	#722
Internal Link Dist (ft)	365			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1380	1489	696	2230	1517	546
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	1.23	0.78	1.02	0.75	0.56	1.64

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	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)		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
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			2460
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			2460
Peak-hour factor, PHF	0.92	0.92	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	402	0	0	0	0	0	0	0	0	75
Lane Group Flow (vph)	0	1696	760	707	1667	0	0	0	848	0	0	822
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		58.5	58.5	31.5	94.5				128.0			24.5
Effective Green, g (s)		58.5	58.5	31.5	94.5				128.0			24.5
Actuated g/C Ratio		0.46	0.46	0.25	0.74				1.00			0.19
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)		1380	1087	696	2230				1517			471
v/s Ratio Prot		c0.56		c0.25	0.55							
v/s Ratio Perm			0.32						0.56			c0.33
v/c Ratio		1.23	0.70	1.02	0.75				0.56			1.74
Uniform Delay, d1		34.8	27.7	48.2	9.8				0.0			51.8
Progression Factor		0.94	0.84	0.84	0.39				1.00			1.00
Incremental Delay, d2		109.0	1.8	34.3	1.9				1.5			343.9
Delay (s)		141.6	25.2	74.7	5.7				1.5			395.6
Level of Service		F	C	E	A				A			F
Approach Delay (s)		94.3			26.3			1.5			395.6	
Approach LOS		F			C			A			F	

Intersection Summary			
HCM Average Control Delay	98.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	128.0	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	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	746	1798	1247	700	1062	1118
v/c Ratio	1.15	0.54	0.51	0.63	0.66	0.73
Control Delay	109.0	0.8	0.8	4.0	2.1	3.1
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0
Total Delay	109.0	0.8	0.9	4.1	2.1	3.1
Queue Length 50th (ft)	~381	0	7	10	0	0
Queue Length 95th (ft)	m#340	m0	m8	m65	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	651	3355	2425	1109	1611	1528
Starvation Cap Reductn	0	0	202	25	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.54	0.56	0.65	0.66	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.

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	2	0	0	0	0	0	0
Lane Group Flow (vph)	746	1798	0	0	1247	698	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)	26.5	128.0			92.5	92.5			128.0			128.0
Effective Green, g (s)	26.5	128.0			92.5	92.5			128.0			128.0
Actuated g/C Ratio	0.21	1.00			0.72	0.72			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)	651	3355			2425	1106			1611			1528
v/s Ratio Prot	c0.24	0.54			0.37							
v/s Ratio Perm						0.46			0.66			c0.73
v/c Ratio	1.15	0.54			0.51	0.63			0.66			0.73
Uniform Delay, d1	50.8	0.0			7.8	9.0			0.0			0.0
Progression Factor	0.90	1.00			0.04	0.26			1.00			1.00
Incremental Delay, d2	67.6	0.0			0.5	1.6			2.1			3.1
Delay (s)	113.1	0.0			0.8	4.0			2.1			3.1
Level of Service	F	A			A	A			A			A
Approach Delay (s)		33.2			1.9			2.1			3.1	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	4.5
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	1.40	1.05	0.51	1.03	0.09	1.18	0.66	0.04	0.58	1.04	0.43
Control Delay	212.0	55.4	1.2	101.2	13.8	153.4	29.8	15.7	56.6	73.6	19.2
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	212.0	55.4	1.2	101.2	13.8	153.4	29.8	15.7	56.6	73.6	19.2
Queue Length 50th (ft)	~348	~538	0	~205	3	~223	251	5	61	~377	67
Queue Length 95th (ft)	m#379	m#559	m0	#369	29	#385	322	21	116	#505	136
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	373	744	1770	288	382	246	1328	495	182	1001	533
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	1.40	1.05	0.51	1.03	0.09	1.18	0.66	0.04	0.55	1.04	0.43

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)	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	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		1737	1475	1652	3539	1337	1652	3303	1551
Flt Permitted	0.27	1.00	1.00		0.68	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	474	1739	1770		1183	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)	524	779	903	7	291	36	290	872	21	100	1038	228
RTOR Reduction (vph)	0	0	0	0	0	22	0	0	6	0	0	63
Lane Group Flow (vph)	524	779	903	0	298	14	290	872	15	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)	42.3	42.3	100.0		23.9	23.9	13.9	35.6	35.6	8.1	29.3	29.3
Effective Green, g (s)	42.8	42.8	100.0		24.4	24.4	14.9	36.6	35.6	9.0	30.3	30.3
Actuated g/C Ratio	0.43	0.43	1.00		0.24	0.24	0.15	0.37	0.36	0.09	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)	373	744	1770		289	360	246	1295	476	149	1001	470
v/s Ratio Prot	c0.20	0.45					c0.18	0.25		0.06	c0.31	
v/s Ratio Perm	c0.40		0.51		0.25	0.01			0.01			0.11
v/c Ratio	1.40	1.05	0.51		1.03	0.04	1.18	0.67	0.03	0.67	1.04	0.35
Uniform Delay, d1	24.9	28.6	0.0		37.8	28.9	42.5	26.7	21.0	44.1	34.9	27.2
Progression Factor	0.90	0.59	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	189.4	35.6	0.5		61.2	0.1	114.4	2.8	0.1	11.7	38.5	2.0
Delay (s)	211.9	52.4	0.5		99.0	28.9	157.0	29.5	21.1	55.8	73.3	29.2
Level of Service	F	D	A		F	C	F	C	C	E	E	C
Approach Delay (s)		69.0			91.5			60.6			64.7	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM Average Control Delay	67.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.8%	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	2049
v/c Ratio	0.38	0.57	0.52	1.38	0.70
Control Delay	53.0	49.7	1.5	239.6	6.3
Queue Delay	0.0	0.0	0.1	0.0	1.4
Total Delay	53.0	49.7	1.5	239.6	7.7
Queue Length 50th (ft)	32	48	36	~63	248
Queue Length 95th (ft)	67	96	m42	#204	445
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	255	300	4180	102	2938
Starvation Cap Reductn	0	0	495	0	637
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.30	0.59	1.38	0.89

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	1884	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		4939		1620	3471	
Flt Permitted					0.76	1.00		1.00		0.07	1.00	
Satd. Flow (perm)					1245	1395		4939		120	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	2048	1
RTOR Reduction (vph)	0	0	0	0	0	17	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	73	0	2162	0	141	2049	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)					10.0	10.0		91.4		91.4	91.4	
Effective Green, g (s)					10.0	10.0		91.4		91.4	91.4	
Actuated g/C Ratio					0.09	0.09		0.83		0.83	0.83	
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)					113	127		4104		100	2884	
v/s Ratio Prot								0.44			0.59	
v/s Ratio Perm					0.04	c0.05				c1.17		
v/c Ratio					0.42	0.57		0.53		1.41	0.71	
Uniform Delay, d1					47.3	48.0		2.8		9.3	3.8	
Progression Factor					1.00	1.00		0.43		1.00	1.00	
Incremental Delay, d2					2.6	6.1		0.0		233.4	1.5	
Delay (s)					49.8	54.1		1.3		242.7	5.4	
Level of Service					D	D		A		F	A	
Approach Delay (s)		0.0			52.6			1.3			20.6	
Approach LOS		A			D			A			C	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	65	782	921	321	162
v/c Ratio	0.45	0.61	0.45	0.79	0.33
Control Delay	44.7	24.9	10.3	53.9	6.6
Queue Delay	0.0	11.4	0.0	0.0	0.0
Total Delay	44.7	36.3	10.3	53.9	6.6
Queue Length 50th (ft)	47	466	93	214	0
Queue Length 95th (ft)	m54	m617	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	480	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	0.97	0.45	0.60	0.27

Intersection Summary

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

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	0.83	2.22	0.66		1.00	1.00
Incremental Delay, d2	1.9	1.2	0.6		10.2	0.1
Delay (s)	42.7	21.5	9.5		50.1	33.6
Level of Service	D	C	A		D	C
Approach Delay (s)		23.2	9.5		44.6	
Approach LOS		C	A		D	

Intersection Summary			
HCM Average Control Delay	22.1	HCM Level of Service	C
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	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	1.07	0.58	0.24	0.31	1.12	0.51	0.80	0.23	1.18	0.49	0.08
Control Delay	175.5	57.7	35.8	30.7	94.6	89.2	56.0	1.7	146.9	33.0	6.9
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	175.5	57.7	35.8	30.7	94.6	89.2	56.0	1.7	146.9	33.0	6.9
Queue Length 50th (ft)	~98	92	88	128	~1108	33	285	1	~417	234	0
Queue Length 95th (ft)	#218	126	140	195	#1373	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)	90	1015	1092	672	939	86	1164	931	618	1316	646
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	1.07	0.22	0.24	0.31	1.12	0.42	0.78	0.22	1.18	0.49	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		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	3093		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	3093		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)	96	176	45	262	205	1051	36	904	208	732	649	54
RTOR Reduction (vph)	0	21	0	0	0	9	0	0	86	0	0	32
Lane Group Flow (vph)	96	200	0	262	205	1042	36	904	122	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	16.2		47.0	55.7	87.7	5.3	34.7	81.7	27.5	56.9	56.9
Effective Green, g (s)	7.5	16.2		47.0	55.7	87.7	5.3	34.7	81.7	27.5	56.9	56.9
Actuated g/C Ratio	0.05	0.12		0.33	0.40	0.62	0.04	0.25	0.58	0.20	0.40	0.40
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)	89	356		1087	669	936	61	1148	841	614	1310	611
v/s Ratio Prot	c0.06	0.06		0.08	0.12	c0.69	0.02	c0.19	0.08	c0.23	0.20	
v/s Ratio Perm												0.01
v/c Ratio	1.08	0.56		0.24	0.31	1.11	0.59	0.79	0.15	1.19	0.50	0.04
Uniform Delay, d1	66.6	58.9		33.9	29.2	26.5	66.6	49.6	13.5	56.6	31.2	25.3
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	118.3	2.9		0.0	0.4	65.8	9.8	3.6	0.1	101.9	0.3	0.0
Delay (s)	184.9	61.8		34.0	29.6	92.3	76.4	53.2	13.6	158.5	31.5	25.3
Level of Service	F	E		C	C	F	E	D	B	F	C	C
Approach Delay (s)		99.1			73.7			46.8			96.1	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM Average Control Delay	75.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	140.7	Sum of lost time (s)	11.8
Intersection Capacity Utilization	92.4%	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)	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	81.2	38.8	5.2	66.4	48.6	71.2	22.4
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	81.2	39.4	7.2	66.4	65.8	71.2	22.4
Queue Length 50th (ft)	121	318	87	~753	2	40	42	226	60
Queue Length 95th (ft)	#255	423	m104	m#878	m2	83	#177	#342	160
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	435
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	0.97	
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	0.99	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	1450	
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	1450	
Peak-hour factor, PHF	0.92	0.92	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	279	
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	0.45	
Uniform Delay, d1	53.6	20.3		52.1	28.1	19.4	53.9	54.8		47.7	42.8	
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	1.1	
Delay (s)	107.1	22.4		73.9	36.7	16.1	55.0	71.8		69.0	44.0	
Level of Service	F	C		E	D	B	D	E		E	D	
Approach Delay (s)		32.7			32.4			68.7			60.7	
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	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	0.6
Total Delay	61.9	104.9	67.7	18.0	100.5	20.3	133.4	50.8
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	413	0	0	0	3
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.14	0.97	0.90	1.00	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	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	579	135	1889	1206	208	332	621	193	239	15
v/c Ratio	0.38	0.64	0.34	1.47	0.73	1.18	0.52	0.39	0.58	0.40	0.05
Control Delay	67.2	50.5	9.6	247.2	26.9	174.0	49.2	8.3	62.8	46.6	18.0
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	67.2	50.5	9.6	247.2	26.9	174.0	49.2	8.3	62.8	46.6	18.0
Queue Length 50th (ft)	37	160	0	~1108	399	~208	130	82	78	90	0
Queue Length 95th (ft)	85	217	56	#1413	548	#410	187	126	129	135	19
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	137	1125	460	1283	1734	176	860	1780	373	862	403
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	0.34	0.51	0.29	1.47	0.70	1.18	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	533	124	1738	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	579	135	1889	922	284	208	332	621	193	239	15
RTOR Reduction (vph)	0	0	108	0	19	0	0	0	0	0	0	12
Lane Group Flow (vph)	47	579	27	1889	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	23.6	23.6	48.4	64.5		13.1	22.1	70.5	12.8	21.8	21.8
Effective Green, g (s)	8.4	25.1	25.1	49.3	66.0		13.1	23.6	72.3	12.8	23.3	23.3
Actuated g/C Ratio	0.07	0.20	0.20	0.39	0.52		0.10	0.19	0.57	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)	104	928	294	1275	1632		175	629	1554	331	600	272
v/s Ratio Prot	0.03	0.12		c0.58	c0.38		c0.12	c0.10	0.23	c0.06	0.07	
v/s Ratio Perm			0.02									0.00
v/c Ratio	0.45	0.62	0.09	1.48	0.73		1.19	0.53	0.40	0.58	0.40	0.01
Uniform Delay, d1	56.5	46.1	41.1	38.3	23.0		56.4	46.1	14.8	54.0	45.1	41.9
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	4.2	1.5	0.2	221.0	1.8		127.9	1.0	0.2	3.1	0.6	0.0
Delay (s)	60.7	47.6	41.3	259.3	24.8		184.3	47.2	15.0	57.1	45.7	41.9
Level of Service	E	D	D	F	C		F	D	B	E	D	D
Approach Delay (s)		47.3			167.9			54.5			50.5	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	117.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	125.9	Sum of lost time (s)	11.1
Intersection Capacity Utilization	90.7%	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)	301	1967	413	203	1375	224	226	122	143
v/c Ratio	0.85	0.85	0.43	0.87	0.71	0.72	0.72	0.30	0.77
Control Delay	71.2	33.7	3.4	88.7	35.2	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	34.2	3.4	88.7	35.2	62.0	61.4	8.8	59.0
Queue Length 50th (ft)	238	513	0	169	358	186	188	0	32
Queue Length 95th (ft)	#419	679	58	#344	472	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	969	234	1939	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	0.43	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		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	4631		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	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	0	207	0	2	0	0	0	97	0	68	0
Lane Group Flow (vph)	301	1967	206	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		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	0.30		c0.15	0.14			c0.02	
v/s Ratio Perm			0.13						0.02			
v/c Ratio	0.85	0.85	0.27	0.87	0.71		0.72	0.72	0.08		0.64	
Uniform Delay, d1	48.7	28.3	18.9	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		1.00	
Incremental Delay, d2	18.0	3.6	0.5	28.6	1.8		8.7	8.2	0.2		12.2	
Delay (s)	66.7	31.8	19.4	83.4	33.0		57.2	56.6	42.3		73.7	
Level of Service	E	C	B	F	C		E	E	D		E	
Approach Delay (s)		33.8			39.5			53.8			73.7	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	39.1	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	74.2%	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)	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	1243	785
v/c Ratio	0.10	0.99	0.46	0.05	1.13	0.49	1.42	0.31
Control Delay	34.0	105.9	6.6	38.8	114.9	16.9	220.8	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0
Total Delay	34.0	105.9	6.6	38.8	114.9	16.9	225.2	5.6
Queue Length 50th (ft)	10	153	0	3	~336	38	~1185	76
Queue Length 95th (ft)	33	#308	43	m0	#467	110	#1443	147
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	202	217	743	92	732	561	877	2527
Starvation Cap Reductn	0	0	0	0	0	0	6	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	0.10	0.99	0.46	0.05	1.13	0.49	1.43	0.31

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)	15	0	5	196	2	316	5	758	254	1144	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	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)		1696			1775	2787	1678	3355	1583	1770	3432	
Flt Permitted		0.69			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1209			1328	2787	1678	3355	1583	1770	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	1243	734	51
RTOR Reduction (vph)	0	4	0	0	0	287	0	0	216	0	4	0
Lane Group Flow (vph)	0	17	0	0	215	56	5	824	60	1243	781	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)		18.0			18.0	18.0	1.2	24.0	24.0	54.5	77.3	
Effective Green, g (s)		18.0			18.0	18.0	1.2	24.0	24.0	54.5	77.3	
Actuated g/C Ratio		0.16			0.16	0.16	0.01	0.22	0.22	0.50	0.70	
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)		198			217	456	18	732	345	877	2412	
v/s Ratio Prot							0.00	c0.25		c0.70	0.23	
v/s Ratio Perm		0.01			c0.16	0.02			0.04			
v/c Ratio		0.08			0.99	0.12	0.28	1.13	0.17	1.42	0.32	
Uniform Delay, d1		39.0			45.9	39.3	54.0	43.0	34.9	27.8	6.3	
Progression Factor		1.00			1.00	1.00	0.76	1.11	3.16	1.00	1.00	
Incremental Delay, d2		0.2			58.3	0.1	7.0	71.3	0.9	194.5	0.4	
Delay (s)		39.2			104.2	39.4	48.1	119.0	111.3	222.3	6.6	
Level of Service		D			F	D	D	F	F	F	A	
Approach Delay (s)		39.2			64.4			116.8			138.8	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM Average Control Delay	120.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	109.0%	ICU Level of Service	G
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	200	117	146	261	201	152	844	82	873
v/c Ratio	0.73	0.55	0.33	0.65	0.76	0.45	0.70	0.59	0.51	0.66
Control Delay	63.8	45.2	9.2	56.3	66.0	20.3	62.6	26.6	51.6	36.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	45.2	9.2	56.3	66.0	20.3	62.6	26.6	51.6	36.7
Queue Length 50th (ft)	108	125	0	97	187	11	102	251	57	298
Queue Length 95th (ft)	#192	198	47	167	283	116	#173	329	m96	m367
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	245	409	381	257	396	490	241	1422	178	1319
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	0.66	0.49	0.31	0.57	0.66	0.41	0.63	0.59	0.46	0.66

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)	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	4.6	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	1770	1863	1559	1652	3148		1770	3392	
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	1770	1863	1559	1652	3148		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	94	0	0	164	0	13	0	0	9	0
Lane Group Flow (vph)	161	200	23	146	261	37	152	831	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		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	15.5	21.8	21.8	14.0	20.3	20.3	14.5	48.4		8.6	42.5	
Effective Green, g (s)	15.5	21.8	21.8	14.0	20.3	20.3	14.5	48.4		8.6	42.5	
Actuated g/C Ratio	0.14	0.20	0.20	0.13	0.18	0.18	0.13	0.44		0.08	0.39	
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)	222	366	259	225	344	288	218	1385		138	1311	
v/s Ratio Prot	c0.10	0.11		0.08	c0.14		c0.09	0.26		0.05	c0.25	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	0.73	0.55	0.09	0.65	0.76	0.13	0.70	0.60		0.59	0.66	
Uniform Delay, d1	45.2	39.7	36.0	45.7	42.5	37.5	45.7	23.4		49.0	27.8	
Progression Factor	1.00	1.00	1.00	0.95	1.22	3.24	1.00	1.00		0.88	1.17	
Incremental Delay, d2	11.9	2.1	0.2	6.9	9.7	0.3	10.0	1.9		7.1	2.4	
Delay (s)	57.1	41.7	36.2	50.1	61.5	121.6	55.7	25.4		50.1	34.9	
Level of Service	E	D	D	D	E	F	E	C		D	C	
Approach Delay (s)		45.6			78.6			30.0			36.2	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	44.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	65.8%	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)	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	57.6	6.2	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	57.6	6.2	53.4	8.6	45.4	0.0	58.3	15.9	53.2
Queue Length 50th (ft)	11	57	23	83	7	0	42	2	8
Queue Length 95th (ft)	36	81	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	1.13	0.80		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)	62.6	5.6		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)		8.3			10.6			46.8			49.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM Average Control Delay	16.2	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	1.29	0.83	0.82	0.99	0.56	1.92
Control Delay	178.9	22.2	40.3	28.2	1.5	449.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	178.9	22.2	40.3	28.2	1.5	449.4
Queue Length 50th (ft)	~721	176	354	902	0	~931
Queue Length 95th (ft)	#861	286	m335	m742	0	#1083
Internal Link Dist (ft)	366			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	917	1157	1020	2103	1517	613
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	1.29	0.83	0.82	0.99	0.56	1.92

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)	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)		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
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			2460
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3020	2378	2828	3020				1517			2460
Peak-hour factor, PHF	0.92	0.92	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	435	0	0	0	0	0	0	0	0	24
Lane Group Flow (vph)	0	1184	523	836	2087	0	0	0	848	0	0	1154
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		42.5	42.5	50.5	97.5				140.0			33.5
Effective Green, g (s)		42.5	42.5	50.5	97.5				140.0			33.5
Actuated g/C Ratio		0.30	0.30	0.36	0.70				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)		917	722	1020	2103				1517			589
v/s Ratio Prot		c0.39		0.30	c0.69							
v/s Ratio Perm			0.22						0.56			c0.47
v/c Ratio		1.29	0.72	0.82	0.99				0.56			1.96
Uniform Delay, d1		48.8	43.5	40.6	20.9				0.0			53.2
Progression Factor		1.00	1.00	0.91	0.80				1.00			1.00
Incremental Delay, d2		139.2	6.2	3.1	10.8				1.5			437.6
Delay (s)		188.0	49.7	39.8	27.5				1.5			490.8
Level of Service		F	D	D	C				A			F
Approach Delay (s)		126.1			31.0			1.5			490.8	
Approach LOS		F			C			A			F	

Intersection Summary			
HCM Average Control Delay	132.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	108.6%	ICU Level of Service	G
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	1.02	0.39	0.53	0.71	0.60	1.18
Control Delay	51.5	0.4	10.3	16.3	1.6	94.1
Queue Delay	0.0	0.0	0.5	2.4	0.0	37.0
Total Delay	51.5	0.4	10.9	18.7	1.6	131.1
Queue Length 50th (ft)	~360	0	253	374	0	~508
Queue Length 95th (ft)	m287	m0	301	532	0	#771
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	707	3355	2384	1092	1611	1528
Starvation Cap Reductn	0	0	631	189	0	0
Spillback Cap Reductn	0	0	222	0	0	101
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.39	0.72	0.86	0.60	1.26

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)	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	4	0	0	0	0	0	0
Lane Group Flow (vph)	722	1310	0	0	1255	776	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)	31.5	140.0			99.5	99.5			140.0			140.0
Effective Green, g (s)	31.5	140.0			99.5	99.5			140.0			140.0
Actuated g/C Ratio	0.22	1.00			0.71	0.71			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)	707	3355			2384	1088			1611			1528
v/s Ratio Prot	0.23	0.39			0.37							
v/s Ratio Perm						0.51			0.60			c1.18
v/c Ratio	1.02	0.39			0.53	0.71			0.60			1.18
Uniform Delay, d1	54.2	0.0			9.4	11.9			0.0			70.0
Progression Factor	0.50	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	22.6	0.1			0.8	4.0			1.6			86.4
Delay (s)	49.8	0.1			10.2	15.9			1.6			156.4
Level of Service	D	A			B	B			A			F
Approach Delay (s)		17.8			12.4			1.6			156.4	
Approach LOS		B			B			A			F	

Intersection Summary			
HCM Average Control Delay	50.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	140.0	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	1.13	0.68	0.29	1.17	0.07	1.14	0.49	0.03	0.44	0.94	0.64
Control Delay	121.6	35.8	0.4	141.3	25.3	124.6	24.8	14.0	61.4	66.1	28.8
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	121.6	35.8	0.4	141.3	25.3	124.6	24.8	14.0	61.4	66.1	28.8
Queue Length 50th (ft)	~240	283	0	~382	7	~469	220	3	42	269	104
Queue Length 95th (ft)	#425	405	0	#581	29	#682	278	16	86	#386	201
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	295	676	1770	368	320	470	1582	590	142	737	448
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	0.68	0.29	1.17	0.07	1.14	0.49	0.03	0.41	0.94	0.64

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	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	1469	1652	3539	1336	1652	3303	1549
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)	243	1739	1770		1733	1469	1652	3539	1336	1652	3303	1549
Peak-hour factor, PHF	0.92	0.92	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	101
Lane Group Flow (vph)	332	462	517	0	429	13	536	770	10	58	693	184
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)	44.6	44.6	116.9		24.1	24.1	32.0	50.8	50.8	7.1	25.8	25.8
Effective Green, g (s)	45.1	45.1	116.9		24.6	24.6	33.0	51.8	50.8	8.0	26.8	26.8
Actuated g/C Ratio	0.39	0.39	1.00		0.21	0.21	0.28	0.44	0.43	0.07	0.23	0.23
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)	293	671	1770		365	309	466	1568	581	113	757	355
v/s Ratio Prot	c0.16	0.27					c0.32	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	1.13	0.69	0.29		1.18	0.04	1.15	0.49	0.02	0.51	0.92	0.52
Uniform Delay, d1	33.6	30.0	0.0		46.2	36.8	42.0	23.2	18.8	52.6	43.9	39.4
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	93.4	3.2	0.4		104.0	0.1	89.8	0.7	0.0	4.5	16.9	3.4
Delay (s)	127.0	33.2	0.4		150.1	36.8	131.8	23.9	18.9	57.1	60.8	42.8
Level of Service	F	C	A		F	D	F	C	B	E	E	D
Approach Delay (s)		44.0			144.8			67.6			55.6	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM Average Control Delay	65.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	116.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

23: Wells Fargo Drwy & Merced St

2030 Saturday with Kaiser Build-Out & Mixed Use

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	28	90	1078	160	1999
v/c Ratio	0.14	0.31	0.30	0.50	0.78
Control Delay	18.7	8.9	4.1	16.4	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	8.9	4.1	16.4	11.8
Queue Length 50th (ft)	9	4	32	17	160
Queue Length 95th (ft)	21	29	96	#131	#541
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	426	530	3638	318	2564
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	0.30	0.50	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)	0	0	0	26	0	83	0	950	41	147	1837	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)					1562	1399		4918		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.25	1.00	
Satd. Flow (perm)					1245	1399		4918		431	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	28	0	90	0	1033	45	160	1997	2
RTOR Reduction (vph)	0	0	0	0	0	68	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	28	22	0	1073	0	160	1999	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)					7.4	7.4		39.1		39.1	39.1	
Effective Green, g (s)					7.4	7.4		39.1		39.1	39.1	
Actuated g/C Ratio					0.13	0.13		0.71		0.71	0.71	
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)					167	188		3490		306	2463	
v/s Ratio Prot								0.22			c0.58	
v/s Ratio Perm					c0.02	0.02				0.37		
v/c Ratio					0.17	0.12		0.31		0.52	0.81	
Uniform Delay, d1					21.1	21.0		3.0		3.7	5.5	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.5	0.3		0.0		0.7	2.0	
Delay (s)					21.6	21.3		3.0		4.4	7.5	
Level of Service					C	C		A		A	A	
Approach Delay (s)		0.0			21.3			3.0			7.3	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	8.6
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
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	52.7	1.2	3.3	55.4	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	1.2	3.3	55.4	17.1
Queue Length 50th (ft)	8	0	35	44	0
Queue Length 95th (ft)	m17	0	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	1.03	0.48	0.84		1.00	1.00
Incremental Delay, d2	3.2	0.3	0.2		2.8	0.1
Delay (s)	57.3	1.1	3.1		51.7	47.3
Level of Service	E	A	A		D	D
Approach Delay (s)		3.6	3.1		50.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	7.5	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	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	0.47	0.36	1.18	0.38	1.20	0.35	1.28	0.64	0.09
Control Delay	177.5	55.2	54.7	43.6	117.1	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	54.7	43.6	117.1	80.0	141.6	7.4	172.5	20.9	2.8
Queue Length 50th (ft)	55	73	120	123	~1276	24	~597	40	~866	401	0
Queue Length 95th (ft)	#155	102	#198	192	#1544	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	621	467	984	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	0.47	0.36	1.18	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		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	0.98
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		3255	1689	1501	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		3255	1689	1501	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	5	0	0	83	0	0	36
Lane Group Flow (vph)	59	161	0	289	166	1157	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		615	463	980	51	1262	677	1115	1925	900
v/s Ratio Prot	c0.04	0.05		0.09	0.10	c0.77	0.02	c0.32	0.12	c0.46	0.38	
v/s Ratio Perm												0.03
v/c Ratio	1.00	0.43		0.47	0.36	1.18	0.53	1.17	0.27	1.30	0.65	0.06
Uniform Delay, d1	68.7	58.1		51.4	41.6	24.7	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		0.2	0.7	92.1	4.5	83.5	0.3	140.3	0.8	0.0
Delay (s)	185.9	59.5		51.6	42.3	116.8	72.4	135.4	23.4	186.3	19.8	12.2
Level of Service	F	E		D	D	F	E	F	C	F	B	B
Approach Delay (s)		91.6			97.5			117.6			106.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	106.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	142.4	Sum of lost time (s)	6.8
Intersection Capacity Utilization	106.2%	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	165	28	148	187	124
v/c Ratio	0.59	0.78	0.15	0.86	0.20	0.25	0.64	0.49	0.51
Control Delay	52.1	17.6	52.2	17.3	0.5	50.9	21.2	46.7	28.2
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	17.3	0.5	50.9	21.4	46.7	28.2
Queue Length 50th (ft)	92	249	17	92	0	18	1	62	36
Queue Length 95th (ft)	159	#767	m25	#720	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	822	224	318	462	279
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	0.86	0.20	0.13	0.49	0.40	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)	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	0.91	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	3174		1620	3068	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	3174		1620	3068	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)	145	1709	17	25	1499	183	28	2	146	187	46	78
RTOR Reduction (vph)	0	0	0	0	0	67	0	136	0	0	59	0
Lane Group Flow (vph)	145	1726	0	25	1517	98	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	183	
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		1.17	0.52	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		57.4	17.0	0.6	47.1	46.4		44.0	43.5	
Level of Service	D	B		E	B	A	D	D		D	D	
Approach Delay (s)		17.1			16.0			46.5			43.8	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	19.9	HCM Level of Service	B
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	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	0.1	0.0	0.0	0.0	0.0
Total Delay	51.1	25.3	65.4	8.3	65.2	11.9	78.2	44.0
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	260	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.96	0.88	0.57	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	598	99	1633	1397	177	498	710	220	557	48
v/c Ratio	0.45	0.65	0.27	1.69	0.92	1.03	0.58	0.48	0.66	0.68	0.12
Control Delay	65.9	43.3	9.2	342.2	33.0	126.1	38.8	9.1	57.1	41.0	14.0
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	65.9	43.3	9.2	342.2	33.0	126.1	38.8	9.1	57.1	41.0	14.0
Queue Length 50th (ft)	27	138	0	~860	462	~144	161	93	76	183	6
Queue Length 95th (ft)	#63	180	44	m#862	m492	#282	217	123	117	244	36
Internal Link Dist (ft)		238			306		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	87	970	386	964	1513	172	857	1493	332	825	403
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	0.45	0.62	0.26	1.69	0.92	1.03	0.58	0.48	0.66	0.68	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.

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)	36	550	91	1502	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	3142		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	3142		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)	39	598	99	1633	1143	254	177	498	710	220	557	48
RTOR Reduction (vph)	0	0	78	0	17	0	0	0	0	0	0	28
Lane Group Flow (vph)	39	598	21	1633	1380	0	177	498	710	220	557	20
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	21.5	21.5	32.0	49.9		11.1	24.5	56.5	11.0	24.4	24.4
Effective Green, g (s)	3.6	23.0	23.0	32.0	51.4		11.1	26.0	56.5	11.0	25.9	25.9
Actuated g/C Ratio	0.03	0.21	0.21	0.30	0.48		0.10	0.24	0.52	0.10	0.24	0.24
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)	52	991	315	964	1495		172	808	1416	332	777	353
v/s Ratio Prot	0.02	0.13		c0.50	c0.44		c0.11	0.15	0.26	0.07	c0.17	
v/s Ratio Perm			0.01									0.01
v/c Ratio	0.75	0.60	0.07	1.69	0.92		1.03	0.62	0.50	0.66	0.72	0.06
Uniform Delay, d1	51.8	38.4	33.9	38.0	26.5		48.5	36.6	16.6	46.7	37.7	31.6
Progression Factor	1.00	1.00	1.00	1.02	1.03		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	47.5	1.2	0.1	314.2	4.8		76.5	3.5	0.4	5.4	5.6	0.3
Delay (s)	99.2	39.6	34.1	353.0	31.9		124.9	40.1	17.0	52.1	43.3	31.9
Level of Service	F	D	C	F	C		F	D	B	D	D	C
Approach Delay (s)		42.0			205.0			39.1			45.0	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	124.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	209	1115	379	254	2057	151	153	85	347
v/c Ratio	1.55	0.61	0.45	0.73	0.85	0.53	0.53	0.24	0.95
Control Delay	307.6	18.2	1.8	53.4	28.3	44.5	44.2	8.0	58.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	307.6	18.2	1.8	53.4	28.3	44.5	44.2	8.0	58.7
Queue Length 50th (ft)	~205	121	0	159	406	103	105	0	57
Queue Length 95th (ft)	#356	291	0	#325	#739	136	137	34	#151
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	135	1841	834	349	2411	522	532	570	367
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	1.55	0.61	0.45	0.73	0.85	0.29	0.29	0.15	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.

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		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	1531	1678	4634		1539	1571	1514		3024	
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	4634		1539	1571	1514		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)	209	1115	379	254	2005	52	247	57	85	32	126	189
RTOR Reduction (vph)	0	0	229	0	2	0	0	0	69	0	177	0
Lane Group Flow (vph)	209	1115	150	254	2055	0	151	153	16	0	170	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)	8.0	41.7	41.7	21.5	55.2		19.4	19.4	19.4		6.2	
Effective Green, g (s)	9.0	42.7	42.7	22.5	56.2		20.0	20.0	20.0		6.8	
Actuated g/C Ratio	0.08	0.40	0.40	0.21	0.52		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)	135	1840	605	350	2411		285	291	280		190	
v/s Ratio Prot	c0.13	0.24		0.15	c0.44		c0.10	0.10			c0.06	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	1.55	0.61	0.25	0.73	0.85		0.53	0.53	0.06		0.89	
Uniform Delay, d1	49.5	26.0	21.9	39.9	22.3		39.8	39.7	36.2		50.2	
Progression Factor	0.73	0.59	0.03	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	278.4	1.4	0.9	7.8	4.1		2.3	2.2	0.1		37.8	
Delay (s)	314.5	16.8	1.5	47.7	26.4		42.1	41.9	36.3		88.0	
Level of Service	F	B	A	D	C		D	D	D		F	
Approach Delay (s)		49.9			28.7			40.8			88.0	
Approach LOS		D			C			D			F	

Intersection Summary			
HCM Average Control Delay	41.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	108.0	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	1.63	0.68	1.28	1.07	2.43	0.27	0.31	0.41	0.79
Control Delay	353.8	24.7	167.3	52.9	688.9	26.7	5.1	53.6	32.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	353.8	24.7	167.3	52.9	688.9	26.7	5.1	53.6	32.6
Queue Length 50th (ft)	~145	188	~267	~561	~165	62	0	17	172
Queue Length 95th (ft)	#272	239	m#170	m193	#251	89	46	37	225
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	102	1715	261	1499	132	1044	661	135	1058
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	1.63	0.68	1.28	1.07	2.43	0.24	0.28	0.41	0.68

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)	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	0.95		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	4491		1652	3281		3143	3240	1660	3204	3013	
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	3281		3143	3240	1660	3204	3013	
Peak-hour factor, PHF	0.92	0.92	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	90	0	0	1	0	0	0	133	0	93	0
Lane Group Flow (vph)	166	1071	0	334	1609	0	321	251	53	55	622	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)	6.1	32.8		15.1	41.8		5.0	27.6	27.6	4.0	26.6	
Effective Green, g (s)	6.0	33.8		15.0	42.8		4.0	27.2	27.2	3.0	26.2	
Actuated g/C Ratio	0.06	0.36		0.16	0.45		0.04	0.29	0.29	0.03	0.28	
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)	102	1598		261	1478		132	928	475	101	831	
v/s Ratio Prot	c0.10	0.24		c0.20	c0.49		c0.10	0.08		0.02	c0.21	
v/s Ratio Perm									0.03			
v/c Ratio	1.63	0.67		1.28	1.09		2.43	0.27	0.11	0.54	0.75	
Uniform Delay, d1	44.5	25.9		40.0	26.1		45.5	26.2	25.0	45.3	31.4	
Progression Factor	1.00	1.00		1.13	0.53		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	322.4	2.3		128.6	41.2		666.7	0.2	0.1	7.3	4.0	
Delay (s)	366.9	28.1		173.8	55.1		712.2	26.4	25.1	52.7	35.3	
Level of Service	F	C		F	E		F	C	C	D	D	
Approach Delay (s)		70.5			75.5			316.5			36.6	
Approach LOS		E			E			F			D	

Intersection Summary			
HCM Average Control Delay	105.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
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	1148	1081
v/c Ratio	0.33	0.48	0.48	0.17	1.14	0.16	1.24	0.41
Control Delay	42.5	57.1	9.1	56.3	103.6	4.3	139.8	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.5	57.1	9.1	56.3	103.6	4.3	139.8	5.0
Queue Length 50th (ft)	23	46	0	13	~430	10	~1011	77
Queue Length 95th (ft)	58	88	38	m21	#549	m12	#1324	156
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	220	233	651	103	854	454	927	2658
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	0.21	0.29	0.36	0.17	1.14	0.16	1.24	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.

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	1056	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	1.00	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)		1695			1777	2787	1678	3355	1583	1770	3420	
Flt Permitted		0.73			0.77	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1289			1425	2787	1678	3355	1583	1770	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	1148	991	90
RTOR Reduction (vph)	0	10	0	0	0	210	0	0	51	0	4	0
Lane Group Flow (vph)	0	36	0	0	68	23	17	977	21	1148	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)		10.9			10.9	10.9	3.0	28.0	28.0	57.6	82.6	
Effective Green, g (s)		10.9			10.9	10.9	3.0	28.0	28.0	57.6	82.6	
Actuated g/C Ratio		0.10			0.10	0.10	0.03	0.25	0.25	0.52	0.75	
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)		128			141	276	46	854	403	927	2568	
v/s Ratio Prot							0.01	c0.29		c0.65	0.31	
v/s Ratio Perm		0.03			c0.05	0.01			0.01			
v/c Ratio		0.28			0.48	0.08	0.37	1.14	0.05	1.24	0.42	
Uniform Delay, d1		45.9			46.9	45.0	52.6	41.0	31.0	26.2	5.0	
Progression Factor		1.00			1.00	1.00	1.10	0.67	0.44	1.01	0.90	
Incremental Delay, d2		1.2			2.6	0.1	3.7	75.4	0.2	113.3	0.3	
Delay (s)		47.1			49.5	45.1	61.5	103.0	13.7	139.7	4.8	
Level of Service		D			D	D	E	F	B	F	A	
Approach Delay (s)		47.1			46.1			96.3			74.3	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM Average Control Delay	78.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	221	285	197	436	126	203	1073	43	1020
v/c Ratio	0.85	0.58	0.62	0.88	1.04	0.28	0.90	0.70	0.39	0.80
Control Delay	87.1	46.4	15.4	71.3	94.2	12.9	86.4	22.0	64.8	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.1	46.4	15.4	71.3	94.2	12.9	86.4	22.0	64.8	32.7
Queue Length 50th (ft)	103	142	29	141	~345	24	150	222	26	216
Queue Length 95th (ft)	#218	223	120	#274	#550	78	#288	259	72	385
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	172	381	456	225	418	448	225	1534	113	1278
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	0.85	0.58	0.63	0.88	1.04	0.28	0.90	0.70	0.38	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.

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	4.6	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	0.96		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	1770	1863	1559	1652	3102		1770	3403	
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	1770	1863	1559	1652	3102		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	187	0	0	98	0	27	0	0	7	0
Lane Group Flow (vph)	146	221	98	197	436	28	203	1046	0	43	1013	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)	12.0	22.7	22.7	14.0	24.7	24.7	15.0	51.9		4.2	41.1	
Effective Green, g (s)	12.0	22.7	22.7	14.0	24.7	24.7	15.0	51.9		4.2	41.1	
Actuated g/C Ratio	0.11	0.21	0.21	0.13	0.22	0.22	0.14	0.47		0.04	0.37	
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)	172	381	270	225	418	350	225	1464		68	1271	
v/s Ratio Prot	c0.09	0.12		0.11	c0.23		c0.12	0.34		0.02	c0.30	
v/s Ratio Perm			0.08			0.02						
v/c Ratio	0.85	0.58	0.36	0.88	1.04	0.08	0.90	0.71		0.63	0.80	
Uniform Delay, d1	48.1	39.4	37.5	47.1	42.6	33.7	46.8	23.1		52.1	30.7	
Progression Factor	1.00	1.00	1.00	0.79	0.96	1.79	1.04	0.88		1.11	0.90	
Incremental Delay, d2	31.2	2.7	1.1	27.8	53.5	0.1	33.2	2.8		18.4	4.9	
Delay (s)	79.4	42.0	38.6	64.9	94.3	60.4	81.8	23.2		76.3	32.6	
Level of Service	E	D	D	E	F	E	F	C		E	C	
Approach Delay (s)		48.9			81.0			32.5			34.4	
Approach LOS		D			F			C			C	

Intersection Summary			
HCM Average Control Delay	45.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	79.5%	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)	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	70.9	9.9	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	70.9	9.9	59.9	27.4	46.9	22.5	57.9	17.2	57.1
Queue Length 50th (ft)	48	50	69	565	11	1	39	2	15
Queue Length 95th (ft)	#130	238	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	1.15	0.84		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)	68.2	8.8		51.9	31.5		47.9	46.8		52.7	47.1	
Level of Service	E	A		D	C		D	D		D	D	
Approach Delay (s)		18.7			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	0.92	0.32	0.12	1.24	0.67	0.23	0.03	0.23	0.78
Control Delay	110.2	10.4	36.0	140.2	54.5	18.6	8.5	19.2	28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.2	10.4	36.0	140.2	54.5	18.6	8.5	19.2	28.1
Queue Length 50th (ft)	40	61	5	~523	25	39	0	24	142
Queue Length 95th (ft)	#134	164	21	#830	#84	76	11	55	240
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	100	1075	100	777	135	737	533	462	740
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	0.32	0.12	1.24	0.50	0.17	0.03	0.17	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)	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	1926		1711	1704		1652	1863	1325	1642	1758	
Flt Permitted	0.95	1.00		0.95	1.00		0.20	1.00	1.00	0.68	1.00	
Satd. Flow (perm)	1711	1926		1711	1704		341	1863	1325	1169	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	17	0	0	3	0	0	0	10	0	53	0
Lane Group Flow (vph)	92	328	0	12	958	0	68	126	4	78	393	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		20.4	20.4	20.4	20.4	20.4	
Effective Green, g (s)	4.0	37.8		0.7	34.5		20.4	20.4	20.4	20.4	20.4	
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)	95	1013		17	818		97	529	376	332	499	
v/s Ratio Prot	c0.05	c0.17		0.01	c0.56			0.07			c0.22	
v/s Ratio Perm							0.20		0.00	0.07		
v/c Ratio	0.97	0.32		0.71	1.17		0.70	0.24	0.01	0.23	0.79	
Uniform Delay, d1	33.9	9.7		35.5	18.7		23.0	19.8	18.5	19.8	23.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	81.5	0.3		88.4	90.1		21.7	0.3	0.0	0.5	8.5	
Delay (s)	115.4	10.0		123.9	108.8		44.8	20.1	18.5	20.3	32.3	
Level of Service	F	B		F	F		D	C	B	C	C	
Approach Delay (s)		32.2			109.0			28.1			30.5	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM Average Control Delay	66.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	71.9	Sum of lost time (s)	17.5
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
Lane Group Flow (vph)	189	108	65	236	560	590	13	27	912
v/c Ratio	1.19	0.24	0.84	0.65	1.22	0.33	0.02	0.23	0.93
Control Delay	169.1	7.7	113.3	34.2	146.8	13.4	10.2	45.9	44.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	169.1	7.7	113.3	34.2	146.8	13.4	10.2	45.9	44.7
Queue Length 50th (ft)	~122	5	35	97	~368	73	1	14	217
Queue Length 95th (ft)	#298	40	#130	169	#684	182	13	44	#428
Internal Link Dist (ft)		1442		1508		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	159	703	77	632	460	1794	802	119	978
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	1.19	0.15	0.84	0.37	1.22	0.33	0.02	0.23	0.93

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	
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	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1526		1652	1608		1652	3240	1447	1711	3186	
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	1608		1652	3240	1447	1711	3186	
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	73	0	0	33	0	0	0	4	0	88	0
Lane Group Flow (vph)	189	35	0	65	203	0	560	590	9	27	824	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)	8.1	21.8		4.0	17.7		24.2	48.0	48.0	2.2	26.0	
Effective Green, g (s)	8.1	21.8		4.0	17.7		24.2	48.0	48.0	2.2	26.0	
Actuated g/C Ratio	0.09	0.25		0.05	0.20		0.27	0.54	0.54	0.02	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)	157	376		75	322		452	1757	785	43	936	
v/s Ratio Prot	c0.11	0.02		0.04	c0.13		c0.34	0.18		0.02	c0.26	
v/s Ratio Perm									0.01			
v/c Ratio	1.20	0.09		0.87	0.63		1.24	0.34	0.01	0.63	0.88	
Uniform Delay, d1	40.2	25.7		42.0	32.4		32.1	11.3	9.3	42.7	29.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	137.0	0.1		61.8	4.5		125.2	0.2	0.0	28.3	9.9	
Delay (s)	177.2	25.9		103.8	36.9		157.4	11.5	9.3	71.0	39.7	
Level of Service	F	C		F	D		F	B	A	E	D	
Approach Delay (s)		122.2			51.3			81.7			40.6	
Approach LOS		F			D			F			D	

Intersection Summary			
HCM Average Control Delay	68.5	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	89.6%	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	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	1.3
Queue Delay	0.0	0.0	0.0	1.0	0.0
Total Delay	49.5	24.2	3.0	4.0	1.3
Queue Length 50th (ft)	26	0	1	84	27
Queue Length 95th (ft)	54	13	9	202	76
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	0.37	
Incremental Delay, d2	2.1	0.0	0.4	0.6	0.4	
Delay (s)	51.5	48.3	1.7	2.5	1.2	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.5	1.2	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	2.6	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	1.03	0.53	1.03	0.87	0.42	1.46
Control Delay	64.2	4.9	55.9	7.6	0.8	247.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	4.9	55.9	7.6	0.8	247.6
Queue Length 50th (ft)	~292	11	~447	260	0	~467
Queue Length 95th (ft)	#528	35	m#544	m140	0	#606
Internal Link Dist (ft)	367			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1041	1251	1115	2370	1686	603
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	1.03	0.53	1.03	0.87	0.42	1.46

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)		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
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	431	0	0	0	0	0	0	0	0	28
Lane Group Flow (vph)	0	1068	230	1149	2071	0	0	0	701	0	0	852
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		33.5	33.5	38.3	76.3				108.0			22.7
Effective Green, g (s)		33.5	33.5	38.3	76.3				108.0			22.7
Actuated g/C Ratio		0.31	0.31	0.35	0.71				1.00			0.21
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)		1041	820	1115	2370				1686			574
v/s Ratio Prot		c0.32		c0.37	0.62							
v/s Ratio Perm			0.09						0.42			c0.31
v/c Ratio		1.03	0.28	1.03	0.87				0.42			1.48
Uniform Delay, d1		37.2	28.1	34.9	12.2				0.0			42.6
Progression Factor		0.81	1.08	0.77	0.38				1.00			1.00
Incremental Delay, d2		33.0	0.2	27.9	2.7				0.8			226.8
Delay (s)		63.2	30.5	54.7	7.3				0.8			269.5
Level of Service		E	C	D	A				A			F
Approach Delay (s)		50.7			24.2			0.8			269.5	
Approach LOS		D			C			A			F	

Intersection Summary			
HCM Average Control Delay	61.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	108.0	Sum of lost time (s)	13.5
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	0.79	0.34	0.76	0.62	0.39	0.94
Control Delay	43.2	0.2	9.9	8.0	0.7	14.2
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.5
Total Delay	43.2	0.2	9.9	8.1	0.7	14.8
Queue Length 50th (ft)	219	0	78	14	0	0
Queue Length 95th (ft)	m233	m0	m366	m192	0	#127
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	975	3355	2269	1063	1611	1528
Starvation Cap Reductn	0	0	9	34	0	0
Spillback Cap Reductn	0	0	0	0	0	12
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.34	0.77	0.64	0.39	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)	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	28	0	0	0	0	0	0
Lane Group Flow (vph)	595	1124	0	0	1735	632	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)	26.0	108.0			73.0	73.0			108.0			108.0
Effective Green, g (s)	26.0	108.0			73.0	73.0			108.0			108.0
Actuated g/C Ratio	0.24	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)	757	3355			2268	1035			1611			1528
v/s Ratio Prot	0.19	0.33			0.52							
v/s Ratio Perm						0.41			0.39			c0.94
v/c Ratio	0.79	0.34			0.76	0.61			0.39			0.94
Uniform Delay, d1	38.4	0.0			11.7	9.7			0.0			0.0
Progression Factor	1.01	1.00			0.64	0.67			1.00			1.00
Incremental Delay, d2	3.3	0.0			1.4	1.5			0.7			12.5
Delay (s)	41.9	0.0			9.0	8.0			0.7			12.5
Level of Service	D	A			A	A			A			B
Approach Delay (s)		14.5			8.7			0.7			12.5	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	108.0	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	2.31	0.73	0.02	0.65	1.15	1.09
Control Delay	319.3	17.1	0.3	204.1	20.3	618.5	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	319.3	17.1	0.3	204.1	20.3	618.5	22.9	11.7	70.2	115.5	87.4
Queue Length 50th (ft)	~310	197	0	~494	5	~850	243	2	42	~352	~303
Queue Length 95th (ft)	#472	285	0	#702	22	#1057	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	365	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	2.31	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	1.00	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	1652	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	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)	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	365	1442	531	92	800	376
v/s Ratio Prot	c0.17	0.22					c0.51	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	2.31	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	0.67	0.67	1.00		1.00	1.00	1.04	0.82	0.80	0.99	0.94	0.89
Incremental Delay, d2	300.0	0.9	0.3		173.4	0.0	596.5	3.5	0.1	38.8	82.7	88.4
Delay (s)	315.9	15.1	0.3		208.4	26.1	635.1	23.0	14.0	82.7	116.7	120.6
Level of Service	F	B	A		F	C	F	C	B	F	F	F
Approach Delay (s)		106.8			203.2			290.4			116.6	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	186.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	130.3%	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	2350
v/c Ratio	0.17	0.10	0.01	0.29	0.27	0.76
Control Delay	46.3	19.5	4.0	2.3	5.6	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.6
Total Delay	46.3	19.5	4.0	2.3	5.6	9.3
Queue Length 50th (ft)	12	0	0	47	7	251
Queue Length 95th (ft)	31	18	m0	m70	46	#858
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		115	
Base Capacity (vph)	250	297	75	4376	309	3076
Starvation Cap Reductn	0	0	0	0	0	505
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.05	0.01	0.29	0.27	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)	0	0	0	16	1	13	1	1142	25	76	2158	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	1652	4936		1618	3470	
Flt Permitted					0.74	1.00	0.05	1.00		0.21	1.00	
Satd. Flow (perm)					1222	1397	85	4936		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	2346	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	2350	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	73	4223		299	2968	
v/s Ratio Prot								0.26			c0.68	
v/s Ratio Perm					c0.01	0.00	0.01			0.24		
v/c Ratio					0.22	0.01	0.01	0.30		0.28	0.79	
Uniform Delay, d1					48.7	48.0	1.2	1.5		1.5	3.6	
Progression Factor					1.00	1.00	1.12	1.05		1.00	1.00	
Incremental Delay, d2					1.4	0.0	0.1	0.1		2.3	2.3	
Delay (s)					50.1	48.0	1.4	1.7		3.8	5.8	
Level of Service					D	D	A	A		A	A	
Approach Delay (s)		0.0			49.2			1.7			5.7	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	4.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	76.6%	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	66.4	0.7	3.8	55.2	16.5
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay	66.4	0.7	4.0	55.2	16.5
Queue Length 50th (ft)	52	6	62	41	0
Queue Length 95th (ft)	m70	16	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

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

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	1.26	0.19	0.45		1.00	1.00
Incremental Delay, d2	2.5	0.3	0.5		2.6	0.1
Delay (s)	64.1	0.7	3.4		51.6	47.6
Level of Service	E	A	A		D	D
Approach Delay (s)		9.5	3.4		49.5	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	8.1	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	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	0.26	0.08	1.60	0.72	1.08	0.44	2.00	0.87	0.12
Control Delay	316.7	47.7	31.9	23.6	300.1	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	31.9	23.6	300.1	117.5	99.0	3.3	486.0	49.6	10.5
Queue Length 50th (ft)	~143	63	100	31	~1975	42	~463	22	~738	483	9
Queue Length 95th (ft)	#275	93	159	59	#2245	#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	1238	739	936	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	0.26	0.08	1.60	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		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)	114	130	53	318	58	1499	46	1243	459	1003	1064	70
RTOR Reduction (vph)	0	43	0	0	0	3	0	0	125	0	0	34
Lane Group Flow (vph)	114	140	0	318	58	1496	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		1231	735	940	54	1173	913	499	1223	571
v/s Ratio Prot	c0.07	0.05		0.10	0.03	c1.00	0.03	c0.27	0.23	c0.32	0.33	
v/s Ratio Perm												0.02
v/c Ratio	1.48	0.44		0.26	0.08	1.59	0.85	1.06	0.37	2.01	0.87	0.06
Uniform Delay, d1	67.6	59.7		30.4	23.4	26.5	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		0.0	0.1	271.4	68.8	43.6	0.3	461.6	7.3	0.1
Delay (s)	340.8	61.5		30.4	23.4	297.9	137.0	96.6	12.9	521.2	48.2	28.2
Level of Service	F	E		C	C	F	F	F	B	F	D	C
Approach Delay (s)		168.7			244.0			75.7			269.5	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM Average Control Delay	200.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	141.7	Sum of lost time (s)	11.8
Intersection Capacity Utilization	124.5%	ICU Level of Service	H
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	1553	571	74	289	896	555
v/c Ratio	1.05	1.06	0.80	1.18	0.67	0.58	0.99	1.07	1.00
Control Delay	130.3	74.6	72.8	108.4	3.1	65.5	66.9	89.0	63.1
Queue Delay	0.0	236.3	0.0	0.0	1.5	0.0	52.4	4.0	0.0
Total Delay	130.3	310.9	72.8	108.4	4.6	65.5	119.3	93.1	63.1
Queue Length 50th (ft)	~132	~560	91	~691	0	49	61	~344	~248
Queue Length 95th (ft)	#270	#698	m127	m#791	m21	#108	#236	#468	#482
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	170	1309	216	1312	850	128	293	838	553
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	1.60	0.73	1.18	0.80	0.58	1.14	1.08	1.00

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	0.91	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	3175		1620	3054	1319	1678	1431		3143	1443	
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	3054	1319	1678	1431		3143	1443	
Peak-hour factor, PHF	0.92	0.92	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	3	273	0	184	0	0	168	0
Lane Group Flow (vph)	179	1390	0	157	1550	298	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	1309	578	128	109		838	385	
v/s Ratio Prot	0.11	c0.44		0.10	c0.51		0.04	c0.07		c0.29	0.27	
v/s Ratio Perm						0.23						
v/c Ratio	1.05	1.06		0.80	1.18	0.52	0.58	0.96		1.07	1.01	
Uniform Delay, d1	47.0	30.9		44.9	30.0	21.4	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	88.2	2.1	3.9	74.0		51.3	47.2	
Delay (s)	130.7	74.1		66.8	105.7	4.1	50.8	122.4		89.8	85.7	
Level of Service	F	E		E	F	A	D	F		F	F	
Approach Delay (s)		80.5			77.6			107.8			88.2	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	83.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	106.6%	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	0.5	0.0	0.0	0.0	0.2
Total Delay	40.2	143.4	70.8	17.3	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	247	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	0.83	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	690	146	1653	859	393	836	1198	414	243	20
v/c Ratio	0.54	0.80	0.37	1.76	0.67	2.44	1.09	0.86	0.74	0.25	0.04
Control Delay	69.9	57.8	9.8	372.6	29.6	691.1	105.4	21.3	59.3	34.3	12.2
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	69.9	57.8	9.8	372.6	29.6	691.1	105.4	21.3	59.3	34.3	12.2
Queue Length 50th (ft)	59	201	0	~1046	265	~542	~413	221	169	80	0
Queue Length 95th (ft)	111	250	58	m#968	m281	#742	#543	280	228	115	19
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	159	873	396	941	1281	161	768	1401	559	987	463
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	0.79	0.37	1.76	0.67	2.44	1.09	0.86	0.74	0.25	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)	68	635	134	1521	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	3114		1678	3355	2706	3255	3240	1474
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	3114		1678	3355	2706	3255	3240	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)	74	690	146	1653	658	201	393	836	1198	414	243	20
RTOR Reduction (vph)	0	0	118	0	21	0	0	0	0	0	0	14
Lane Group Flow (vph)	74	690	28	1653	838	0	393	836	1198	414	243	6
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)	9.7	23.0	23.0	37.0	50.3		12.3	27.0	64.0	22.0	36.7	36.7
Effective Green, g (s)	9.7	24.5	24.5	37.0	51.8		12.3	28.5	64.0	22.0	38.2	38.2
Actuated g/C Ratio	0.08	0.19	0.19	0.29	0.40		0.10	0.22	0.50	0.17	0.30	0.30
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)	118	891	283	941	1260		161	747	1353	559	967	440
v/s Ratio Prot	0.05	c0.15		c0.51	0.27		c0.23	c0.25	0.44	c0.13	0.08	
v/s Ratio Perm			0.02									0.00
v/c Ratio	0.63	0.77	0.10	1.76	0.66		2.44	1.12	0.89	0.74	0.25	0.01
Uniform Delay, d1	57.4	49.1	42.7	45.5	31.0		57.9	49.8	28.7	50.3	34.1	31.6
Progression Factor	1.00	1.00	1.00	1.09	0.93		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.3	4.5	0.2	341.9	0.5		666.9	70.8	7.5	5.6	0.6	0.1
Delay (s)	68.6	53.6	42.9	391.3	29.2		724.7	120.5	36.2	55.9	34.7	31.7
Level of Service	E	D	D	F	C		F	F	D	E	C	C
Approach Delay (s)		53.1			267.5			176.7			47.6	
Approach LOS		D			F			F			D	

Intersection Summary			
HCM Average Control Delay	181.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	108.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	400	2049	225	293	1388	229	233	160	323
v/c Ratio	1.09	1.09	0.30	0.78	0.75	0.71	0.71	0.36	1.13
Control Delay	105.0	73.4	1.2	63.4	36.8	57.9	57.9	7.6	114.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	105.0	73.4	1.2	63.4	36.8	57.9	57.9	7.6	114.0
Queue Length 50th (ft)	~372	~698	2	230	353	187	190	0	~78
Queue Length 95th (ft)	#574	#788	4	#471	#494	256	260	52	#179
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	367	1884	753	375	1861	440	446	547	287
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	1.09	0.30	0.78	0.75	0.52	0.52	0.29	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.

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		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		0.91	
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	1560	1514		2963	
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	1560	1514		2963	
Peak-hour factor, PHF	0.92	0.92	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	0	134	0	2	0	0	0	126	0	180	0
Lane Group Flow (vph)	400	2049	91	293	1386	0	229	233	34	0	143	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)	28.0	50.8	50.8	27.6	50.4		26.4	26.4	26.4		4.0	
Effective Green, g (s)	29.0	51.8	51.8	28.6	51.4		27.0	27.0	27.0		4.6	
Actuated g/C Ratio	0.23	0.40	0.40	0.22	0.40		0.21	0.21	0.21		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)	367	1884	619	375	1858		325	329	319		106	
v/s Ratio Prot	0.25	c0.44		0.17	c0.30		0.15	c0.15			c0.05	
v/s Ratio Perm			0.06						0.02			
v/c Ratio	1.09	1.09	0.15	0.78	0.75		0.70	0.71	0.11		1.35	
Uniform Delay, d1	49.5	38.1	24.1	46.8	32.7		46.8	46.8	40.8		61.7	
Progression Factor	0.74	0.66	0.11	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	68.9	47.4	0.4	10.7	2.8		7.3	7.3	0.2		205.9	
Delay (s)	105.4	72.6	3.0	57.5	35.5		54.1	54.1	41.0		267.6	
Level of Service	F	E	A	E	D		D	D	D		F	
Approach Delay (s)		71.6			39.3			50.7			267.6	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM Average Control Delay	70.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
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	SBL	SBT
Lane Group Flow (vph)	208	1960	141	738	503	272	536	95	703
v/c Ratio	0.84	1.24	0.76	0.77	1.23	0.23	0.71	0.49	0.80
Control Delay	69.4	141.9	52.7	22.2	161.4	22.7	20.8	54.8	39.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.4	141.9	52.7	22.2	161.4	22.7	20.8	54.8	39.5
Queue Length 50th (ft)	130	~550	76	193	~205	63	167	30	206
Queue Length 95th (ft)	#254	#649	m#115	m230	#307	92	288	57	267
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	249	1583	185	955	409	1225	774	192	980
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	1.24	0.76	0.77	1.23	0.22	0.69	0.49	0.72

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	0.95		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	0.95		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	3272		3143	3240	1661	3204	3135	
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	3272		3143	3240	1661	3204	3135	
Peak-hour factor, PHF	0.92	0.92	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	96	0	0	2	0	0	0	149	0	22	0
Lane Group Flow (vph)	208	1864	0	141	736	0	503	272	387	95	681	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	31.7		11.3	27.5		14.0	36.8	36.8	5.6	28.4	
Effective Green, g (s)	15.4	32.7		11.2	28.5		13.0	36.4	36.4	4.6	28.0	
Actuated g/C Ratio	0.15	0.33		0.11	0.28		0.13	0.36	0.36	0.05	0.28	
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	1462		185	933		409	1179	605	147	878	
v/s Ratio Prot	0.13	c0.42		0.09	c0.22		c0.16	0.08		0.03	c0.22	
v/s Ratio Perm									0.23			
v/c Ratio	0.84	1.28		0.76	0.79		1.23	0.23	0.64	0.65	0.78	
Uniform Delay, d1	41.1	33.6		43.1	33.0		43.5	22.1	26.4	46.9	33.1	
Progression Factor	1.00	1.00		0.84	0.56		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	20.8	129.3		7.8	2.8		123.2	0.1	2.5	10.4	4.6	
Delay (s)	61.9	163.0		44.0	21.4		166.7	22.2	28.9	57.3	37.7	
Level of Service	E	F		D	C		F	C	C	E	D	
Approach Delay (s)		153.3			25.0			80.4			40.1	
Approach LOS		F			C			F			D	

Intersection Summary			
HCM Average Control Delay	95.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
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	1065	872
v/c Ratio	0.88	1.21	0.74	0.03	1.24	0.36	1.56	0.36
Control Delay	96.5	166.9	6.5	53.3	131.7	3.0	284.9	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.5	166.9	6.5	53.3	131.7	3.0	284.9	6.4
Queue Length 50th (ft)	53	~256	0	2	~591	10	~1057	95
Queue Length 95th (ft)	#157	#427	57	m3	m#535	m8	#1316	136
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	107	244	1305	92	1022	599	684	2454
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	0.88	1.21	0.74	0.03	1.24	0.36	1.56	0.36

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)	57	3	27	272	0	889	3	1165	199	980	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	1.00	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)		1687			1770	2787	1678	3355	1583	1770	3438	
Flt Permitted		0.29			0.70	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		498			1310	2787	1678	3355	1583	1770	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	29	296	0	966	3	1266	216	1065	824	48
RTOR Reduction (vph)	0	15	0	0	0	786	0	0	117	0	4	0
Lane Group Flow (vph)	0	79	0	0	296	180	3	1266	99	1065	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)		20.5			20.5	20.5	1.2	33.5	33.5	42.5	74.8	
Effective Green, g (s)		20.5			20.5	20.5	1.2	33.5	33.5	42.5	74.8	
Actuated g/C Ratio		0.19			0.19	0.19	0.01	0.30	0.30	0.39	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)		93			244	519	18	1022	482	684	2338	
v/s Ratio Prot							0.00	c0.38		c0.60	0.25	
v/s Ratio Perm		0.16			c0.23	0.06			0.06			
v/c Ratio		0.85			1.21	0.35	0.17	1.24	0.21	1.56	0.37	
Uniform Delay, d1		43.3			44.8	38.9	53.9	38.2	28.4	33.8	7.5	
Progression Factor		1.00			1.00	1.00	1.08	0.56	0.35	1.10	0.95	
Incremental Delay, d2		49.1			127.5	0.4	0.4	108.3	0.1	255.8	0.3	
Delay (s)		92.4			172.2	39.3	58.5	129.8	10.0	293.0	7.5	
Level of Service		F			F	D	E	F	A	F	A	
Approach Delay (s)		92.4			70.5			112.3			164.5	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	122.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	118.6%	ICU Level of Service	H
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	351	505	212	141	538	121	257	1291	92	925
v/c Ratio	1.02	0.81	0.38	1.09	1.51	0.32	0.95	1.10	0.81	1.00
Control Delay	97.2	45.2	7.6	148.6	269.3	8.4	90.9	87.1	90.3	65.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.2	23.4	0.0
Total Delay	97.2	45.2	7.6	148.6	269.3	8.4	90.9	169.3	113.7	65.9
Queue Length 50th (ft)	~257	323	12	~111	~522	11	191	~540	65	279
Queue Length 95th (ft)	#445	#490	67	#240	#740	57	#351	#660	m#130	m#289
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	344	622	564	129	357	380	270	1177	113	925
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	172	17	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.81	0.38	1.09	1.51	0.32	0.95	1.28	0.96	1.00

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)	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	4.6	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	1770	1863	1559	1652	3135		1770	3394	
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	1770	1863	1559	1652	3135		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	124	0	0	81	0	18	0	0	9	0
Lane Group Flow (vph)	351	505	88	141	538	40	257	1273	0	92	916	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)	24.0	37.1	37.1	8.0	21.1	21.1	18.0	40.7		7.0	29.7	
Effective Green, g (s)	24.0	37.1	37.1	8.0	21.1	21.1	18.0	40.7		7.0	29.7	
Actuated g/C Ratio	0.22	0.34	0.34	0.07	0.19	0.19	0.16	0.37		0.06	0.27	
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)	344	622	440	129	357	299	270	1160		113	916	
v/s Ratio Prot	c0.22	0.27		0.08	c0.29		c0.16	c0.41		0.05	0.27	
v/s Ratio Perm			0.07			0.03						
v/c Ratio	1.02	0.81	0.20	1.09	1.51	0.13	0.95	1.10		0.81	1.00	
Uniform Delay, d1	43.0	33.3	25.9	51.0	44.4	36.9	45.6	34.6		50.9	40.1	
Progression Factor	1.00	1.00	1.00	0.91	0.75	0.57	1.07	0.93		0.99	0.97	
Incremental Delay, d2	53.8	8.3	0.3	103.4	241.3	0.3	39.8	56.5		30.5	26.9	
Delay (s)	96.8	41.6	26.2	150.0	274.5	21.3	88.4	88.6		80.7	66.0	
Level of Service	F	D	C	F	F	C	F	F		F	E	
Approach Delay (s)		56.7			214.3			88.6			67.3	
Approach LOS		E			F			F			E	

Intersection Summary			
HCM Average Control Delay	98.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
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	77.6	21.8	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	77.6	23.5	55.6	32.8	36.2	9.3	69.1	7.1	76.3
Queue Length 50th (ft)	44	287	15	457	48	2	204	1	31
Queue Length 95th (ft)	m#82	#601	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	1.15	0.69		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)	84.6	23.6		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)		28.2			34.2			31.9			53.4	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	36.6	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
Lane Group Flow (vph)	370	467	11	62	305	721	296	96	991
v/c Ratio	1.23	0.63	0.13	0.24	0.98	0.48	0.40	0.89	0.88
Control Delay	159.6	10.7	44.2	19.8	81.7	17.9	11.0	103.7	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	159.6	10.7	44.2	19.8	81.7	17.9	11.0	103.7	35.6
Queue Length 50th (ft)	~213	49	5	15	143	113	43	46	208
Queue Length 95th (ft)	#507	151	25	44	#402	252	152	#173	#481
Internal Link Dist (ft)		1442		914		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	302	985	83	683	312	1490	734	108	1123
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	1.23	0.47	0.13	0.09	0.98	0.48	0.40	0.89	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.

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	
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	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1543		1652	1601		1652	3240	1449	1711	3215	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1543		1652	1601		1652	3240	1449	1711	3215	
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	216	0	0	24	0	0	0	73	0	50	0
Lane Group Flow (vph)	370	251	0	11	38	0	305	721	223	96	941	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	36.9	36.9	5.1	26.8	
Effective Green, g (s)	14.2	27.6		0.6	14.0		15.2	36.9	36.9	5.1	26.8	
Actuated g/C Ratio	0.17	0.33		0.01	0.17		0.18	0.45	0.45	0.06	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)	294	515		12	271		304	1446	647	106	1042	
v/s Ratio Prot	c0.22	c0.16		0.01	0.02		c0.18	0.22		0.06	c0.29	
v/s Ratio Perm									0.15			
v/c Ratio	1.26	0.49		0.92	0.14		1.00	0.50	0.35	0.91	0.90	
Uniform Delay, d1	34.2	21.9		41.0	29.2		33.8	16.3	15.0	38.6	26.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	140.9	1.0		214.6	0.3		52.4	0.4	0.4	58.8	11.0	
Delay (s)	175.2	22.9		255.6	29.6		86.2	16.7	15.4	97.3	37.8	
Level of Service	F	C		F	C		F	B	B	F	D	
Approach Delay (s)		90.2			63.6			32.4			43.0	
Approach LOS		F			E			C			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)	82.7	Sum of lost time (s)	9.5
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
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	1.8
Queue Delay	0.0	0.0	0.0	1.7	0.0
Total Delay	56.7	18.5	2.4	5.2	1.8
Queue Length 50th (ft)	50	0	0	110	17
Queue Length 95th (ft)	94	26	3	180	m23
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

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

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	0.53	
Incremental Delay, d2	4.4	0.1	0.1	0.6	0.3	
Delay (s)	52.9	46.5	1.6	3.2	1.6	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.2			3.2	1.6	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	4.2	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	1.10	0.74	0.87	0.68	0.50	1.49
Control Delay	87.9	10.7	50.0	4.9	1.1	263.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.9	10.7	50.0	4.9	1.1	263.0
Queue Length 50th (ft)	~838	136	289	151	0	~547
Queue Length 95th (ft)	#981	213	#379	176	0	#693
Internal Link Dist (ft)	365			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1533	1628	773	2477	1686	598
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	1.10	0.74	0.87	0.68	0.50	1.49

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.

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)		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
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	421	0	0	0	0	0	0	0	0	74
Lane Group Flow (vph)	0	1691	790	670	1672	0	0	0	848	0	0	818
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		58.5	58.5	31.5	94.5				128.0			24.5
Effective Green, g (s)		58.5	58.5	31.5	94.5				128.0			24.5
Actuated g/C Ratio		0.46	0.46	0.25	0.74				1.00			0.19
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)		1533	1207	773	2477				1686			523
v/s Ratio Prot		c0.50		c0.21	0.50							
v/s Ratio Perm			0.30						0.50			c0.30
v/c Ratio		1.10	0.65	0.87	0.68				0.50			1.56
Uniform Delay, d1		34.8	26.9	46.2	8.7				0.0			51.8
Progression Factor		0.94	0.85	0.85	0.42				1.00			1.00
Incremental Delay, d2		55.8	1.2	10.2	1.2				1.1			262.7
Delay (s)		88.6	23.9	49.5	4.8				1.1			314.5
Level of Service		F	C	D	A				A			F
Approach Delay (s)		61.6			17.6			1.1			314.5	
Approach LOS		E			B			A			F	

Intersection Summary			
HCM Average Control Delay	71.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	13.5
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	1.19	0.53	0.50	0.58	0.68	0.74
Control Delay	130.9	0.8	0.8	3.3	2.4	3.3
Queue Delay	0.0	0.0	0.1	0.1	0.0	0.0
Total Delay	130.9	0.8	0.9	3.3	2.4	3.3
Queue Length 50th (ft)	~405	0	8	8	0	0
Queue Length 95th (ft)	m#405	m0	m9	m36	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	651	3355	2425	1108	1611	1528
Starvation Cap Reductn	0	0	190	24	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.19	0.53	0.54	0.60	0.68	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.

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	2	0	0	0	0	0	0
Lane Group Flow (vph)	772	1767	0	0	1202	645	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)	26.5	128.0			92.5	92.5			128.0			128.0
Effective Green, g (s)	26.5	128.0			92.5	92.5			128.0			128.0
Actuated g/C Ratio	0.21	1.00			0.72	0.72			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)	651	3355			2425	1106			1611			1528
v/s Ratio Prot	c0.25	0.53			0.36							
v/s Ratio Perm						0.42			0.68			c0.74
v/c Ratio	1.19	0.53			0.50	0.58			0.68			0.74
Uniform Delay, d1	50.8	0.0			7.7	8.5			0.0			0.0
Progression Factor	0.90	1.00			0.05	0.20			1.00			1.00
Incremental Delay, d2	90.3	0.1			0.5	1.5			2.4			3.3
Delay (s)	136.2	0.1			0.8	3.2			2.4			3.3
Level of Service	F	A			A	A			A			A
Approach Delay (s)		41.4			1.7			2.4			3.3	
Approach LOS		D			A			A			A	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	4.5
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	1.40	1.07	0.54	1.15	0.14	1.22	0.66	0.04	0.58	1.03	0.43
Control Delay	210.7	63.4	1.4	137.5	12.8	167.7	29.8	15.8	56.6	72.8	19.2
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	210.7	63.4	1.4	137.5	12.8	167.7	29.8	15.8	56.6	72.8	19.2
Queue Length 50th (ft)	~347	~559	0	~224	5	~236	253	4	61	~375	67
Queue Length 95th (ft)	m#359	m#550	m0	#388	36	#401	324	20	116	#503	136
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	373	744	1770	260	393	246	1328	494	182	1001	533
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	1.40	1.07	0.54	1.15	0.14	1.22	0.66	0.04	0.55	1.03	0.43

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)	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	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		1737	1475	1652	3539	1337	1652	3303	1551
Flt Permitted	0.27	1.00	1.00		0.61	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	474	1739	1770		1066	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)	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)	42.3	42.3	100.0		23.9	23.9	13.9	35.6	35.6	8.1	29.3	29.3
Effective Green, g (s)	42.8	42.8	100.0		24.4	24.4	14.9	36.6	35.6	9.0	30.3	30.3
Actuated g/C Ratio	0.43	0.43	1.00		0.24	0.24	0.15	0.37	0.36	0.09	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)	373	744	1770		260	360	246	1295	476	149	1001	470
v/s Ratio Prot	c0.20	0.46					c0.18	0.25		0.06	c0.31	
v/s Ratio Perm	c0.40		0.54		0.28	0.01			0.01			0.11
v/c Ratio	1.40	1.07	0.54		1.15	0.06	1.22	0.68	0.03	0.67	1.03	0.35
Uniform Delay, d1	24.9	28.6	0.0		37.8	29.0	42.5	26.7	20.9	44.1	34.9	27.2
Progression Factor	0.90	0.60	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	188.1	43.3	0.5		101.1	0.1	129.7	2.9	0.1	11.7	37.6	2.0
Delay (s)	210.4	60.3	0.5		138.9	29.1	172.3	29.6	21.0	55.8	72.4	29.2
Level of Service	F	E	A		F	C	F	C	C	E	E	C
Approach Delay (s)		69.9			121.8			65.3			64.0	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM Average Control Delay	70.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	90	2311	141	2041
v/c Ratio	0.37	0.57	0.55	1.66	0.70
Control Delay	52.4	52.6	2.7	358.9	6.3
Queue Delay	0.0	0.0	0.1	0.0	1.4
Total Delay	52.4	52.6	2.8	358.9	7.7
Queue Length 50th (ft)	32	52	59	~88	254
Queue Length 95th (ft)	67	100	m107	#226	441
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	255	296	4174	85	2931
Starvation Cap Reductn	0	0	340	0	637
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.30	0.60	1.66	0.89

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	1877	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		4940		1620	3471	
Flt Permitted					0.76	1.00		1.00		0.06	1.00	
Satd. Flow (perm)					1245	1395		4940		100	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	2040	1
RTOR Reduction (vph)	0	0	0	0	0	13	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	77	0	2310	0	141	2041	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)					10.2	10.2		91.2		91.2	91.2	
Effective Green, g (s)					10.2	10.2		91.2		91.2	91.2	
Actuated g/C Ratio					0.09	0.09		0.83		0.83	0.83	
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)					115	129		4096		83	2878	
v/s Ratio Prot								0.47			0.59	
v/s Ratio Perm					0.04	c0.06				c1.41		
v/c Ratio					0.42	0.60		0.56		1.70	0.71	
Uniform Delay, d1					47.1	47.9		3.0		9.4	3.9	
Progression Factor					1.00	1.00		0.74		1.00	1.00	
Incremental Delay, d2					2.4	7.3		0.1		360.5	1.5	
Delay (s)					49.5	55.2		2.3		369.9	5.4	
Level of Service					D	E		A		F	A	
Approach Delay (s)		0.0			53.3			2.3			29.0	
Approach LOS		A			D			A			C	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	1.59		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	72.1%	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	44.8	25.3	9.5	54.2	7.0
Queue Delay	0.0	17.2	0.0	0.0	0.0
Total Delay	44.8	42.5	9.5	54.2	7.0
Queue Length 50th (ft)	45	488	88	210	0
Queue Length 95th (ft)	m51	m645	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	480	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	1.00	0.44	0.60	0.23

Intersection Summary

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

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	0.82	2.25	0.64		1.00	1.00
Incremental Delay, d2	2.1	1.2	0.6		10.3	0.1
Delay (s)	42.8	21.8	8.8		50.5	33.8
Level of Service	D	C	A		D	C
Approach Delay (s)		23.3	8.8		45.6	
Approach LOS		C	A		D	

Intersection Summary			
HCM Average Control Delay	21.8	HCM Level of Service	C
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	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	1.07	0.58	0.24	0.31	1.12	0.51	0.80	0.23	1.18	0.49	0.08
Control Delay	175.5	57.7	35.8	30.7	94.6	89.2	56.0	1.7	146.9	33.0	6.9
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	175.5	57.7	35.8	30.7	94.6	89.2	56.0	1.7	146.9	33.0	6.9
Queue Length 50th (ft)	~98	92	88	128	~1108	33	285	1	~417	234	0
Queue Length 95th (ft)	#218	126	140	195	#1373	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)	90	1015	1092	672	939	86	1164	931	618	1316	646
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	1.07	0.22	0.24	0.31	1.12	0.42	0.78	0.22	1.18	0.49	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		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	3093		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	3093		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)	96	176	45	262	205	1051	36	904	208	732	649	54
RTOR Reduction (vph)	0	21	0	0	0	9	0	0	86	0	0	32
Lane Group Flow (vph)	96	200	0	262	205	1042	36	904	122	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	16.2		47.0	55.7	87.7	5.3	34.7	81.7	27.5	56.9	56.9
Effective Green, g (s)	7.5	16.2		47.0	55.7	87.7	5.3	34.7	81.7	27.5	56.9	56.9
Actuated g/C Ratio	0.05	0.12		0.33	0.40	0.62	0.04	0.25	0.58	0.20	0.40	0.40
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)	89	356		1087	669	936	61	1148	841	614	1310	611
v/s Ratio Prot	c0.06	0.06		0.08	0.12	c0.69	0.02	c0.19	0.08	c0.23	0.20	
v/s Ratio Perm												0.01
v/c Ratio	1.08	0.56		0.24	0.31	1.11	0.59	0.79	0.15	1.19	0.50	0.04
Uniform Delay, d1	66.6	58.9		33.9	29.2	26.5	66.6	49.6	13.5	56.6	31.2	25.3
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	118.3	2.9		0.0	0.4	65.8	9.8	3.6	0.1	101.9	0.3	0.0
Delay (s)	184.9	61.8		34.0	29.6	92.3	76.4	53.2	13.6	158.5	31.5	25.3
Level of Service	F	E		C	C	F	E	D	B	F	C	C
Approach Delay (s)		99.1			73.7			46.8			96.1	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM Average Control Delay	75.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	140.7	Sum of lost time (s)	11.8
Intersection Capacity Utilization	92.4%	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)	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	81.2	38.8	5.2	66.4	48.6	71.2	22.4
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	81.2	39.4	7.2	66.4	65.8	71.2	22.4
Queue Length 50th (ft)	121	318	87	~753	2	40	42	226	60
Queue Length 95th (ft)	#255	423	m104	m#878	m2	83	#177	#342	160
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	435
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	0.97	
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	0.99	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	1450	
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	1450	
Peak-hour factor, PHF	0.92	0.92	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	279	
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	0.45	
Uniform Delay, d1	53.6	20.3		52.1	28.1	19.4	53.9	54.8		47.7	42.8	
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	1.1	
Delay (s)	107.1	22.4		73.9	36.7	16.1	55.0	71.8		69.0	44.0	
Level of Service	F	C		E	D	B	D	E		E	D	
Approach Delay (s)		32.7			32.4			68.7			60.7	
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	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	0.6
Total Delay	61.9	104.9	67.7	18.0	100.5	20.3	133.4	50.8
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	413	0	0	0	3
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	1.14	0.97	0.90	1.00	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	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	579	135	1889	1206	208	332	621	193	239	15
v/c Ratio	0.38	0.64	0.34	1.47	0.73	1.18	0.52	0.39	0.58	0.40	0.05
Control Delay	67.2	50.5	9.6	247.2	26.9	174.0	49.2	8.3	62.8	46.6	18.0
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	67.2	50.5	9.6	247.2	26.9	174.0	49.2	8.3	62.8	46.6	18.0
Queue Length 50th (ft)	37	160	0	~1108	399	~208	130	82	78	90	0
Queue Length 95th (ft)	85	217	56	#1413	548	#410	187	126	129	135	19
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	137	1125	460	1283	1734	176	860	1780	373	862	403
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	0.34	0.51	0.29	1.47	0.70	1.18	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	533	124	1738	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	579	135	1889	922	284	208	332	621	193	239	15
RTOR Reduction (vph)	0	0	108	0	19	0	0	0	0	0	0	12
Lane Group Flow (vph)	47	579	27	1889	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	23.6	23.6	48.4	64.5		13.1	22.1	70.5	12.8	21.8	21.8
Effective Green, g (s)	8.4	25.1	25.1	49.3	66.0		13.1	23.6	72.3	12.8	23.3	23.3
Actuated g/C Ratio	0.07	0.20	0.20	0.39	0.52		0.10	0.19	0.57	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)	104	928	294	1275	1632		175	629	1554	331	600	272
v/s Ratio Prot	0.03	0.12		c0.58	c0.38		c0.12	c0.10	0.23	c0.06	0.07	
v/s Ratio Perm			0.02									0.00
v/c Ratio	0.45	0.62	0.09	1.48	0.73		1.19	0.53	0.40	0.58	0.40	0.01
Uniform Delay, d1	56.5	46.1	41.1	38.3	23.0		56.4	46.1	14.8	54.0	45.1	41.9
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	4.2	1.5	0.2	221.0	1.8		127.9	1.0	0.2	3.1	0.6	0.0
Delay (s)	60.7	47.6	41.3	259.3	24.8		184.3	47.2	15.0	57.1	45.7	41.9
Level of Service	E	D	D	F	C		F	D	B	E	D	D
Approach Delay (s)		47.3			167.9			54.5			50.5	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	117.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	125.9	Sum of lost time (s)	11.1
Intersection Capacity Utilization	90.7%	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)	301	1967	413	203	1375	224	226	122	143
v/c Ratio	0.85	0.85	0.43	0.87	0.71	0.72	0.72	0.30	0.77
Control Delay	71.2	33.7	3.4	88.7	35.2	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	34.2	3.4	88.7	35.2	62.0	61.4	8.8	59.0
Queue Length 50th (ft)	238	513	0	169	358	186	188	0	32
Queue Length 95th (ft)	#419	679	58	#344	472	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	969	234	1939	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	0.43	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		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	4631		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	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	0	207	0	2	0	0	0	97	0	68	0
Lane Group Flow (vph)	301	1967	206	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		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	0.30		c0.15	0.14			c0.02	
v/s Ratio Perm			0.13						0.02			
v/c Ratio	0.85	0.85	0.27	0.87	0.71		0.72	0.72	0.08		0.64	
Uniform Delay, d1	48.7	28.3	18.9	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		1.00	
Incremental Delay, d2	18.0	3.6	0.5	28.6	1.8		8.7	8.2	0.2		12.2	
Delay (s)	66.7	31.8	19.4	83.4	33.0		57.2	56.6	42.3		73.7	
Level of Service	E	C	B	F	C		E	E	D		E	
Approach Delay (s)		33.8			39.5			53.8			73.7	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM Average Control Delay	39.1	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	74.2%	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)	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	1243	785
v/c Ratio	0.10	0.99	0.46	0.05	1.13	0.49	1.42	0.31
Control Delay	34.0	105.9	6.6	38.8	114.9	16.9	220.8	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0
Total Delay	34.0	105.9	6.6	38.8	114.9	16.9	225.2	5.6
Queue Length 50th (ft)	10	153	0	3	~336	38	~1185	76
Queue Length 95th (ft)	33	#308	43	m0	#467	110	#1443	147
Internal Link Dist (ft)	387	301			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	202	217	743	92	732	561	877	2527
Starvation Cap Reductn	0	0	0	0	0	0	6	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	0.10	0.99	0.46	0.05	1.13	0.49	1.43	0.31

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)	15	0	5	196	2	316	5	758	254	1144	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	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)		1696			1775	2787	1678	3355	1583	1770	3432	
Flt Permitted		0.69			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1209			1328	2787	1678	3355	1583	1770	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	1243	734	51
RTOR Reduction (vph)	0	4	0	0	0	287	0	0	216	0	4	0
Lane Group Flow (vph)	0	17	0	0	215	56	5	824	60	1243	781	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)		18.0			18.0	18.0	1.2	24.0	24.0	54.5	77.3	
Effective Green, g (s)		18.0			18.0	18.0	1.2	24.0	24.0	54.5	77.3	
Actuated g/C Ratio		0.16			0.16	0.16	0.01	0.22	0.22	0.50	0.70	
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)		198			217	456	18	732	345	877	2412	
v/s Ratio Prot							0.00	c0.25		c0.70	0.23	
v/s Ratio Perm		0.01			c0.16	0.02			0.04			
v/c Ratio		0.08			0.99	0.12	0.28	1.13	0.17	1.42	0.32	
Uniform Delay, d1		39.0			45.9	39.3	54.0	43.0	34.9	27.8	6.3	
Progression Factor		1.00			1.00	1.00	0.76	1.11	3.16	1.00	1.00	
Incremental Delay, d2		0.2			58.3	0.1	7.0	71.3	0.9	194.5	0.4	
Delay (s)		39.2			104.2	39.4	48.1	119.0	111.3	222.3	6.6	
Level of Service		D			F	D	D	F	F	F	A	
Approach Delay (s)		39.2			64.4			116.8			138.8	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM Average Control Delay	120.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	109.0%	ICU Level of Service	G
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	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	200	117	146	261	201	152	844	82	873
v/c Ratio	0.73	0.55	0.33	0.65	0.76	0.45	0.70	0.59	0.51	0.66
Control Delay	63.8	45.2	9.2	56.3	66.0	20.3	62.6	26.6	51.6	36.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	45.2	9.2	56.3	66.0	20.3	62.6	26.6	51.6	36.7
Queue Length 50th (ft)	108	125	0	97	187	11	102	251	57	298
Queue Length 95th (ft)	#192	198	47	167	283	116	#173	329	m96	m367
Internal Link Dist (ft)		2946			522			956		727
Turn Bay Length (ft)	240		200	205			200		370	
Base Capacity (vph)	245	409	381	257	396	490	241	1422	178	1319
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	0.66	0.49	0.31	0.57	0.66	0.41	0.63	0.59	0.46	0.66

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)	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	4.6	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	1770	1863	1559	1652	3148		1770	3392	
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	1770	1863	1559	1652	3148		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	94	0	0	164	0	13	0	0	9	0
Lane Group Flow (vph)	161	200	23	146	261	37	152	831	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		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	15.5	21.8	21.8	14.0	20.3	20.3	14.5	48.4		8.6	42.5	
Effective Green, g (s)	15.5	21.8	21.8	14.0	20.3	20.3	14.5	48.4		8.6	42.5	
Actuated g/C Ratio	0.14	0.20	0.20	0.13	0.18	0.18	0.13	0.44		0.08	0.39	
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)	222	366	259	225	344	288	218	1385		138	1311	
v/s Ratio Prot	c0.10	0.11		0.08	c0.14		c0.09	0.26		0.05	c0.25	
v/s Ratio Perm			0.02			0.02						
v/c Ratio	0.73	0.55	0.09	0.65	0.76	0.13	0.70	0.60		0.59	0.66	
Uniform Delay, d1	45.2	39.7	36.0	45.7	42.5	37.5	45.7	23.4		49.0	27.8	
Progression Factor	1.00	1.00	1.00	0.95	1.22	3.24	1.00	1.00		0.88	1.17	
Incremental Delay, d2	11.9	2.1	0.2	6.9	9.7	0.3	10.0	1.9		7.1	2.4	
Delay (s)	57.1	41.7	36.2	50.1	61.5	121.6	55.7	25.4		50.1	34.9	
Level of Service	E	D	D	D	E	F	E	C		D	C	
Approach Delay (s)		45.6			78.6			30.0			36.2	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	44.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	65.8%	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)	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	57.6	6.2	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	57.6	6.2	53.4	8.6	45.4	0.0	58.3	15.9	53.2
Queue Length 50th (ft)	11	57	23	83	7	0	42	2	8
Queue Length 95th (ft)	36	81	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	1.13	0.80		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)	62.6	5.6		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)		8.3			10.6			46.8			49.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM Average Control Delay	16.2	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	96	409	761	40	23	861
v/c Ratio	1.05	0.34	0.04	0.34	0.86	0.39	0.05	0.21	0.80
Control Delay	133.4	10.4	42.0	31.0	48.8	11.2	7.6	44.5	31.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	133.4	10.4	42.0	31.0	48.8	11.2	7.6	44.5	31.7
Queue Length 50th (ft)	~67	19	1	42	182	72	3	11	180
Queue Length 95th (ft)	#224	70	11	81	#465	232	26	40	#393
Internal Link Dist (ft)		1442		1025		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	128	778	82	731	474	1964	882	107	1071
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	1.05	0.22	0.04	0.13	0.86	0.39	0.05	0.21	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.

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	
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	0.90		1.00	0.99		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	1583		1652	1718		1652	3240	1448	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	1583		1652	1718		1652	3240	1448	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	52	121	3	91	5	409	761	40	23	596	265
RTOR Reduction (vph)	0	91	0	0	2	0	0	0	8	0	45	0
Lane Group Flow (vph)	134	82	0	3	94	0	409	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	21.2		0.7	15.8		23.2	49.1	49.1	1.9	27.8	
Effective Green, g (s)	6.1	21.2		0.7	15.8		23.2	49.1	49.1	1.9	27.8	
Actuated g/C Ratio	0.07	0.25		0.01	0.19		0.27	0.57	0.57	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)	122	393		14	318		449	1863	833	38	1048	
v/s Ratio Prot	c0.08	0.05		0.00	c0.05		c0.25	0.23		0.01	c0.25	
v/s Ratio Perm									0.02			
v/c Ratio	1.10	0.21		0.21	0.29		0.91	0.41	0.04	0.61	0.78	
Uniform Delay, d1	39.7	25.5		42.1	30.0		30.1	10.1	7.9	41.4	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	110.3	0.4		10.2	0.7		22.8	0.2	0.0	27.7	3.9	
Delay (s)	150.0	25.8		52.3	30.7		52.9	10.3	7.9	69.0	30.0	
Level of Service	F	C		D	C		D	B	A	E	C	
Approach Delay (s)		80.0			31.4			24.6			31.0	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	85.4	Sum of lost time (s)	12.5
Intersection Capacity Utilization	68.1%	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	1.16	0.77	0.74	0.89	0.50	1.74
Control Delay	127.5	19.5	37.3	16.3	1.1	369.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	127.5	19.5	37.3	16.4	1.1	369.5
Queue Length 50th (ft)	~671	165	340	737	0	~894
Queue Length 95th (ft)	#810	264	m310	m627	0	#1047
Internal Link Dist (ft)	366			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1018	1237	1134	2337	1686	678
Starvation Cap Reductn	0	0	0	6	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.77	0.74	0.90	0.50	1.74

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.

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)		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
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	435	0	0	0	0	0	0	0	0	24
Lane Group Flow (vph)	0	1184	523	836	2087	0	0	0	848	0	0	1154
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							
Permitted Phases			2						Free			4
Actuated Green, G (s)		42.5	42.5	50.5	97.5				140.0			33.5
Effective Green, g (s)		42.5	42.5	50.5	97.5				140.0			33.5
Actuated g/C Ratio		0.30	0.30	0.36	0.70				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)		1018	802	1134	2337				1686			654
v/s Ratio Prot		c0.35		0.27	c0.62							
v/s Ratio Perm			0.20						0.50			c0.42
v/c Ratio		1.16	0.65	0.74	0.89				0.50			1.76
Uniform Delay, d1		48.8	42.3	39.0	17.1				0.0			53.2
Progression Factor		1.00	1.00	0.90	0.78				1.00			1.00
Incremental Delay, d2		84.4	4.1	1.7	2.4				1.1			350.0
Delay (s)		133.1	46.4	36.9	15.7				1.1			403.3
Level of Service		F	D	D	B				A			F
Approach Delay (s)		94.3			21.8			1.1			403.3	
Approach LOS		F			C			A			F	

Intersection Summary			
HCM Average Control Delay	104.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	13.5
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	1.02	0.39	0.53	0.71	0.60	1.18
Control Delay	56.8	0.4	10.3	16.3	1.6	94.1
Queue Delay	0.0	0.0	0.5	2.4	0.0	14.0
Total Delay	56.8	0.4	10.9	18.7	1.6	108.1
Queue Length 50th (ft)	~360	0	253	374	0	~508
Queue Length 95th (ft)	m#355	m0	301	532	0	#771
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	707	3355	2384	1092	1611	1528
Starvation Cap Reductn	0	0	631	189	0	0
Spillback Cap Reductn	0	0	88	0	0	40
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.39	0.72	0.86	0.60	1.21

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)	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	4	0	0	0	0	0	0
Lane Group Flow (vph)	722	1310	0	0	1255	776	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)	31.5	140.0			99.5	99.5			140.0			140.0
Effective Green, g (s)	31.5	140.0			99.5	99.5			140.0			140.0
Actuated g/C Ratio	0.22	1.00			0.71	0.71			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)	707	3355			2384	1088			1611			1528
v/s Ratio Prot	0.23	0.39			0.37							
v/s Ratio Perm						0.51			0.60			c1.18
v/c Ratio	1.02	0.39			0.53	0.71			0.60			1.18
Uniform Delay, d1	54.2	0.0			9.4	11.9			0.0			70.0
Progression Factor	0.50	1.00			1.00	1.00			1.00			1.00
Incremental Delay, d2	27.8	0.1			0.8	4.0			1.6			86.4
Delay (s)	55.2	0.1			10.2	15.9			1.6			156.4
Level of Service	E	A			B	B			A			F
Approach Delay (s)		19.7			12.4			1.6			156.4	
Approach LOS		B			B			A			F	

Intersection Summary			
HCM Average Control Delay	51.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	140.0	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	1.13	0.68	0.29	1.17	0.07	1.14	0.49	0.03	0.44	0.94	0.64
Control Delay	121.6	35.8	0.4	141.3	25.3	124.6	24.8	14.0	61.4	66.1	28.8
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	121.6	35.8	0.4	141.3	25.3	124.6	24.8	14.0	61.4	66.1	28.8
Queue Length 50th (ft)	~240	283	0	~382	7	~469	220	3	42	269	104
Queue Length 95th (ft)	#425	405	0	#581	29	#682	278	16	86	#386	201
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	295	676	1770	368	320	470	1582	590	142	737	448
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	0.68	0.29	1.17	0.07	1.14	0.49	0.03	0.41	0.94	0.64

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	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	1469	1652	3539	1336	1652	3303	1549
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)	243	1739	1770		1733	1469	1652	3539	1336	1652	3303	1549
Peak-hour factor, PHF	0.92	0.92	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	101
Lane Group Flow (vph)	332	462	517	0	429	13	536	770	10	58	693	184
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)	44.6	44.6	116.9		24.1	24.1	32.0	50.8	50.8	7.1	25.8	25.8
Effective Green, g (s)	45.1	45.1	116.9		24.6	24.6	33.0	51.8	50.8	8.0	26.8	26.8
Actuated g/C Ratio	0.39	0.39	1.00		0.21	0.21	0.28	0.44	0.43	0.07	0.23	0.23
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)	293	671	1770		365	309	466	1568	581	113	757	355
v/s Ratio Prot	c0.16	0.27					c0.32	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	1.13	0.69	0.29		1.18	0.04	1.15	0.49	0.02	0.51	0.92	0.52
Uniform Delay, d1	33.6	30.0	0.0		46.2	36.8	42.0	23.2	18.8	52.6	43.9	39.4
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	93.4	3.2	0.4		104.0	0.1	89.8	0.7	0.0	4.5	16.9	3.4
Delay (s)	127.0	33.2	0.4		150.1	36.8	131.8	23.9	18.9	57.1	60.8	42.8
Level of Service	F	C	A		F	D	F	C	B	E	E	D
Approach Delay (s)		44.0			144.8			67.6			55.6	
Approach LOS		D			F			E			E	

Intersection Summary			
HCM Average Control Delay	65.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	116.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	28	90	1078	160	1999
v/c Ratio	0.14	0.31	0.30	0.50	0.78
Control Delay	18.7	8.9	4.1	16.4	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	8.9	4.1	16.4	11.8
Queue Length 50th (ft)	9	4	32	17	160
Queue Length 95th (ft)	21	29	96	#131	#541
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	426	530	3638	318	2564
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	0.30	0.50	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)	0	0	0	26	0	83	0	950	41	147	1837	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)					1562	1399		4918		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.25	1.00	
Satd. Flow (perm)					1245	1399		4918		431	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	28	0	90	0	1033	45	160	1997	2
RTOR Reduction (vph)	0	0	0	0	0	68	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	28	22	0	1073	0	160	1999	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)					7.4	7.4		39.1		39.1	39.1	
Effective Green, g (s)					7.4	7.4		39.1		39.1	39.1	
Actuated g/C Ratio					0.13	0.13		0.71		0.71	0.71	
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)					167	188		3490		306	2463	
v/s Ratio Prot								0.22			c0.58	
v/s Ratio Perm					c0.02	0.02				0.37		
v/c Ratio					0.17	0.12		0.31		0.52	0.81	
Uniform Delay, d1					21.1	21.0		3.0		3.7	5.5	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.5	0.3		0.0		0.7	2.0	
Delay (s)					21.6	21.3		3.0		4.4	7.5	
Level of Service					C	C		A		A	A	
Approach Delay (s)		0.0			21.3			3.0			7.3	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	8.6
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
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	52.7	1.2	3.3	55.4	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	1.2	3.3	55.4	17.1
Queue Length 50th (ft)	8	0	35	44	0
Queue Length 95th (ft)	m17	0	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	1.03	0.48	0.84		1.00	1.00
Incremental Delay, d2	3.2	0.3	0.2		2.8	0.1
Delay (s)	57.3	1.1	3.1		51.7	47.3
Level of Service	E	A	A		D	D
Approach Delay (s)		3.6	3.1		50.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	7.5	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			