Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	42	173	289	166	863	27	910	210	585	523	63
v/c Ratio	0.55	0.43	0.28	0.24	0.87	0.36	0.73	0.22	0.83	0.34	0.08
Control Delay	92.4	53.0	36.8	28.2	29.6	78.6	50.0	1.6	62.4	25.1	5.7
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	92.4	53.0	36.8	28.2	29.6	78.6	50.0	1.6	62.4	25.1	5.7
Queue Length 50th (ft)	39	72	97	99	582	24	282	0	268	168	0
Queue Length 95th (ft)	#91	101	155	155	#887	58	336	19	#355	216	28
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	80	1044	1024	724	1005	83	1287	949	725	1520	743
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.17	0.28	0.23	0.86	0.33	0.71	0.22	0.81	0.34	0.08

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	134	25	266	153	794	25	837	193	538	481	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	2.5	2.5		2.5	2.5	2.5	2.5	1.8	1.8	2.5	1.8	1.8
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3113		3255	1689	1501	1620	4655	1449	3143	3240	1514
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3113		3255	1689	1501	1620	4655	1449	3143	3240	1514
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	146	27	289	166	863	27	910	210	585	523	63
RTOR Reduction (vph)	0	14	0	0	0	18	0	0	85	0	0	34
Lane Group Flow (vph)	42	159	0	289	166	845	27	910	125	585	523	29
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)	4.1	14.9		42.4	53.2	86.9	3.4	35.5	77.9	29.2	61.3	61.3
Effective Green, g (s)	5.1	16.9		43.4	55.2	88.9	4.4	37.5	81.9	30.2	63.3	63.3
Actuated g/C Ratio	0.04	0.12		0.32	0.40	0.65	0.03	0.27	0.60	0.22	0.46	0.46
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	3.0	3.0
Lane Grp Cap (vph)	62	383		1029	679	972	52	1271	864	691	1494	698
v/s Ratio Prot	c0.03	0.05		0.09	0.10	c0.56	0.02	c0.20	0.09	0.19	0.16	
v/s Ratio Perm												0.02
v/c Ratio	0.68	0.42		0.28	0.24	0.87	0.52	0.72	0.14	0.85	0.35	0.04
Uniform Delay, d1	65.3	55.6		35.2	27.2	19.5	65.4	45.1	12.2	51.3	23.8	20.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.6	1.3		0.1	0.3	8.6	3.6	2.1	0.1	9.0	0.1	0.0
Delay (s)	85.9	56.9		35.3	27.5	28.1	69.0	47.2	12.3	60.4	23.9	20.4
Level of Service	F	E		D	C	C	E	D	B	E	C	C
Approach Delay (s)		62.6			29.6			41.3			41.9	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM Average Control Delay	38.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	137.3	Sum of lost time (s)	6.8
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	109	864	25	1217	153	28	148	182	124
v/c Ratio	0.63	0.39	0.15	0.64	0.17	0.25	0.64	0.48	0.51
Control Delay	60.3	9.4	60.3	7.3	0.5	50.9	21.2	46.5	28.3
Queue Delay	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	9.4	60.3	7.4	0.5	50.9	21.2	46.5	28.3
Queue Length 50th (ft)	71	76	17	59	1	18	1	60	36
Queue Length 95th (ft)	125	228	m29	201	2	45	60	92	92
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	219	2208	170	1903	876	224	318	462	279
Starvation Cap Reductn	0	0	0	118	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	0.50	0.39	0.15	0.68	0.17	0.13	0.47	0.39	0.44

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)	100	779	16	23	1104	156	26	2	134	167	42	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	2.0	3.0		2.0	3.0	3.0	2.0	2.0		2.0	2.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3169		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	3169		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)	109	847	17	25	1200	170	28	2	146	182	46	78
RTOR Reduction (vph)	0	1	0	0	1	58	0	136	0	0	59	0
Lane Group Flow (vph)	109	863	0	25	1216	95	28	12	0	182	65	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	10.2	70.4		4.0	64.2	64.2	5.9	5.9		11.7	11.7	
Effective Green, g (s)	11.2	71.4		5.0	65.2	65.2	6.9	6.9		12.7	12.7	
Actuated g/C Ratio	0.11	0.68		0.05	0.62	0.62	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)	173	2155		77	1904	819	110	94		380	182	
v/s Ratio Prot	c0.07	0.27		0.02	c0.40		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.07						
v/c Ratio	0.63	0.40		0.32	0.64	0.12	0.25	0.12		0.48	0.36	
Uniform Delay, d1	44.9	7.4		48.4	12.5	8.1	46.6	46.2		43.1	42.4	
Progression Factor	1.00	1.00		1.36	0.40	0.06	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.4	0.6		0.7	1.3	0.2	0.4	0.2		1.0	1.2	
Delay (s)	50.3	7.9		66.5	6.3	0.7	47.1	46.4		44.0	43.6	
Level of Service	D	A		E	A	A	D	D		D	D	
Approach Delay (s)		12.7			6.8			46.5			43.9	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	28	1077	270	1294	171	202	121	78
v/c Ratio	0.30	0.44	0.69	0.61	0.71	0.24	0.69	0.41
Control Delay	60.2	13.1	53.0	12.6	59.6	4.3	64.0	38.2
Queue Delay	0.0	0.2	0.0	0.1	0.0	0.0	1.3	0.0
Total Delay	60.2	13.3	53.0	12.6	59.6	4.3	65.4	38.2
Queue Length 50th (ft)	18	179	89	222	111	0	79	36
Queue Length 95th (ft)	m49	146	129	353	176	26	135	80
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	98	2444	464	2110	310	920	238	252
Starvation Cap Reductn	0	495	0	93	0	0	0	0
Spillback Cap Reductn	0	110	0	40	0	10	32	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.55	0.58	0.64	0.55	0.22	0.59	0.31

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	913	78	248	1136	54	139	18	186	111	48	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	2.0	3.0		2.5	3.0			2.0	2.5	2.0	2.0	
Lane Util. Factor	1.00	0.91		0.97	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.98	
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	4514		3143	3298			1808	2805	1562	1538	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4514		3143	3298			1808	2805	1562	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)	28	992	85	270	1235	59	151	20	202	121	52	26
RTOR Reduction (vph)	0	8	0	0	3	0	0	0	150	0	18	0
Lane Group Flow (vph)	28	1069	0	270	1291	0	0	171	52	121	60	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	3.3	55.7		12.1	65.0			12.9	25.0	10.8	10.8	
Effective Green, g (s)	4.3	56.7		13.1	66.0			13.9	27.0	11.8	11.8	
Actuated g/C Ratio	0.04	0.54		0.12	0.63			0.13	0.26	0.11	0.11	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	66	2438		392	2073			239	721	176	173	
v/s Ratio Prot	0.02	0.24		c0.09	c0.39			c0.09	0.01	c0.08	0.04	
v/s Ratio Perm									0.01			
v/c Ratio	0.42	0.44		0.69	0.62			0.72	0.07	0.69	0.35	
Uniform Delay, d1	49.1	14.6		44.0	11.9			43.7	29.5	44.8	43.0	
Progression Factor	1.10	0.79		1.02	0.84			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.5		3.5	1.2			8.2	0.0	8.6	0.4	
Delay (s)	55.5	12.0		48.3	11.2			51.8	29.5	53.4	43.5	
Level of Service	E	B		D	B			D	C	D	D	
Approach Delay (s)		13.1			17.6			39.8			49.5	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	582	1382	1225	436	170	216	214
v/c Ratio	0.23	0.96	0.50	0.29	0.58	0.56	0.55
Control Delay	2.2	30.8	5.7	0.5	48.2	22.5	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.2	30.8	5.7	0.5	48.2	22.5	21.7
Queue Length 50th (ft)	19	762	137	0	110	56	51
Queue Length 95th (ft)	31	#963	174	0	186	140	131
Internal Link Dist (ft)	509		867			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2508	1439	2445	1478	294	384	389
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	26	0	0	1	1
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.96	0.51	0.29	0.58	0.56	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)	0	535	1271	0	1127	401	0	0	0	174	0	378
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.86	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	1.00	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1608	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	1.00	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1608	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	582	1382	0	1225	436	0	0	0	189	0	411
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	109	107
Lane Group Flow (vph)	0	582	1382	0	1225	436	0	0	0	170	107	107
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Prot
Protected Phases		2			6					4	4	4
Permitted Phases			2 4			Free				4		
Actuated Green, G (s)		79.0	105.0		79.0	105.0				18.0	18.0	18.0
Effective Green, g (s)		80.0	105.0		80.0	105.0				19.0	18.0	19.0
Actuated g/C Ratio		0.76	1.00		0.76	1.00				0.18	0.17	0.18
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2508	1439		2445	1478				294	276	282
v/s Ratio Prot		0.18			0.38					0.10	0.07	0.07
v/s Ratio Perm			c0.96			0.30						
v/c Ratio		0.23	0.96		0.50	0.29				0.58	0.39	0.38
Uniform Delay, d1		3.6	0.0		4.8	0.0				39.3	38.6	37.8
Progression Factor		0.53	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.2	15.1		0.7	0.5				3.3	1.2	1.2
Delay (s)		2.1	15.1		5.6	0.5				42.6	39.9	39.0
Level of Service		A	B		A	A				D	D	D
Approach Delay (s)		11.3			4.2			0.0			40.3	
Approach LOS		B			A			A			D	

Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	196	27	39	112	147	122
v/c Ratio	0.53	0.08	0.19	0.09	0.14	0.12
Control Delay	25.2	7.6	25.8	4.4	8.4	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	7.6	25.8	4.4	8.4	2.9
Queue Length 50th (ft)	63	0	13	11	15	0
Queue Length 95th (ft)	105	15	37	32	65	25
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	587	543	216	1242	1034	994
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.05	0.18	0.09	0.14	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	180	25	36	103	135	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1562
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	27	39	112	147	122
RTOR Reduction (vph)	0	21	0	0	0	53
Lane Group Flow (vph)	196	6	39	112	147	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	c0.09	
v/s Ratio Perm		0.00				0.04
v/c Ratio	0.53	0.02	0.38	0.09	0.15	0.08
Uniform Delay, d1	20.7	18.3	27.0	3.3	6.2	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	0.1	0.3	0.2
Delay (s)	22.1	18.3	29.3	3.4	6.5	6.1
Level of Service	C	B	C	A	A	A
Approach Delay (s)	21.7			10.1	6.3	
Approach LOS	C			B	A	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.27		
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)	213	186	215	30	970	49	602
v/c Ratio	0.52	0.44	0.47	0.09	0.64	0.26	0.40
Control Delay	19.1	18.1	12.3	8.4	11.6	12.5	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	18.1	12.3	8.4	11.6	12.5	8.7
Queue Length 50th (ft)	44	39	25	4	84	7	44
Queue Length 95th (ft)	110	98	80	19	198	34	107
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	727	758	751	492	2114	270	2114
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	0.29	0.25	0.29	0.06	0.46	0.18	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	116	21	78	93	198	28	816	76	45	504	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.99			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1537			1692	1309	1615	3032		1561	3029	
Flt Permitted		0.86			0.81	1.00	0.42	1.00		0.24	1.00	
Satd. Flow (perm)		1334			1399	1309	710	3032		388	3029	
Peak-hour factor, PHF	0.92	0.92	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	85	101	215	30	887	83	49	548	54
RTOR Reduction (vph)	0	8	0	0	0	65	0	11	0	0	11	0
Lane Group Flow (vph)	0	205	0	0	186	150	30	959	0	49	591	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		14.1			14.1	14.1	23.2	23.2		23.2	23.2	
Effective Green, g (s)		14.1			14.1	14.1	23.2	23.2		23.2	23.2	
Actuated g/C Ratio		0.30			0.30	0.30	0.50	0.50		0.50	0.50	
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			424	397	354	1513		194	1511	
v/s Ratio Prot								c0.32			0.20	
v/s Ratio Perm		c0.15			0.13	0.11	0.04			0.13		
v/c Ratio		0.51			0.44	0.38	0.08	0.63		0.25	0.39	
Uniform Delay, d1		13.3			13.0	12.7	6.1	8.5		6.7	7.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.4			1.0	0.8	0.1	1.0		0.9	0.2	
Delay (s)		14.7			14.0	13.6	6.2	9.5		7.6	7.5	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		14.7			13.8			9.4			7.5	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	46.5	Sum of lost time (s)	9.2
Intersection Capacity Utilization	63.2%	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)	28	286	495	173	142	27
v/c Ratio	0.25	0.20	0.41	0.13	0.65	0.13
Control Delay	53.4	3.9	6.9	0.2	58.4	15.2
Queue Delay	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	53.4	3.9	7.2	0.2	58.4	15.2
Queue Length 50th (ft)	19	42	50	0	96	0
Queue Length 95th (ft)	48	85	196	m0	154	24
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	125	1431	1219	1443	341	315
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	0.53	0.12	0.42	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	263	455	159	131	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	1568	1562	1349
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1568	1562	1349
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	286	495	173	142	27
RTOR Reduction (vph)	0	0	0	28	0	23
Lane Group Flow (vph)	28	286	495	145	142	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)	5.1	86.1	77.0	92.3	15.3	15.3
Effective Green, g (s)	5.1	86.1	77.0	92.3	15.3	15.3
Actuated g/C Ratio	0.05	0.78	0.70	0.84	0.14	0.14
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	1430	1194	1316	217	188
v/s Ratio Prot	c0.02	0.16	c0.29	0.02	c0.09	
v/s Ratio Perm				0.08		0.00
v/c Ratio	0.37	0.20	0.41	0.11	0.65	0.02
Uniform Delay, d1	50.9	3.1	7.0	1.6	44.8	40.9
Progression Factor	1.00	1.00	0.71	0.13	1.00	1.00
Incremental Delay, d2	3.1	0.3	0.9	0.0	6.9	0.0
Delay (s)	54.0	3.4	5.9	0.2	51.8	40.9
Level of Service	D	A	A	A	D	D
Approach Delay (s)		7.9	4.4		50.0	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	39.6%	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)	350	161	208	277	383	262	3
v/c Ratio	0.50	0.24	0.78	0.27	0.76	0.47	0.04
Control Delay	22.5	1.6	64.3	12.6	44.9	14.2	51.0
Queue Delay	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	1.6	64.3	12.6	44.9	14.2	51.0
Queue Length 50th (ft)	123	0	139	84	241	53	2
Queue Length 95th (ft)	279	9	#258	173	338	118	12
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	704	682	286	1032	574	557	85
Starvation Cap Reductn	137	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	0.62	0.24	0.73	0.27	0.67	0.47	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	321	148	191	254	1	350	3	241	2	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (prot)		1759	1465	1562	1704			1683	1727		1754	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (perm)		1758	1465	1562	1704			1683	1727		1754	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	349	161	208	276	1	380	3	262	2	1	0
RTOR Reduction (vph)	0	0	101	0	0	0	0	0	118	0	0	0
Lane Group Flow (vph)	0	350	60	208	277	0	0	383	144	0	3	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		40.8	40.8	18.7	63.5			32.9	28.4		1.0	
Effective Green, g (s)		40.8	40.8	18.7	63.5			28.4	28.4		1.0	
Actuated g/C Ratio		0.37	0.37	0.17	0.58			0.26	0.26		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		652	543	266	984			435	517		16	
v/s Ratio Prot				c0.13	0.16			c0.23	0.03		c0.00	
v/s Ratio Perm		c0.20	0.04						0.05			
v/c Ratio		0.54	0.11	0.78	0.28			0.88	0.28		0.19	
Uniform Delay, d1		27.2	22.7	43.7	11.7			39.2	32.6		54.1	
Progression Factor		0.71	0.17	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.1	0.4	13.9	0.7			18.4	0.3		5.6	
Delay (s)		22.4	4.2	57.6	12.5			57.5	32.9		59.7	
Level of Service		C	A	E	B			E	C		E	
Approach Delay (s)		16.7			31.8			47.5			59.7	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	33.3	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	67.6%	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)	75	160	27	142	121	257	15	599	139	197	346
v/c Ratio	0.41	0.54	0.10	0.55	0.27	0.47	0.12	0.66	0.33	0.62	0.24
Control Delay	50.7	45.0	17.9	47.7	34.2	7.7	50.9	33.8	18.8	45.5	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	45.0	17.9	47.7	34.2	7.7	50.9	33.8	18.8	45.5	15.3
Queue Length 50th (ft)	38	79	1	71	55	0	8	147	30	98	46
Queue Length 95th (ft)	112	193	29	178	136	69	36	288	102	228	121
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	263	617	529	436	809	783	222	1625	700	575	2148
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.26	0.05	0.33	0.15	0.33	0.07	0.37	0.20	0.34	0.16

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	147	25	131	111	236	14	551	128	181	271	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	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1447	1620	1739	1400	1652	3240	1332	1620	3006	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1447	1620	1739	1400	1652	3240	1332	1620	3006	
Peak-hour factor, PHF	0.92	0.92	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	257	15	599	139	197	295	51
RTOR Reduction (vph)	0	0	20	0	0	193	0	0	46	0	10	0
Lane Group Flow (vph)	75	160	7	142	121	64	15	599	93	197	336	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	16.7	16.7	15.1	23.1	23.1	2.7	27.5	27.5	18.3	43.1	
Effective Green, g (s)	7.7	16.2	16.2	14.1	22.6	22.6	1.7	27.0	27.0	17.3	42.6	
Actuated g/C Ratio	0.08	0.18	0.18	0.16	0.25	0.25	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)	140	311	259	252	434	349	31	966	397	309	1413	
v/s Ratio Prot	0.05	c0.09		c0.09	0.07		0.01	c0.18		c0.12	0.11	
v/s Ratio Perm			0.01			0.05			0.07			
v/c Ratio	0.54	0.51	0.03	0.56	0.28	0.18	0.48	0.62	0.23	0.64	0.24	
Uniform Delay, d1	39.7	33.6	30.7	35.4	27.4	26.7	44.0	27.4	24.0	33.8	14.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.0	1.9	0.1	3.5	0.5	0.3	15.3	1.4	0.4	4.8	0.1	
Delay (s)	44.7	35.6	30.8	38.9	27.9	27.1	59.3	28.8	24.4	38.6	14.4	
Level of Service	D	D	C	D	C	C	E	C	C	D	B	
Approach Delay (s)		37.7			30.5			28.6			23.2	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
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	568	27	722	1031	63	388	583	220	186	27
v/c Ratio	0.35	0.61	0.09	0.86	0.75	0.41	0.42	0.38	0.61	0.18	0.06
Control Delay	55.8	39.4	12.2	41.5	21.9	51.1	31.8	13.0	50.5	27.3	10.4
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	55.8	39.4	12.2	41.5	21.9	51.1	31.8	13.0	50.5	27.3	10.4
Queue Length 50th (ft)	21	120	0	206	241	38	108	110	70	47	0
Queue Length 95th (ft)	52	155	22	m#335	327	80	153	158	108	76	20
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	94	1047	353	836	1383	168	921	1546	358	1021	483
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.54	0.08	0.86	0.75	0.38	0.42	0.38	0.61	0.18	0.06

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	523	25	664	718	231	58	357	536	202	171	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	568	27	722	780	251	63	388	583	220	186	27
RTOR Reduction (vph)	0	0	22	0	29	0	0	0	0	0	0	19
Lane Group Flow (vph)	33	568	5	722	1002	0	63	388	583	220	186	8
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	3.6	18.4	18.4	27.3	42.1		7.7	23.5	54.8	11.8	27.6	27.6
Effective Green, g (s)	3.6	19.9	19.9	27.3	43.6		7.7	25.0	54.8	11.8	29.1	29.1
Actuated g/C Ratio	0.04	0.20	0.20	0.27	0.44		0.08	0.25	0.55	0.12	0.29	0.29
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	56	926	294	889	1356		129	839	1483	384	943	429
v/s Ratio Prot	0.02	c0.12		c0.22	c0.32		0.04	c0.12	c0.22	c0.07	0.06	
v/s Ratio Perm			0.00									0.01
v/c Ratio	0.59	0.61	0.02	0.81	0.74		0.49	0.46	0.39	0.57	0.20	0.02
Uniform Delay, d1	47.5	36.5	32.2	34.0	23.5		44.3	31.8	13.0	41.7	26.7	25.3
Progression Factor	1.00	1.00	1.00	0.85	0.80		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.4	1.4	0.0	5.2	2.0		3.9	1.8	0.2	2.5	0.5	0.1
Delay (s)	64.8	37.9	32.2	34.1	20.8		48.2	33.6	13.3	44.2	27.1	25.3
Level of Service	E	D	C	C	C		D	C	B	D	C	C
Approach Delay (s)		39.1			26.3			23.0			35.7	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	28.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	121	859	379	210	871	146	151	85	300
v/c Ratio	0.53	0.47	0.46	0.65	0.42	0.49	0.50	0.24	0.90
Control Delay	35.9	14.0	2.1	48.6	21.6	39.5	39.6	7.3	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.9	14.0	2.1	48.6	21.6	39.5	39.6	7.3	54.3
Queue Length 50th (ft)	69	71	0	120	127	91	94	0	51
Queue Length 95th (ft)	120	175	24	#279	229	118	122	31	#131
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	227	1811	827	325	2050	563	575	609	333
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.47	0.46	0.65	0.42	0.26	0.26	0.14	0.90

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	790	349	193	770	31	221	52	78	25	116	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (prot)	1620	4655	1531	1678	4623		1539	1571	1514		3056	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (perm)	1620	4655	1531	1678	4623		1539	1571	1514		3056	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	121	859	379	210	837	34	240	57	85	27	126	147
RTOR Reduction (vph)	0	0	232	0	3	0	0	0	69	0	138	0
Lane Group Flow (vph)	121	859	147	210	868	0	146	151	16	0	162	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	13.0	37.9	37.9	18.4	43.3		18.7	18.7	18.7		5.8	
Effective Green, g (s)	14.0	38.9	38.9	19.4	44.3		19.3	19.3	19.3		6.4	
Actuated g/C Ratio	0.14	0.39	0.39	0.19	0.44		0.19	0.19	0.19		0.06	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	227	1811	596	326	2048		297	303	292		196	
v/s Ratio Prot	0.07	c0.18		c0.13	0.19		0.09	c0.10			c0.05	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	0.53	0.47	0.25	0.64	0.42		0.49	0.50	0.06		0.83	
Uniform Delay, d1	40.0	22.9	20.7	37.1	19.1		36.0	36.0	32.9		46.3	
Progression Factor	0.67	0.54	0.10	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.0	0.9	1.0	4.8	0.6		1.7	1.8	0.1		25.1	
Delay (s)	29.9	13.1	3.0	41.9	19.7		37.7	37.8	33.0		71.3	
Level of Service	C	B	A	D	B		D	D	C		E	
Approach Delay (s)		11.8			24.1			36.7			71.3	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.7%	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)	122	937	188	747	148	161	170	49	348
v/c Ratio	0.51	0.44	0.65	0.47	1.12	0.25	0.37	0.36	0.57
Control Delay	45.7	17.2	45.1	8.9	158.2	32.5	6.8	52.0	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	17.2	45.1	8.9	158.2	32.5	6.8	52.0	24.3
Queue Length 50th (ft)	69	117	86	38	~53	47	0	14	62
Queue Length 95th (ft)	126	187	m#136	m159	#115	60	44	34	84
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	239	2106	289	1576	132	1044	650	135	1069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.44	0.65	0.47	1.12	0.15	0.26	0.36	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	112	606	256	173	672	16	136	148	156	45	193	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		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	4509		1652	3278		3143	3240	1659	3204	3024	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4509		1652	3278		3143	3240	1659	3204	3024	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	659	278	188	730	17	148	161	170	49	210	138
RTOR Reduction (vph)	0	69	0	0	2	0	0	0	137	0	114	0
Lane Group Flow (vph)	122	868	0	188	745	0	148	161	33	49	234	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.1	40.8		16.7	43.4		5.0	19.0	19.0	3.0	17.0	
Effective Green, g (s)	14.0	41.8		16.6	44.4		4.0	18.6	18.6	2.0	16.6	
Actuated g/C Ratio	0.15	0.44		0.17	0.47		0.04	0.20	0.20	0.02	0.17	
Clearance Time (s)	3.9	5.0		3.9	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	239	1984		289	1532		132	634	325	67	528	
v/s Ratio Prot	0.08	c0.19		c0.11	c0.23		c0.05	0.05		0.02	c0.08	
v/s Ratio Perm									0.02			
v/c Ratio	0.51	0.44		0.65	0.49		1.12	0.25	0.10	0.73	0.44	
Uniform Delay, d1	37.3	18.4		36.5	17.4		45.5	32.3	31.3	46.2	35.1	
Progression Factor	1.00	1.00		1.05	0.46		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	0.7		2.5	0.5		114.6	0.3	0.2	35.2	0.8	
Delay (s)	39.2	19.2		40.9	8.5		160.1	32.6	31.5	81.5	35.9	
Level of Service	D	B		D	A		F	C	C	F	D	
Approach Delay (s)		21.5			15.0			71.6			41.5	
Approach LOS		C			B			E			D	

Intersection Summary			
HCM Average Control Delay	30.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	32	7	10	808	712	77
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	8	11	878	774	84
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	0.90	0.99	0.99			
vC, conflicting volume	1279	431	860			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1043	412	844			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	99	99			
cM capacity (veh/h)	195	578	768			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	42	304	586	516	342
Volume Left	35	11	0	0	0
Volume Right	8	0	0	0	84
cSH	222	768	1700	1700	1700
Volume to Capacity	0.19	0.01	0.34	0.30	0.20
Queue Length 95th (ft)	17	1	0	0	0
Control Delay (s)	25.1	0.5	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	25.1	0.2		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	216	26	68	92	249	32	484	160	294
v/c Ratio	0.52	0.07	0.23	0.18	0.44	0.14	0.52	0.44	0.21
Control Delay	23.3	8.0	19.3	17.5	5.6	29.6	19.3	26.5	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	8.0	19.3	17.5	5.6	29.6	19.3	26.5	10.4
Queue Length 50th (ft)	56	0	16	21	0	9	62	44	19
Queue Length 95th (ft)	149	17	55	65	48	41	148	126	71
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	889	825	634	1125	935	294	1920	729	2486
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	0.24	0.03	0.11	0.08	0.27	0.11	0.25	0.22	0.12

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	94	24	63	85	229	29	367	78	147	241	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	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.97	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1687	1260	1620	1739	1318	1711	2985		1620	3025	
Flt Permitted		0.80	1.00	0.58	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1378	1260	981	1739	1318	1711	2985		1620	3025	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	102	26	68	92	249	32	399	85	160	262	32
RTOR Reduction (vph)	0	0	18	0	0	176	0	19	0	0	10	0
Lane Group Flow (vph)	0	216	8	68	92	73	32	465	0	160	284	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	2.3	17.6		9.2	24.5	
Effective Green, g (s)		16.0	16.0	16.0	16.0	16.0	2.3	17.6		9.2	24.5	
Actuated g/C Ratio		0.29	0.29	0.29	0.29	0.29	0.04	0.32		0.17	0.45	
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)		406	371	289	512	388	72	968		274	1365	
v/s Ratio Prot					0.05		0.02	c0.16		c0.10	0.09	
v/s Ratio Perm		c0.16	0.01	0.07		0.06						
v/c Ratio		0.53	0.02	0.24	0.18	0.19	0.44	0.48		0.58	0.21	
Uniform Delay, d1		16.0	13.6	14.5	14.3	14.3	25.4	14.7		20.8	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		1.3	0.0	0.4	0.2	0.2	4.3	0.5		3.2	0.1	
Delay (s)		17.4	13.6	14.9	14.4	14.5	29.7	15.2		23.9	9.1	
Level of Service		B	B	B	B	B	C	B		C	A	
Approach Delay (s)		17.0			14.6			16.1			14.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	11.5
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	197	118	107	271	122	116	785	43	760
v/c Ratio	0.68	0.49	0.31	0.60	0.75	0.36	0.61	0.51	0.38	0.60
Control Delay	61.5	41.2	8.3	60.4	54.8	14.0	61.5	20.3	58.2	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	41.2	8.3	60.4	54.8	14.0	61.5	20.3	58.2	27.4
Queue Length 50th (ft)	98	121	0	72	181	15	79	184	30	228
Queue Length 95th (ft)	166	185	45	130	263	64	146	222	70	203
Internal Link Dist (ft)		2946			1126			956		727
Turn Bay Length (ft)	240		200	230		100	200		150	
Base Capacity (vph)	244	480	427	203	434	388	213	1536	113	1271
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.41	0.28	0.53	0.62	0.31	0.54	0.51	0.38	0.60

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	181	109	98	249	112	107	591	132	40	615	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	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	0.98	
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	3137		1593	3163	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1352	1652	3137		1593	3163	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	197	118	107	271	122	116	642	143	43	668	92
RTOR Reduction (vph)	0	0	92	0	0	77	0	15	0	0	9	0
Lane Group Flow (vph)	146	197	26	107	271	45	116	770	0	43	751	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	14.9	23.9	23.9	12.3	21.3	21.3	12.7	51.8		4.8	43.9	
Effective Green, g (s)	14.9	23.9	23.9	12.3	21.3	21.3	12.7	51.8		4.8	43.9	
Actuated g/C Ratio	0.14	0.22	0.22	0.11	0.19	0.19	0.12	0.47		0.04	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)	214	401	284	178	361	262	191	1477		70	1262	
v/s Ratio Prot	c0.09	c0.11		0.07	c0.15		c0.07	0.25		0.03	c0.24	
v/s Ratio Perm			0.02			0.03						
v/c Ratio	0.68	0.49	0.09	0.60	0.75	0.17	0.61	0.52		0.61	0.60	
Uniform Delay, d1	45.3	37.7	34.4	46.5	41.8	37.0	46.3	20.4		51.7	26.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.05	0.90		0.98	0.91	
Incremental Delay, d2	9.4	1.3	0.2	6.5	9.0	0.4	6.0	1.3		16.4	2.0	
Delay (s)	54.7	39.0	34.6	53.0	50.9	37.4	54.4	19.6		67.3	25.8	
Level of Service	D	D	C	D	D	D	D	B		E	C	
Approach Delay (s)		42.8			48.0			24.1			28.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.8
Intersection Capacity Utilization	60.8%	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)	281	31	79	525	12	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	86	571	13	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		1050	307
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			319		1041	285
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		94	98
cM capacity (veh/h)			1216		232	739

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	305	34	86	571	26
Volume Left	0	0	86	0	13
Volume Right	0	34	0	0	13
cSH	1700	1700	1216	1700	464
Volume to Capacity	0.18	0.02	0.07	0.34	0.06
Queue Length 95th (ft)	0	0	6	0	4
Control Delay (s)	0.0	0.0	8.2	0.0	15.7
Lane LOS			A		C
Approach Delay (s)	0.0		1.1		15.7
Approach LOS					C

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	37.6%	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	12	459	66	126	14	78	408
v/c Ratio	0.42	0.27	0.09	0.73	0.38	0.21	0.03	0.21	0.66
Control Delay	38.4	9.6	33.5	24.6	24.5	17.0	8.4	17.7	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	9.6	33.5	24.6	24.5	17.0	8.4	17.7	21.3
Queue Length 50th (ft)	29	35	4	132	18	32	0	20	104
Queue Length 95th (ft)	#103	115	21	277	57	76	11	54	217
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	203	1203	135	965	290	998	717	626	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	0.42	0.21	0.09	0.48	0.23	0.13	0.02	0.12	0.42

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	11	367	55	61	116	13	72	206	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	15	15	11	10	12	10	12	8	10	16	12
Total Lost time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	0.98		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	1681		1652	1863	1327	1644	1771	
Flt Permitted	0.95	1.00		0.95	1.00		0.31	1.00	1.00	0.68	1.00	
Satd. Flow (perm)	1711	1924		1711	1681		541	1863	1327	1170	1771	
Peak-hour factor, PHF	0.92	0.92	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	12	399	60	66	126	14	78	224	184
RTOR Reduction (vph)	0	19	0	0	7	0	0	0	10	0	43	0
Lane Group Flow (vph)	86	232	0	12	452	0	66	126	4	78	365	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)	4.4	27.0		0.6	23.2		18.3	18.3	18.3	18.3	18.3	
Effective Green, g (s)	4.4	27.0		0.6	23.2		18.3	18.3	18.3	18.3	18.3	
Actuated g/C Ratio	0.07	0.46		0.01	0.39		0.31	0.31	0.31	0.31	0.31	
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)	128	882		17	662		168	579	412	364	550	
v/s Ratio Prot	c0.05	c0.12		0.01	c0.27			0.07			c0.21	
v/s Ratio Perm							0.12		0.00	0.07		
v/c Ratio	0.67	0.26		0.71	0.68		0.39	0.22	0.01	0.21	0.66	
Uniform Delay, d1	26.5	9.8		29.1	14.8		15.9	15.0	14.0	15.0	17.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.1	0.2		88.4	3.2		2.1	0.3	0.0	0.4	3.3	
Delay (s)	40.7	10.0		117.4	18.0		18.0	15.3	14.1	15.4	20.9	
Level of Service	D	B		F	B		B	B	B	B	C	
Approach Delay (s)		17.9			20.5			16.1			20.1	
Approach LOS		B			C			B			C	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	58.9	Sum of lost time (s)	17.5
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	174	56	4	28	331	460	13	27	479
v/c Ratio	0.61	0.10	0.04	0.11	0.67	0.29	0.02	0.18	0.61
Control Delay	42.4	8.0	39.5	17.0	32.5	13.2	9.8	38.2	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	8.0	39.5	17.0	32.5	13.2	9.8	38.2	18.7
Queue Length 50th (ft)	65	3	2	4	108	42	1	10	51
Queue Length 95th (ft)	#233	29	14	25	#359	148	13	44	130
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	283	916	99	751	546	1946	870	154	1266
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	0.06	0.04	0.04	0.61	0.24	0.01	0.18	0.38

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	10	41	4	11	15	308	423	12	25	235	206
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	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1554		1652	1572		1652	3240	1451	1711	3148	
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	1451	1711	3148	
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	331	460	13	27	255	224
RTOR Reduction (vph)	0	30	0	0	13	0	0	0	5	0	161	0
Lane Group Flow (vph)	174	26	0	4	15	0	331	460	8	27	318	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	11.4	24.1		0.6	13.3		20.7	34.3	34.3	2.1	15.7	
Effective Green, g (s)	11.4	24.1		0.6	13.3		20.7	34.3	34.3	2.1	15.7	
Actuated g/C Ratio	0.15	0.33		0.01	0.18		0.28	0.47	0.47	0.03	0.21	
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)	265	509		13	284		465	1510	676	49	672	
v/s Ratio Prot	c0.10	c0.02		0.00	0.01		c0.20	0.14		0.02	c0.10	
v/s Ratio Perm									0.01			
v/c Ratio	0.66	0.05		0.31	0.05		0.71	0.30	0.01	0.55	0.47	
Uniform Delay, d1	29.3	16.9		36.3	24.9		23.8	12.2	10.5	35.3	25.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.4	0.1		17.5	0.1		5.5	0.2	0.0	15.5	0.7	
Delay (s)	35.6	17.0		53.8	25.0		29.2	12.4	10.6	50.8	26.0	
Level of Service	D	B		D	C		C	B	B	D	C	
Approach Delay (s)		31.1			28.6			19.3			27.4	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	73.6	Sum of lost time (s)	9.5
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	38	7	17	903	861
v/c Ratio	0.27	0.06	0.03	0.31	0.30
Control Delay	49.5	24.2	2.6	2.4	0.6
Queue Delay	0.0	0.0	0.0	0.6	0.0
Total Delay	49.5	24.2	2.6	3.0	0.6
Queue Length 50th (ft)	26	0	1	50	4
Queue Length 95th (ft)	54	13	8	122	21
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	345	284	506	2874	2837
Starvation Cap Reductn	0	0	0	1484	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.02	0.03	0.65	0.30

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	6	16	831	724	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3196	
Flt Permitted	0.95	1.00	0.33	1.00	1.00	
Satd. Flow (perm)	1652	1330	570	3240	3196	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	7	17	903	787	74
RTOR Reduction (vph)	0	7	0	0	3	0
Lane Group Flow (vph)	38	0	17	903	858	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	7.0	7.0	94.0	94.0	94.0	
Effective Green, g (s)	7.0	7.0	94.0	94.0	94.0	
Actuated g/C Ratio	0.06	0.06	0.85	0.85	0.85	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	105	85	487	2769	2731	
v/s Ratio Prot	c0.02			c0.28	0.27	
v/s Ratio Perm		0.00	0.03			
v/c Ratio	0.36	0.01	0.03	0.33	0.31	
Uniform Delay, d1	49.4	48.2	1.2	1.6	1.6	
Progression Factor	1.00	1.00	1.00	1.00	0.18	
Incremental Delay, d2	2.1	0.0	0.1	0.3	0.3	
Delay (s)	51.5	48.3	1.3	1.9	0.5	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			1.9	0.5	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	2.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	33.8%	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)	1061	509	362	1227	585	766
v/c Ratio	0.86	0.39	0.57	0.59	0.35	0.84
Control Delay	27.2	1.6	31.1	12.1	0.6	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	1.6	31.1	12.1	0.6	36.5
Queue Length 50th (ft)	291	1	53	178	0	217
Queue Length 95th (ft)	373	9	119	299	0	#312
Internal Link Dist (ft)	363			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1292	1330	630	2063	1686	917
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	0.82	0.38	0.57	0.59	0.35	0.84

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	976	468	333	1129	0	0	0	538	0	0	705
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1061	509	362	1227	0	0	0	585	0	0	766
RTOR Reduction (vph)	0	0	321	0	0	0	0	0	0	0	0	95
Lane Group Flow (vph)	0	1061	188	362	1227	0	0	0	585	0	0	671
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		36.9	36.9	20.1	61.5				100.0			29.5
Effective Green, g (s)		36.9	36.9	20.1	61.5				100.0			29.5
Actuated g/C Ratio		0.37	0.37	0.20	0.62				1.00			0.30
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)		1238	975	632	2063				1686			822
v/s Ratio Prot		c0.32		0.12	c0.37							c0.24
v/s Ratio Perm			0.07						0.35			
v/c Ratio		0.86	0.19	0.57	0.59				0.35			0.82
Uniform Delay, d1		29.1	21.4	36.1	11.7				0.0			32.7
Progression Factor		0.68	0.39	0.74	0.92				1.00			1.00
Incremental Delay, d2		5.7	0.1	3.5	1.1				0.6			8.8
Delay (s)		25.5	8.4	30.3	11.8				0.6			41.5
Level of Service		C	A	C	B				A			D
Approach Delay (s)		20.0			16.0			0.6			41.5	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.4%	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)	546	1016	713	520	398	915
v/c Ratio	0.67	0.30	0.38	0.58	0.25	0.60
Control Delay	22.5	0.2	7.2	11.0	0.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	0.2	7.2	11.0	0.4	1.7
Queue Length 50th (ft)	111	0	137	197	0	0
Queue Length 95th (ft)	m146	0	m15	m61	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	911	3355	1883	898	1611	1528
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.30	0.38	0.58	0.25	0.60

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	502	935	0	0	656	478	0	0	366	0	0	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	546	1016	0	0	713	520	0	0	398	0	0	915
RTOR Reduction (vph)	0	0	0	0	0	39	0	0	0	0	0	0
Lane Group Flow (vph)	546	1016	0	0	713	481	0	0	398	0	0	915
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	12.9	50.0			28.1	28.1			50.0			50.0
Effective Green, g (s)	12.9	50.0			28.1	28.1			50.0			50.0
Actuated g/C Ratio	0.26	1.00			0.56	0.56			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)	811	3355			1886	860			1611			1528
v/s Ratio Prot	0.17	0.30			0.21							
v/s Ratio Perm						0.31			0.25			c0.60
v/c Ratio	0.67	0.30			0.38	0.56			0.25			0.60
Uniform Delay, d1	16.7	0.0			6.1	7.0			0.0			0.0
Progression Factor	1.17	1.00			1.04	1.35			1.00			1.00
Incremental Delay, d2	1.7	0.0			0.5	2.4			0.4			1.7
Delay (s)	21.1	0.0			6.8	11.8			0.4			1.7
Level of Service	C	A			A	B			A			A
Approach Delay (s)		7.4			8.9			0.4			1.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	5.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	315	310	438	389	16	446	834	8	40	607	210
v/c Ratio	1.09	0.44	0.25	0.96	0.05	1.03	0.53	0.01	0.34	0.90	0.50
Control Delay	100.2	15.0	0.3	73.5	18.9	87.2	16.3	9.3	50.9	50.7	17.1
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	100.2	15.0	0.3	73.5	18.9	87.2	16.3	9.3	50.9	50.7	17.1
Queue Length 50th (ft)	~168	133	0	233	3	~293	161	1	19	196	70
Queue Length 95th (ft)	#319	98	0	#414	20	#471	238	m3	m46	#294	m97
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	289	707	1770	405	353	435	1562	579	118	675	422
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.44	0.25	0.96	0.05	1.03	0.53	0.01	0.34	0.90	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	285	403	2	356	15	410	767	7	37	558	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1477	1652	3539	1338	1652	3303	1552
Flt Permitted	0.15	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	265	1739	1770		1736	1477	1652	3539	1338	1652	3303	1552
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	310	438	2	387	16	446	834	8	40	607	210
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	3	0	0	105
Lane Group Flow (vph)	315	310	438	0	389	8	446	834	5	40	607	105
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	38.1	38.1	95.0		21.7	21.7	24.0	39.1	39.1	3.8	18.4	18.4
Effective Green, g (s)	38.6	38.6	95.0		22.2	22.2	25.0	40.1	39.1	4.3	19.4	19.4
Actuated g/C Ratio	0.41	0.41	1.00		0.23	0.23	0.26	0.42	0.41	0.05	0.20	0.20
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	289	707	1770		406	345	435	1494	551	75	675	317
v/s Ratio Prot	c0.14	0.18					c0.27	0.24		0.02	c0.18	
v/s Ratio Perm	c0.30		0.25		0.22	0.01			0.00			0.07
v/c Ratio	1.09	0.44	0.25		0.96	0.02	1.03	0.56	0.01	0.53	0.90	0.33
Uniform Delay, d1	24.7	20.4	0.0		35.9	28.1	35.0	20.8	16.5	44.4	36.8	32.3
Progression Factor	0.78	0.63	1.00		1.00	1.00	1.07	0.73	0.70	1.02	0.89	0.97
Incremental Delay, d2	78.0	0.6	0.3		33.8	0.0	48.8	1.4	0.0	7.7	16.8	2.7
Delay (s)	97.3	13.3	0.3		69.7	28.1	86.3	16.6	11.6	52.8	49.5	33.9
Level of Service	F	B	A		E	C	F	B	B	D	D	C
Approach Delay (s)		32.9			68.1			40.7			45.8	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM Average Control Delay	42.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	14	1	950	82	995
v/c Ratio	0.17	0.10	0.00	0.22	0.19	0.32
Control Delay	46.4	19.5	3.0	1.7	3.8	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	46.4	19.5	3.0	1.7	3.8	2.8
Queue Length 50th (ft)	12	0	0	37	6	47
Queue Length 95th (ft)	31	18	m0	69	37	157
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		150	
Base Capacity (vph)	278	328	434	4373	436	3075
Starvation Cap Reductn	0	0	0	0	0	1188
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.04	0.00	0.22	0.19	0.53

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	16	1	13	1	849	25	75	912	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	1649	4929		1617	3469	
Flt Permitted					0.74	1.00	0.28	1.00		0.29	1.00	
Satd. Flow (perm)					1222	1397	490	4929		492	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	923	27	82	991	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	949	0	82	995	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	419	4217		421	2968	
v/s Ratio Prot								0.19			c0.29	
v/s Ratio Perm					c0.01	0.00	0.00			0.17		
v/c Ratio					0.22	0.01	0.00	0.22		0.19	0.34	
Uniform Delay, d1					48.7	48.0	1.2	1.4		1.4	1.6	
Progression Factor					1.00	1.00	0.82	0.83		1.00	1.00	
Incremental Delay, d2					1.4	0.0	0.0	0.1		1.0	0.3	
Delay (s)					50.1	48.0	1.0	1.3		2.4	1.9	
Level of Service					D	D	A	A		A	A	
Approach Delay (s)		0.0			49.2			1.3			2.0	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	45.9%	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)	84	183	274	65	1093	46	620	348	727	892	53
v/c Ratio	1.05	0.50	0.24	0.09	1.12	0.53	0.59	0.35	1.15	0.72	0.09
Control Delay	177.7	47.4	33.7	26.2	91.0	86.2	49.7	1.8	133.2	40.2	8.1
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	177.7	47.4	33.7	26.2	91.0	86.2	49.7	1.8	133.2	40.2	8.1
Queue Length 50th (ft)	~85	63	89	36	~1151	42	182	0	~408	360	1
Queue Length 95th (ft)	#200	94	146	70	#1429	85	225	23	#539	453	31
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	80	1026	1161	700	979	119	1191	1020	632	1260	619
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	0.18	0.24	0.09	1.12	0.39	0.52	0.34	1.15	0.71	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)	77	120	49	252	60	1006	42	570	320	669	821	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	3.5	4.5		3.5	4.5	4.5	3.5	3.8	3.8	3.5	3.8	3.8
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3057		3255	1689	1501	1620	4655	1449	3143	3240	1512
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3057		3255	1689	1501	1620	4655	1449	3143	3240	1512
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	130	53	274	65	1093	46	620	348	727	892	53
RTOR Reduction (vph)	0	41	0	0	0	16	0	0	145	0	0	31
Lane Group Flow (vph)	84	142	0	274	65	1077	46	620	203	727	892	22
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	6.5	14.4		48.9	56.8	88.8	6.4	31.6	80.5	27.5	52.7	52.7
Effective Green, g (s)	6.5	14.4		48.9	56.8	88.8	6.4	31.6	80.5	27.5	52.7	52.7
Actuated g/C Ratio	0.05	0.10		0.36	0.41	0.64	0.05	0.23	0.58	0.20	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)	79	320		1156	697	968	75	1068	847	628	1240	579
v/s Ratio Prot	c0.05	0.05		0.08	0.04	c0.72	0.03	0.13	0.14	c0.23	c0.28	
v/s Ratio Perm												0.01
v/c Ratio	1.06	0.44		0.24	0.09	1.11	0.61	0.58	0.24	1.16	0.72	0.04
Uniform Delay, d1	65.6	57.9		31.3	24.7	24.4	64.4	47.2	13.8	55.1	36.2	26.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	119.6	1.7		0.0	0.1	64.9	10.0	1.0	0.2	87.9	2.3	0.0
Delay (s)	185.2	59.6		31.3	24.8	89.3	74.4	48.1	14.0	143.0	38.5	26.7
Level of Service	F	E		C	C	F	E	D	B	F	D	C
Approach Delay (s)		99.1			75.3			37.6			83.6	
Approach LOS		F			E			D			F	

Intersection Summary			
HCM Average Control Delay	71.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	137.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	179	988	157	1178	508	76	289	878	548
v/c Ratio	0.97	0.79	0.80	0.97	0.60	0.59	0.95	0.98	0.91
Control Delay	106.1	34.1	74.0	38.7	3.8	66.6	55.5	63.1	39.1
Queue Delay	0.0	7.4	0.0	31.7	1.0	0.0	29.8	23.4	0.0
Total Delay	106.1	41.5	74.0	70.5	4.8	66.6	85.3	86.4	39.1
Queue Length 50th (ft)	122	308	96	292	0	50	52	301	199
Queue Length 95th (ft)	#259	395	m128	m#559	m57	#112	#219	#432	#416
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	185	1247	216	1218	840	128	305	898	604
Starvation Cap Reductn	0	0	0	123	135	0	0	0	0
Spillback Cap Reductn	0	222	0	0	0	0	33	69	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.96	0.73	1.08	0.72	0.59	1.06	1.06	0.91

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	165	899	10	144	974	577	70	3	263	808	57	447
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98	0.85	1.00	0.85		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3173		1620	3026	1319	1678	1431		3143	1445	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3173		1620	3026	1319	1678	1431		3143	1445	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	179	977	11	157	1059	627	76	3	286	878	62	486
RTOR Reduction (vph)	0	1	0	0	8	300	0	196	0	0	191	0
Lane Group Flow (vph)	179	987	0	157	1170	208	76	93	0	878	357	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	12.0	41.3		12.7	42.0	42.0	8.0	8.0		30.0	30.0	
Effective Green, g (s)	12.0	41.3		12.7	42.0	43.0	8.0	8.0		30.0	30.0	
Actuated g/C Ratio	0.11	0.39		0.12	0.40	0.41	0.08	0.08		0.29	0.29	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	185	1248		196	1210	540	128	109		898	413	
v/s Ratio Prot	c0.11	0.31		0.10	c0.39		0.05	c0.07		c0.28	0.25	
v/s Ratio Perm						0.16						
v/c Ratio	0.97	0.79		0.80	0.97	0.39	0.59	0.85		0.98	0.86	
Uniform Delay, d1	46.3	28.1		44.9	30.8	21.7	46.9	47.9		37.2	35.6	
Progression Factor	1.00	1.00		1.21	0.76	0.82	1.00	1.00		1.00	1.00	
Incremental Delay, d2	55.8	5.2		13.4	14.4	1.3	4.8	42.8		24.4	16.8	
Delay (s)	102.1	33.2		67.9	37.8	19.2	51.8	90.8		61.6	52.3	
Level of Service	F	C		E	D	B	D	F		E	D	
Approach Delay (s)		43.8			35.2			82.6			58.0	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM Average Control Delay	47.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	2162	322	1515	313	789	77	51
v/c Ratio	0.75	0.94	0.84	0.79	0.94	0.90	0.88	0.47
Control Delay	65.1	26.2	68.0	15.1	79.5	40.6	116.5	39.9
Queue Delay	0.0	29.7	0.0	1.0	0.0	0.0	0.0	0.1
Total Delay	65.1	55.9	68.0	16.1	79.5	40.6	116.5	40.0
Queue Length 50th (ft)	54	364	119	279	208	217	52	14
Queue Length 95th (ft)	m64	m#546	m#171	377	#369	#313	#142	53
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	123	2305	410	1913	345	896	89	110
Starvation Cap Reductn	0	274	0	113	0	0	0	0
Spillback Cap Reductn	0	0	0	178	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	1.06	0.79	0.87	0.91	0.88	0.87	0.47

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	78	1800	189	296	1289	105	250	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	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.95	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4503		3143	3281			1809	2803	1562	1429	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4503		3143	3281			1809	2803	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)	85	1957	205	322	1401	114	272	41	789	77	21	30
RTOR Reduction (vph)	0	12	0	0	6	0	0	0	28	0	28	0
Lane Group Flow (vph)	85	2150	0	322	1509	0	0	313	761	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)	6.3	53.5		12.8	60.5			19.3	32.1	5.9	5.9	
Effective Green, g (s)	6.3	53.5		12.8	60.5			19.3	32.1	5.9	5.9	
Actuated g/C Ratio	0.06	0.51		0.12	0.58			0.18	0.31	0.06	0.06	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	97	2294		383	1890			333	857	88	80	
v/s Ratio Prot	0.05	c0.48		0.10	0.46			c0.17	c0.11	c0.05	0.02	
v/s Ratio Perm									0.16			
v/c Ratio	0.88	0.94		0.84	0.80			0.94	0.89	0.88	0.28	
Uniform Delay, d1	49.0	24.2		45.1	17.5			42.3	34.7	49.2	47.5	
Progression Factor	0.91	0.83		1.19	0.69			1.00	1.00	1.00	1.00	
Incremental Delay, d2	32.1	5.0		10.6	2.5			33.2	10.7	55.3	0.7	
Delay (s)	76.8	25.1		64.3	14.6			75.5	45.4	104.5	48.2	
Level of Service	E	C		E	B			E	D	F	D	
Approach Delay (s)		27.1			23.3			54.0			82.1	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM Average Control Delay	32.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1392	542	1657	437	268	256	243
v/c Ratio	0.61	0.38	0.75	0.30	0.66	0.58	0.58
Control Delay	5.5	0.3	13.5	0.5	43.3	34.7	34.0
Queue Delay	0.3	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	5.8	0.3	13.6	0.5	43.3	34.7	34.0
Queue Length 50th (ft)	129	0	351	0	166	137	123
Queue Length 95th (ft)	m120	m0	444	0	260	228	208
Internal Link Dist (ft)	509		867			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2275	1439	2218	1478	433	467	445
Starvation Cap Reductn	322	0	0	0	0	0	0
Spillback Cap Reductn	0	0	44	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.38	0.76	0.30	0.62	0.55	0.55

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1281	499	0	1524	402	0	0	0	357	0	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.92	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.98	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1701	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.98	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1701	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1392	542	0	1657	437	0	0	0	388	0	379
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	30	30
Lane Group Flow (vph)	0	1392	542	0	1657	437	0	0	0	268	226	213
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Prot
Protected Phases		2			6					4	4	4
Permitted Phases			2 4			Free				4		
Actuated Green, G (s)		71.6	105.0		71.6	105.0				25.4	25.4	25.4
Effective Green, g (s)		72.6	105.0		72.6	105.0				26.4	25.4	26.4
Actuated g/C Ratio		0.69	1.00		0.69	1.00				0.25	0.24	0.25
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2276	1439		2219	1478				409	411	392
v/s Ratio Prot		0.42			c0.52					c0.16	0.13	0.14
v/s Ratio Perm			0.38			0.30						
v/c Ratio		0.61	0.38		0.75	0.30				0.66	0.55	0.54
Uniform Delay, d1		8.7	0.0		10.3	0.0				35.2	34.8	34.1
Progression Factor		0.54	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.5	0.1		2.3	0.5				4.2	1.9	1.9
Delay (s)		5.2	0.1		12.7	0.5				39.4	36.7	36.0
Level of Service		A	A		B	A				D	D	D
Approach Delay (s)		3.7			10.1			0.0			37.4	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	50	42	202	191	428
v/c Ratio	0.85	0.08	0.42	0.24	0.30	0.50
Control Delay	29.2	3.5	42.9	13.2	18.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	3.5	42.9	13.2	18.7	4.7
Queue Length 50th (ft)	194	0	17	50	59	0
Queue Length 95th (ft)	#320	15	#50	95	114	60
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	800	742	100	828	647	857
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.07	0.42	0.24	0.30	0.50

Intersection Summary

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	556	46	39	186	176	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1560
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	50	42	202	191	428
RTOR Reduction (vph)	0	29	0	0	0	276
Lane Group Flow (vph)	604	21	42	202	191	152
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	27.5	27.5	2.4	29.5	23.1	23.1
Effective Green, g (s)	27.5	27.5	2.4	29.5	23.1	23.1
Actuated g/C Ratio	0.42	0.42	0.04	0.45	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	710	635	60	829	606	554
v/s Ratio Prot	c0.36		c0.03	0.11	c0.11	
v/s Ratio Perm		0.01				0.10
v/c Ratio	0.85	0.03	0.70	0.24	0.32	0.27
Uniform Delay, d1	16.9	11.0	30.9	10.9	15.2	15.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.0	30.8	0.7	1.4	1.2
Delay (s)	26.5	11.0	61.7	11.6	16.6	16.2
Level of Service	C	B	E	B	B	B
Approach Delay (s)	25.3			20.2	16.3	
Approach LOS	C			C	B	

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

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	148	180	130	14	615	196	1084
v/c Ratio	0.39	0.49	0.29	0.07	0.36	0.52	0.64
Control Delay	16.9	21.0	5.3	8.7	7.8	15.8	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	21.0	5.3	8.7	7.8	15.8	11.2
Queue Length 50th (ft)	33	48	0	2	43	31	98
Queue Length 95th (ft)	73	95	30	12	109	#128	235
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	651	643	679	212	1822	405	1834
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.28	0.19	0.07	0.34	0.48	0.59

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	80	21	90	75	120	13	507	59	180	954	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	1307	1618	3022		1560	3054	
Flt Permitted		0.89			0.79	1.00	0.21	1.00		0.41	1.00	
Satd. Flow (perm)		1374			1375	1307	354	3022		677	3054	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	87	23	98	82	130	14	551	64	196	1037	47
RTOR Reduction (vph)	0	12	0	0	0	95	0	12	0	0	4	0
Lane Group Flow (vph)	0	136	0	0	180	35	14	603	0	196	1080	0
Confl. Peds. (#/hr)	14					14	5		2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	5	2	0	0	0	0	0	5
Parking (#/hr)	0	0	0			0		0	0		0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		13.9			13.9	13.9	29.1	29.1		29.1	29.1	
Effective Green, g (s)		13.9			13.9	13.9	29.1	29.1		29.1	29.1	
Actuated g/C Ratio		0.27			0.27	0.27	0.56	0.56		0.56	0.56	
Clearance Time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Vehicle Extension (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)		366			366	348	197	1685		377	1703	
v/s Ratio Prot								0.20			c0.35	
v/s Ratio Perm		0.10			c0.13	0.03	0.04			0.29		
v/c Ratio		0.37			0.49	0.10	0.07	0.36		0.52	0.63	
Uniform Delay, d1		15.6			16.2	14.4	5.3	6.4		7.2	7.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9			1.4	0.2	0.2	0.2		1.6	0.9	
Delay (s)		16.5			17.6	14.6	5.5	6.6		8.8	8.8	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		16.5			16.3			6.5			8.8	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	9.2
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	32	432	328	196	164	26
v/c Ratio	0.28	0.31	0.28	0.14	0.68	0.11
Control Delay	53.9	5.1	5.8	0.2	57.8	14.2
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	53.9	5.1	6.0	0.2	57.8	14.2
Queue Length 50th (ft)	22	77	30	0	111	0
Queue Length 95th (ft)	53	149	110	0	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	338	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.31	0.38	0.13	0.36	0.06

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	29	397	302	180	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	432	328	196	164	26
RTOR Reduction (vph)	0	0	0	32	0	22
Lane Group Flow (vph)	32	432	328	164	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	c0.02	c0.24	0.19	0.02	c0.10	
v/s Ratio Perm				0.09		0.00
v/c Ratio	0.41	0.31	0.28	0.12	0.68	0.02
Uniform Delay, d1	50.8	3.9	6.8	1.6	44.0	39.5
Progression Factor	1.00	1.00	0.63	0.18	1.00	1.00
Incremental Delay, d2	3.5	0.6	0.6	0.0	7.8	0.0
Delay (s)	54.3	4.4	4.9	0.3	51.8	39.6
Level of Service	D	A	A	A	D	D
Approach Delay (s)		7.9	3.2		50.1	
Approach LOS		A	A		D	

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

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	315	273	175	190	320	320	3
v/c Ratio	0.40	0.34	0.75	0.18	0.70	0.56	0.04
Control Delay	18.3	1.4	64.4	10.6	36.9	11.4	45.3
Queue Delay	0.5	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	1.6	64.4	10.6	36.9	11.4	45.3
Queue Length 50th (ft)	99	0	118	49	209	95	1
Queue Length 95th (ft)	226	13	#208	117	292	151	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	788	807	263	1079	566	570	84
Starvation Cap Reductn	186	108	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	0.52	0.39	0.67	0.18	0.57	0.56	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	290	251	161	174	1	293	2	294	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		0.96	
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	315	273	175	189	1	318	2	320	1	1	1
RTOR Reduction (vph)	0	0	159	0	0	0	0	0	178	0	1	0
Lane Group Flow (vph)	0	315	114	175	190	0	0	320	142	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)		46.1	46.1	16.4	66.5			29.9	25.4		1.0	
Effective Green, g (s)		46.1	46.1	16.4	66.5			25.4	25.4		1.0	
Actuated g/C Ratio		0.42	0.42	0.15	0.60			0.23	0.23		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		737	614	233	1030			388	470		14	
v/s Ratio Prot		c0.18		c0.11	0.11			c0.19	0.03		c0.00	
v/s Ratio Perm			0.08						0.05			
v/c Ratio		0.43	0.19	0.75	0.18			0.82	0.30		0.14	
Uniform Delay, d1		22.6	20.1	44.8	9.7			40.2	35.0		54.1	
Progression Factor		0.70	0.10	1.00	1.00			0.83	0.87		1.00	
Incremental Delay, d2		1.7	0.6	12.8	0.4			12.0	0.3		4.7	
Delay (s)		17.6	2.7	57.6	10.1			45.2	30.6		58.8	
Level of Service		B	A	E	B			D	C		E	
Approach Delay (s)		10.7			32.9			37.9			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	62.6%	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)	60	140	25	168	249	166	26	354	116	301	765
v/c Ratio	0.33	0.49	0.10	0.56	0.50	0.32	0.21	0.57	0.36	0.71	0.54
Control Delay	48.7	43.8	16.3	43.9	34.0	6.9	51.6	38.4	17.3	41.6	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	43.8	16.3	43.9	34.0	6.9	51.6	38.4	17.3	41.6	20.0
Queue Length 50th (ft)	29	68	0	80	115	0	13	89	14	143	131
Queue Length 95th (ft)	92	167	26	195	248	52	51	184	76	307	292
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	222	599	515	478	898	797	134	1195	544	777	2277
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	0.27	0.23	0.05	0.35	0.28	0.21	0.19	0.30	0.21	0.39	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	129	23	155	229	153	24	326	107	277	637	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	0.97	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	1447	1620	1739	1401	1652	3240	1332	1620	3031	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1447	1620	1739	1401	1652	3240	1332	1620	3031	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	140	25	168	249	166	26	354	116	301	692	73
RTOR Reduction (vph)	0	0	21	0	0	120	0	0	66	0	6	0
Lane Group Flow (vph)	60	140	4	168	249	46	26	354	50	301	759	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	7.6	15.4	15.4	16.3	25.0	25.0	2.4	19.6	19.6	23.7	40.9	
Effective Green, g (s)	7.5	15.3	15.3	16.2	24.9	24.9	1.4	19.1	19.1	22.7	40.4	
Actuated g/C Ratio	0.08	0.17	0.17	0.18	0.28	0.28	0.02	0.21	0.21	0.25	0.45	
Clearance Time (s)	3.0	3.9	3.9	3.9	3.9	3.9	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	139	298	248	294	485	391	26	693	285	412	1371	
v/s Ratio Prot	0.04	0.08		c0.10	c0.14		0.02	0.11		c0.19	c0.25	
v/s Ratio Perm			0.00			0.03			0.04			
v/c Ratio	0.43	0.47	0.02	0.57	0.51	0.12	1.00	0.51	0.18	0.73	0.55	
Uniform Delay, d1	38.9	33.3	30.8	33.4	27.1	24.0	43.9	31.0	28.7	30.5	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	2.9	1.6	0.0	3.2	1.2	0.2	176.5	0.8	0.4	7.0	0.6	
Delay (s)	41.8	34.9	30.8	36.6	28.3	24.2	220.5	31.8	29.1	37.5	18.5	
Level of Service	D	C	C	D	C	C	F	C	C	D	B	
Approach Delay (s)		36.3			29.5			41.1			23.8	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	690	42	658	826	73	442	728	414	240	20
v/c Ratio	0.65	0.75	0.13	0.86	0.68	0.51	0.49	0.53	0.84	0.21	0.04
Control Delay	76.8	47.0	11.9	44.1	22.7	69.4	24.3	10.1	68.7	22.8	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.8	47.0	11.9	44.1	22.7	69.4	24.3	10.1	68.7	22.8	8.9
Queue Length 50th (ft)	52	168	0	234	249	50	104	117	154	49	1
Queue Length 95th (ft)	#123	213	30	#322	316	97	151	127	#227	80	m11
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	114	952	336	769	1220	153	898	1365	503	1152	538
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	0.65	0.72	0.13	0.86	0.68	0.48	0.49	0.53	0.82	0.21	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)	68	635	39	605	575	185	67	407	670	381	221	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	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	690	42	658	625	201	73	442	728	414	240	20
RTOR Reduction (vph)	0	0	34	0	27	0	0	0	0	0	0	13
Lane Group Flow (vph)	74	690	8	658	799	0	73	442	728	414	240	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)	6.4	20.4	20.4	26.7	40.7		7.9	27.2	53.9	16.7	36.0	36.0
Effective Green, g (s)	6.4	21.9	21.9	26.7	42.2		7.9	28.7	53.9	16.7	37.5	37.5
Actuated g/C Ratio	0.06	0.20	0.20	0.24	0.38		0.07	0.26	0.49	0.15	0.34	0.34
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)	91	927	294	790	1193		121	875	1326	494	1105	503
v/s Ratio Prot	0.05	c0.15		c0.20	0.26		0.04	0.13	c0.27	c0.13	0.07	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.81	0.74	0.03	0.83	0.67		0.60	0.51	0.55	0.84	0.22	0.01
Uniform Delay, d1	51.2	41.4	35.5	39.5	28.1		49.5	34.6	19.6	45.3	25.8	24.0
Progression Factor	1.00	1.00	1.00	0.82	0.73		1.18	0.65	0.90	1.18	0.85	0.84
Incremental Delay, d2	42.1	3.5	0.1	6.9	1.4		9.3	2.0	0.6	12.0	0.4	0.0
Delay (s)	93.3	44.9	35.5	39.2	21.9		67.6	24.4	18.1	65.5	22.4	20.3
Level of Service	F	D	D	D	C		E	C	B	E	C	C
Approach Delay (s)		48.9			29.6			23.3			48.8	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.6%	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)	232	1347	211	293	920	207	208	116	153
v/c Ratio	0.74	0.66	0.27	1.07	0.49	0.63	0.62	0.28	0.79
Control Delay	53.0	18.9	1.0	117.4	27.0	46.7	46.3	7.0	57.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	18.9	1.0	117.4	27.0	46.7	46.3	7.0	57.5
Queue Length 50th (ft)	115	177	0	~229	175	142	143	0	31
Queue Length 95th (ft)	#277	#421	14	#400	255	189	190	39	#87
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	325	2029	787	275	1881	512	520	582	193
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	0.71	0.66	0.27	1.07	0.49	0.40	0.40	0.20	0.79

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)	213	1239	194	270	811	35	334	48	107	26	52	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		0.99	
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	0.96	1.00		0.99	
Satd. Flow (prot)	1620	4655	1531	1678	4621		1539	1561	1514		3057	
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	1531	1678	4621		1539	1561	1514		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)	232	1347	211	293	882	38	363	52	116	28	57	68
RTOR Reduction (vph)	0	0	119	0	4	0	0	0	91	0	65	0
Lane Group Flow (vph)	232	1347	92	293	916	0	207	208	25	0	88	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)	20.3	46.8	46.8	17.1	43.6		22.9	22.9	22.9		4.0	
Effective Green, g (s)	21.3	47.8	47.8	18.1	44.6		23.5	23.5	23.5		4.6	
Actuated g/C Ratio	0.19	0.43	0.43	0.16	0.41		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)	314	2023	665	276	1874		329	333	323		128	
v/s Ratio Prot	c0.14	c0.29		c0.17	0.20		c0.13	0.13			c0.03	
v/s Ratio Perm			0.06						0.02			
v/c Ratio	0.74	0.67	0.14	1.06	0.49		0.63	0.62	0.08		0.69	
Uniform Delay, d1	41.7	24.7	18.7	46.0	24.2		39.3	39.2	34.6		52.0	
Progression Factor	0.92	0.63	0.06	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	8.9	1.7	0.4	71.4	0.9		4.2	4.1	0.1		15.3	
Delay (s)	47.3	17.3	1.6	117.3	25.2		43.5	43.4	34.7		67.3	
Level of Service	D	B	A	F	C		D	D	C		E	
Approach Delay (s)		19.4			47.4			41.5			67.3	
Approach LOS		B			D			D			E	

Intersection Summary			
HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	170	1561	110	599	227	153	243	78	526
v/c Ratio	0.71	0.78	0.58	0.46	0.90	0.18	0.39	0.41	0.72
Control Delay	57.9	27.9	50.2	13.1	83.6	28.3	5.4	52.1	38.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	27.9	50.2	13.1	83.6	28.3	5.4	52.1	38.5
Queue Length 50th (ft)	104	303	61	98	75	41	0	25	153
Queue Length 95th (ft)	#199	390	m#119	m180	#145	60	52	48	189
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	240	2000	191	1292	251	1056	705	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	0.71	0.78	0.58	0.46	0.90	0.14	0.34	0.41	0.54

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	1141	295	101	529	22	209	141	224	72	383	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4581		1652	3268		3143	3240	1660	3204	3126	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4581		1652	3268		3143	3240	1660	3204	3126	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	1240	321	110	575	24	227	153	243	78	416	110
RTOR Reduction (vph)	0	43	0	0	2	0	0	0	178	0	26	0
Lane Group Flow (vph)	170	1518	0	110	597	0	227	153	65	78	500	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.9	41.2		11.6	37.9		9.0	27.0	27.0	5.6	23.6	
Effective Green, g (s)	14.8	42.2		11.5	38.9		8.0	26.6	26.6	4.6	23.2	
Actuated g/C Ratio	0.15	0.42		0.12	0.39		0.08	0.27	0.27	0.05	0.23	
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)	240	1933		190	1271		251	862	442	147	725	
v/s Ratio Prot	0.10	c0.33		c0.07	0.18		c0.07	c0.05		0.02	c0.16	
v/s Ratio Perm									0.04			
v/c Ratio	0.71	0.79		0.58	0.47		0.90	0.18	0.15	0.53	0.69	
Uniform Delay, d1	40.5	25.0		42.0	22.8		45.6	28.3	28.0	46.6	35.1	
Progression Factor	1.00	1.00		0.92	0.51		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.2	3.3		4.2	1.0		33.0	0.1	0.2	4.6	3.0	
Delay (s)	49.7	28.3		42.6	12.7		78.6	28.4	28.2	51.3	38.1	
Level of Service	D	C		D	B		E	C	C	D	D	
Approach Delay (s)		30.4			17.3			46.6			39.8	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM Average Control Delay	32.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	68.1%	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)	54	18	2	917	711	41
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	20	2	997	773	45
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	0.85	0.99	0.99			
vC, conflicting volume	1300	411	819			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	975	393	805			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	72	97	100			
cM capacity (veh/h)	208	595	795			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	78	334	664	515	302
Volume Left	59	2	0	0	0
Volume Right	20	0	0	0	45
cSH	249	795	1700	1700	1700
Volume to Capacity	0.31	0.00	0.39	0.30	0.18
Queue Length 95th (ft)	32	0	0	0	0
Control Delay (s)	26.0	0.1	0.0	0.0	0.0
Lane LOS	D	A			
Approach Delay (s)	26.0	0.0		0.0	
Approach LOS	D				

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	110	38	93	112	187	50	341	209	620
v/c Ratio	0.29	0.12	0.34	0.27	0.41	0.19	0.44	0.51	0.41
Control Delay	18.4	7.3	20.1	17.9	6.3	25.2	18.0	22.6	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	7.3	20.1	17.9	6.3	25.2	18.0	22.6	11.1
Queue Length 50th (ft)	23	0	20	24	0	11	33	44	32
Queue Length 95th (ft)	72	19	66	72	41	53	105	146	158
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	1065	857	783	1164	939	343	1907	940	2707
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	0.04	0.12	0.10	0.20	0.15	0.18	0.22	0.23

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	77	35	86	103	172	46	258	56	192	495	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.99	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1715	1258	1620	1739	1318	1711	2983		1620	3014	
Flt Permitted		0.92	1.00	0.69	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1594	1258	1170	1739	1318	1711	2983		1620	3014	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	84	38	93	112	187	50	280	61	209	538	82
RTOR Reduction (vph)	0	0	29	0	0	144	0	20	0	0	12	0
Lane Group Flow (vph)	0	110	9	93	112	43	50	321	0	209	608	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)		11.5	11.5	11.5	11.5	11.5	2.7	14.6		12.3	24.2	
Effective Green, g (s)		11.5	11.5	11.5	11.5	11.5	2.7	14.6		12.3	24.2	
Actuated g/C Ratio		0.23	0.23	0.23	0.23	0.23	0.05	0.29		0.25	0.48	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		367	290	270	401	304	93	873		399	1462	
v/s Ratio Prot					0.06		0.03	0.11		c0.13	c0.20	
v/s Ratio Perm		0.07	0.01	c0.08		0.03						
v/c Ratio		0.30	0.03	0.34	0.28	0.14	0.54	0.37		0.52	0.42	
Uniform Delay, d1		15.9	14.9	16.0	15.8	15.3	23.0	14.0		16.3	8.3	
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	0.8	0.4	0.2	5.9	0.4		1.2	0.3	
Delay (s)		16.3	14.9	16.8	16.2	15.5	28.9	14.4		17.5	8.6	
Level of Service		B	B	B	B	B	C	B		B	A	
Approach Delay (s)		16.0			16.0			16.2			10.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	49.9	Sum of lost time (s)	7.0
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	239	289	84	75	200	99	127	830	86	671
v/c Ratio	0.79	0.56	0.20	0.52	0.68	0.33	0.66	0.62	0.58	0.56
Control Delay	61.5	38.6	7.4	60.6	55.4	10.9	66.5	26.4	47.1	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	38.6	7.4	60.6	55.4	10.9	66.5	26.4	47.1	19.3
Queue Length 50th (ft)	159	177	0	51	134	0	90	219	43	103
Queue Length 95th (ft)	#267	255	36	99	206	46	155	291	96	158
Internal Link Dist (ft)		2946			524			956		727
Turn Bay Length (ft)	240		200	230		100	200		150	
Base Capacity (vph)	333	555	452	159	357	339	212	1343	159	1207
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	0.72	0.52	0.19	0.47	0.56	0.29	0.60	0.62	0.54	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)	220	266	77	69	184	91	117	639	124	79	560	57
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	3147		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	3147		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)	239	289	84	75	200	99	127	695	135	86	609	62
RTOR Reduction (vph)	0	0	61	0	0	83	0	13	0	0	6	0
Lane Group Flow (vph)	239	289	23	75	200	16	127	817	0	86	665	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)	21.8	30.6	30.6	8.5	17.3	17.3	12.9	44.9		8.8	40.8	
Effective Green, g (s)	21.8	30.6	30.6	8.5	17.3	17.3	12.9	44.9		8.8	40.8	
Actuated g/C Ratio	0.20	0.28	0.28	0.08	0.16	0.16	0.12	0.41		0.08	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)	313	513	363	123	293	213	194	1285		127	1178	
v/s Ratio Prot	c0.15	0.16		0.05	c0.11		0.08	c0.26		0.05	c0.21	
v/s Ratio Perm			0.02			0.01						
v/c Ratio	0.76	0.56	0.06	0.61	0.68	0.07	0.65	0.64		0.68	0.56	
Uniform Delay, d1	41.7	34.0	29.2	49.1	43.8	39.5	46.4	26.0		49.2	27.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.08	0.90		0.67	0.61	
Incremental Delay, d2	11.2	1.7	0.1	9.5	7.0	0.2	8.4	2.4		14.1	1.9	
Delay (s)	52.8	35.7	29.3	58.7	50.7	39.7	58.7	25.8		47.2	18.8	
Level of Service	D	D	C	E	D	D	E	C		D	B	
Approach Delay (s)		41.5			49.4			30.2			22.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	62.9%	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)	447	13	19	301	68	62
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)	486	14	21	327	74	67
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			0.89		0.89	0.89
vC, conflicting volume			502		856	488
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			377		776	361
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		77	89
cM capacity (veh/h)			1048		318	606

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	486	14	21	327	141
Volume Left	0	0	21	0	74
Volume Right	0	14	0	0	67
cSH	1700	1700	1048	1700	609
Volume to Capacity	0.29	0.01	0.02	0.19	0.23
Queue Length 95th (ft)	0	0	2	0	22
Control Delay (s)	0.0	0.0	8.5	0.0	15.9
Lane LOS			A		C
Approach Delay (s)	0.0		0.5		15.9
Approach LOS					C

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	102	404	7	221	59	110	13	41	360
v/c Ratio	0.31	0.46	0.05	0.47	0.27	0.18	0.03	0.11	0.59
Control Delay	25.3	11.1	28.8	19.3	18.1	14.6	7.7	14.4	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.3	11.1	28.8	19.3	18.1	14.6	7.7	14.4	17.8
Queue Length 50th (ft)	26	53	2	48	13	23	0	8	75
Queue Length 95th (ft)	86	192	15	127	44	63	10	30	175
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	387	1257	155	916	419	1142	817	726	1115
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	0.32	0.05	0.24	0.14	0.10	0.02	0.06	0.32

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	94	212	160	6	146	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	0.98	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	0.94		1.00	0.96		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1880		1711	1632		1652	1863	1328	1645	1790	
Flt Permitted	0.95	1.00		0.95	1.00		0.39	1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1711	1880		1711	1632		684	1863	1328	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)	102	230	174	7	159	62	59	110	13	41	221	139
RTOR Reduction (vph)	0	35	0	0	19	0	0	0	9	0	33	0
Lane Group Flow (vph)	102	369	0	7	202	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)	6.8	22.2		0.6	16.0		15.9	15.9	15.9	15.9	15.9	
Effective Green, g (s)	6.8	22.2		0.6	16.0		15.9	15.9	15.9	15.9	15.9	
Actuated g/C Ratio	0.13	0.43		0.01	0.31		0.31	0.31	0.31	0.31	0.31	
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)	225	807		20	505		210	573	408	365	551	
v/s Ratio Prot	c0.06	c0.20		0.00	0.12			0.06			c0.18	
v/s Ratio Perm							0.09		0.00	0.03		
v/c Ratio	0.45	0.46		0.35	0.40		0.28	0.19	0.01	0.11	0.59	
Uniform Delay, d1	20.7	10.5		25.4	14.1		13.6	13.2	12.4	12.8	15.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	0.6		13.9	0.7		1.0	0.2	0.0	0.2	2.0	
Delay (s)	22.7	11.0		39.2	14.8		14.6	13.4	12.4	13.0	17.2	
Level of Service	C	B		D	B		B	B	B	B	B	
Approach Delay (s)		13.4			15.5			13.7			16.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	51.7	Sum of lost time (s)	8.5
Intersection Capacity Utilization	62.3%	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)	95	134	10	48	75	282	64	20	518
v/c Ratio	0.26	0.20	0.06	0.13	0.23	0.21	0.10	0.10	0.49
Control Delay	28.4	5.0	36.1	15.5	29.3	12.8	5.4	35.1	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.4	5.0	36.1	15.5	29.3	12.8	5.4	35.1	19.5
Queue Length 50th (ft)	26	3	3	7	21	23	0	6	68
Queue Length 95th (ft)	102	38	23	36	86	96	28	36	187
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	574	1252	158	1113	475	2314	1048	205	2014
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	0.17	0.11	0.06	0.04	0.16	0.12	0.06	0.10	0.26

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	87	13	110	9	23	21	70	259	59	18	382	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.87		1.00	0.93		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1528		1652	1598		1652	3240	1456	1711	3268	
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	1598		1652	3240	1456	1711	3268	
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)	95	14	120	10	25	23	75	282	64	20	415	103
RTOR Reduction (vph)	0	76	0	0	18	0	0	0	39	0	20	0
Lane Group Flow (vph)	95	58	0	10	30	0	75	282	25	20	498	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	7.8	21.0		0.4	13.6		5.0	22.5	22.5	0.6	18.1	
Effective Green, g (s)	7.8	21.0		0.4	13.6		5.0	22.5	22.5	0.6	18.1	
Actuated g/C Ratio	0.14	0.37		0.01	0.24		0.09	0.39	0.39	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)	234	563		12	381		145	1279	575	18	1038	
v/s Ratio Prot	c0.06	c0.04		0.01	0.02		c0.05	0.09		c0.01	c0.15	
v/s Ratio Perm									0.02			
v/c Ratio	0.41	0.10		0.83	0.08		0.52	0.22	0.04	1.11	0.48	
Uniform Delay, d1	22.5	11.8		28.3	16.8		24.8	11.4	10.6	28.2	15.7	
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	0.1		172.9	0.1		4.1	0.1	0.0	250.0	0.5	
Delay (s)	24.1	11.9		201.2	17.0		28.9	11.6	10.7	278.2	16.1	
Level of Service	C	B		F	B		C	B	B	F	B	
Approach Delay (s)		17.0			48.7			14.5			25.9	
Approach LOS		B			D			B			C	

Intersection Summary			
HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	57.0	Sum of lost time (s)	9.5
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	59	23	5	770	946
v/c Ratio	0.42	0.17	0.01	0.28	0.34
Control Delay	56.1	19.9	2.0	2.3	0.8
Queue Delay	0.0	0.0	0.0	0.7	0.0
Total Delay	56.1	19.9	2.0	3.0	0.8
Queue Length 50th (ft)	40	0	0	45	13
Queue Length 95th (ft)	80	25	3	76	22
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	375	320	444	2787	2776
Starvation Cap Reductn	0	0	0	1588	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.07	0.01	0.64	0.34

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	54	21	5	708	845	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	3225	
Flt Permitted	0.95	1.00	0.30	1.00	1.00	
Satd. Flow (perm)	1652	1330	517	3240	3225	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	23	5	770	918	28
RTOR Reduction (vph)	0	21	0	0	1	0
Lane Group Flow (vph)	59	2	5	770	945	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	8.2	8.2	92.8	92.8	92.8	
Effective Green, g (s)	8.2	8.2	92.8	92.8	92.8	
Actuated g/C Ratio	0.07	0.07	0.84	0.84	0.84	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	123	99	436	2733	2721	
v/s Ratio Prot	c0.04			0.24	c0.29	
v/s Ratio Perm		0.00	0.01			
v/c Ratio	0.48	0.02	0.01	0.28	0.35	
Uniform Delay, d1	48.9	47.2	1.4	1.8	1.9	
Progression Factor	1.00	1.00	1.00	1.00	0.23	
Incremental Delay, d2	2.9	0.1	0.0	0.3	0.3	
Delay (s)	51.8	47.2	1.4	2.0	0.8	
Level of Service	D	D	A	A	A	
Approach Delay (s)	50.5			2.0	0.8	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	3.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	35.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	830	1072	288	1100	667	525
v/c Ratio	0.70	0.66	0.35	0.50	0.40	0.60
Control Delay	24.2	3.6	46.4	12.8	0.7	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	3.6	46.4	12.8	0.7	23.9
Queue Length 50th (ft)	205	30	111	234	0	108
Queue Length 95th (ft)	239	38	154	282	0	171
Internal Link Dist (ft)	363			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1418	1736	824	2211	1686	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	0.59	0.62	0.35	0.50	0.40	0.60

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	764	986	265	1012	0	0	0	614	0	0	483
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	830	1072	288	1100	0	0	0	667	0	0	525
RTOR Reduction (vph)	0	0	690	0	0	0	0	0	0	0	0	157
Lane Group Flow (vph)	0	830	382	288	1100	0	0	0	667	0	0	368
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		39.2	39.2	28.8	72.5				110.0			28.5
Effective Green, g (s)		39.2	39.2	28.8	72.5				110.0			28.5
Actuated g/C Ratio		0.36	0.36	0.26	0.66				1.00			0.26
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1196	942	823	2211				1686			722
v/s Ratio Prot		c0.25		0.09	c0.33							c0.13
v/s Ratio Perm			0.14						0.40			
v/c Ratio		0.69	0.41	0.35	0.50				0.40			0.51
Uniform Delay, d1		30.3	26.6	33.0	9.5				0.0			34.8
Progression Factor		0.72	1.37	1.30	1.25				1.00			1.00
Incremental Delay, d2		1.5	0.2	1.1	0.8				0.7			2.6
Delay (s)		23.3	36.7	43.9	12.6				0.7			37.3
Level of Service		C	D	D	B				A			D
Approach Delay (s)		30.8			19.1			0.7			37.3	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	283	1215	729	497	548	661
v/c Ratio	0.49	0.36	0.33	0.46	0.34	0.43
Control Delay	23.4	0.3	2.5	3.9	0.6	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	0.3	2.5	3.9	0.6	0.9
Queue Length 50th (ft)	76	0	23	13	0	0
Queue Length 95th (ft)	105	0	32	m49	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	714	3355	2193	1075	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	0.40	0.36	0.33	0.46	0.34	0.43

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)	260	1118	0	0	671	457	0	0	504	0	0	608
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)	283	1215	0	0	729	497	0	0	548	0	0	661
RTOR Reduction (vph)	0	0	0	0	0	74	0	0	0	0	0	0
Lane Group Flow (vph)	283	1215	0	0	729	423	0	0	548	0	0	661
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)	10.1	55.0			35.9	35.9			55.0			55.0
Effective Green, g (s)	10.1	55.0			35.9	35.9			55.0			55.0
Actuated g/C Ratio	0.18	1.00			0.65	0.65			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	577	3355			2190	999			1611			1528
v/s Ratio Prot	0.09	0.36			0.22							
v/s Ratio Perm						0.28			0.34			c0.43
v/c Ratio	0.49	0.36			0.33	0.42			0.34			0.43
Uniform Delay, d1	20.1	0.0			4.2	4.6			0.0			0.0
Progression Factor	1.05	1.00			0.48	0.95			1.00			1.00
Incremental Delay, d2	0.6	0.1			0.4	1.2			0.6			0.9
Delay (s)	21.7	0.1			2.4	5.5			0.6			0.9
Level of Service	C	A			A	A			A			A
Approach Delay (s)		4.1			3.7			0.6			0.9	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	2.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	43.2%	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)	400	600	889	220	16	265	533	24	75	791	172
v/c Ratio	1.07	0.90	0.50	0.64	0.05	0.88	0.35	0.04	0.47	0.76	0.31
Control Delay	83.0	32.2	2.6	45.2	14.4	69.5	21.8	10.2	52.6	37.4	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.0	32.2	2.6	45.2	14.4	69.5	21.8	10.2	52.6	37.4	15.3
Queue Length 50th (ft)	~109	275	39	125	0	167	129	2	46	245	39
Queue Length 95th (ft)	m#355	#540	87	203	17	#313	175	19	92	321	94
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	373	706	1770	383	346	305	1512	569	172	1040	549
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	0.85	0.50	0.57	0.05	0.87	0.35	0.04	0.44	0.76	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)	368	552	818	7	195	15	244	490	22	69	728	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	3.6	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1735	1474	1652	3539	1337	1652	3303	1551
Flt Permitted	0.34	1.00	1.00		0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	584	1739	1770		1693	1474	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)	400	600	889	8	212	16	265	533	24	75	791	172
RTOR Reduction (vph)	0	0	0	0	0	13	0	0	12	0	0	61
Lane Group Flow (vph)	400	600	889	0	220	3	265	533	12	75	791	111
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	37.7	37.7	100.0		19.7	19.7	17.3	40.8	40.8	7.5	30.5	30.5
Effective Green, g (s)	38.2	38.2	100.0		20.2	20.2	18.3	41.8	40.8	8.4	31.5	31.5
Actuated g/C Ratio	0.38	0.38	1.00		0.20	0.20	0.18	0.42	0.41	0.08	0.32	0.32
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	373	664	1770		342	298	302	1479	545	139	1040	489
v/s Ratio Prot	c0.15	0.35					c0.16	0.15		0.05	c0.24	
v/s Ratio Perm	c0.26		0.50		0.13	0.00			0.01			0.07
v/c Ratio	1.07	0.90	0.50		0.64	0.01	0.88	0.36	0.02	0.54	0.76	0.23
Uniform Delay, d1	28.2	29.2	0.0		36.6	31.9	39.8	19.9	17.7	43.9	30.9	25.3
Progression Factor	0.63	0.55	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	63.0	13.7	0.8		4.6	0.0	23.7	0.7	0.1	4.5	5.2	1.1
Delay (s)	80.9	29.6	0.8		41.2	31.9	63.4	20.6	17.8	48.4	36.1	26.3
Level of Service	F	C	A		D	C	E	C	B	D	D	C
Approach Delay (s)		26.9			40.5			34.3			35.4	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	90	1091	141	927
v/c Ratio	0.41	0.42	0.26	0.39	0.31
Control Delay	55.7	15.3	0.5	5.4	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	55.7	15.3	0.5	5.4	1.1
Queue Length 50th (ft)	33	0	6	4	13
Queue Length 95th (ft)	67	45	20	m18	m37
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	260	363	4209	360	2965
Starvation Cap Reductn	0	0	0	0	1099
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.25	0.26	0.39	0.50

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	44	0	83	0	970	34	130	852	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		0.99		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1562	1395		4924		1618	3471	
Flt Permitted					0.76	1.00		1.00		0.25	1.00	
Satd. Flow (perm)					1245	1395		4924		423	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	1054	37	141	926	1
RTOR Reduction (vph)	0	0	0	0	0	82	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	8	0	1089	0	141	927	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		4127		355	2909	
v/s Ratio Prot								0.22			0.27	
v/s Ratio Perm					c0.04	0.01				c0.33		
v/c Ratio					0.46	0.06		0.26		0.40	0.32	
Uniform Delay, d1					48.0	46.4		1.8		2.2	2.0	
Progression Factor					1.00	1.00		0.16		0.78	0.29	
Incremental Delay, d2					3.2	0.2		0.1		2.7	0.2	
Delay (s)					51.3	46.7		0.4		4.4	0.8	
Level of Service					D	D		A		A	A	
Approach Delay (s)		0.0			48.3			0.4			1.3	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	3.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	221	249	205	874	33	535	187	379	409	54
v/c Ratio	0.74	0.55	0.18	0.25	0.86	0.43	0.62	0.20	0.80	0.40	0.10
Control Delay	99.2	51.5	25.6	21.2	26.7	79.3	50.4	1.4	66.4	36.4	9.0
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	99.2	51.5	25.6	21.2	26.7	79.3	50.4	1.4	66.4	36.4	9.0
Queue Length 50th (ft)	62	82	62	95	468	27	153	0	160	149	0
Queue Length 95th (ft)	#160	125	121	174	#983	68	193	18	#273	200	32
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	107	1378	1352	876	1016	97	1318	1063	476	1214	600
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	0.69	0.16	0.18	0.23	0.86	0.34	0.41	0.18	0.80	0.34	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	162	41	229	189	804	30	492	172	349	376	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	1510
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3093		3255	1689	1501	1620	4655	1449	3143	3240	1510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	176	45	249	205	874	33	535	187	379	409	54
RTOR Reduction (vph)	0	23	0	0	0	29	0	0	73	0	0	37
Lane Group Flow (vph)	74	198	0	249	205	845	33	535	114	379	409	17
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	7.5	15.4		52.0	59.9	83.4	3.9	24.9	76.9	19.0	40.0	40.0
Effective Green, g (s)	7.5	15.4		52.0	59.9	83.4	3.9	24.9	76.9	19.0	40.0	40.0
Actuated g/C Ratio	0.06	0.12		0.41	0.47	0.66	0.03	0.20	0.61	0.15	0.32	0.32
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)	99	376		1337	799	989	50	916	880	472	1024	477
v/s Ratio Prot	c0.04	0.06		0.08	0.12	c0.56	0.02	c0.11	0.08	0.12	0.13	
v/s Ratio Perm												0.01
v/c Ratio	0.75	0.53		0.19	0.26	0.85	0.66	0.58	0.13	0.80	0.40	0.04
Uniform Delay, d1	58.6	52.2		23.8	20.0	16.9	60.7	46.2	10.6	52.0	33.9	30.0
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	23.2	2.1		0.0	0.2	7.6	22.4	1.0	0.1	9.0	0.3	0.0
Delay (s)	81.9	54.3		23.8	20.2	24.5	83.1	47.1	10.7	61.0	34.2	30.0
Level of Service	F	D		C	C	C	F	D	B	E	C	C
Approach Delay (s)		61.2			23.7			39.7			46.0	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM Average Control Delay	36.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	126.6	Sum of lost time (s)	11.8
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	669	105	1468	632	54	235	563	278
v/c Ratio	0.86	0.39	0.65	0.90	0.63	0.56	0.80	0.95	0.65
Control Delay	91.8	17.1	74.5	19.4	1.7	76.7	28.1	74.7	22.1
Queue Delay	0.0	0.0	0.0	29.8	2.3	0.0	3.1	0.0	0.0
Total Delay	91.8	17.1	74.5	49.1	4.0	76.7	31.1	74.7	22.1
Queue Length 50th (ft)	117	148	87	391	0	42	7	223	58
Queue Length 95th (ft)	#244	214	m94	m#648	m9	84	#112	#330	155
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	185	1731	203	1627	999	126	317	602	433
Starvation Cap Reductn	0	0	0	242	233	0	0	0	0
Spillback Cap Reductn	0	25	0	0	0	0	30	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.39	0.52	1.06	0.83	0.43	0.82	0.94	0.64

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	142	601	15	97	1214	718	50	8	208	518	41	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98	0.85	1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3166		1620	3026	1318	1678	1437		3143	1451	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3166		1620	3026	1318	1678	1437		3143	1451	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	653	16	105	1320	780	54	9	226	563	45	233
RTOR Reduction (vph)	0	1	0	0	6	293	0	213	0	0	156	0
Lane Group Flow (vph)	154	668	0	105	1462	339	54	22	0	563	122	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	13.2	65.6		11.9	64.3	64.3	6.8	6.8		22.7	22.7	
Effective Green, g (s)	13.2	65.6		11.9	64.3	64.3	6.8	6.8		22.7	22.7	
Actuated g/C Ratio	0.11	0.55		0.10	0.54	0.54	0.06	0.06		0.19	0.19	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	178	1731		161	1621	706	95	81		595	274	
v/s Ratio Prot	c0.10	0.21		0.06	c0.48		c0.03	0.02		c0.18	0.08	
v/s Ratio Perm						0.26						
v/c Ratio	0.87	0.39		0.65	0.90	0.48	0.57	0.27		0.95	0.45	
Uniform Delay, d1	52.5	15.6		52.1	25.0	17.4	55.2	54.2		48.0	43.1	
Progression Factor	1.00	1.00		1.25	0.55	0.19	1.00	1.00		1.00	1.00	
Incremental Delay, d2	31.8	0.7		3.4	4.4	1.1	4.6	0.7		24.1	1.2	
Delay (s)	84.4	16.3		68.7	18.2	4.5	59.8	54.9		72.2	44.2	
Level of Service	F	B		E	B	A	E	D		E	D	
Approach Delay (s)		29.0			16.6			55.8			62.9	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	55	1474	650	1979	262	559	67	45
v/c Ratio	0.79	0.75	0.84	0.92	0.92	0.48	0.87	0.49
Control Delay	101.7	26.1	45.9	20.0	86.2	18.2	127.4	52.6
Queue Delay	0.0	2.4	0.0	11.8	0.0	0.0	0.0	0.0
Total Delay	101.7	28.5	45.9	31.8	86.2	18.2	127.4	52.6
Queue Length 50th (ft)	45	290	249	572	200	126	53	18
Queue Length 95th (ft)	m#86	m325	m296	#925	#349	171	#142	#61
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	70	1964	773	2160	302	1159	78	93
Starvation Cap Reductn	0	347	0	188	0	0	0	0
Spillback Cap Reductn	0	0	0	205	0	30	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.91	0.84	1.01	0.87	0.50	0.86	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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	1187	169	598	1709	111	212	29	514	62	22	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99			1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4482		3143	3289			1808	2811	1562	1465	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4482		3143	3289			1808	2811	1562	1465	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	1290	184	650	1858	121	230	32	559	67	24	21
RTOR Reduction (vph)	0	15	0	0	4	0	0	0	37	0	20	0
Lane Group Flow (vph)	55	1459	0	650	1975	0	0	262	522	67	25	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)	4.1	51.6		30.1	78.1			18.9	49.0	5.9	5.9	
Effective Green, g (s)	4.1	51.6		30.1	78.1			18.9	49.0	5.9	5.9	
Actuated g/C Ratio	0.03	0.43		0.25	0.65			0.16	0.41	0.05	0.05	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	55	1927		788	2141			285	1148	77	72	
v/s Ratio Prot	c0.03	0.33		0.21	c0.60			c0.14	0.11	c0.04	0.02	
v/s Ratio Perm									0.07			
v/c Ratio	1.00	0.76		0.82	0.92			0.92	0.45	0.87	0.35	
Uniform Delay, d1	58.0	28.9		42.5	18.3			49.8	25.8	56.7	55.2	
Progression Factor	0.88	0.84		0.89	0.76			1.00	1.00	1.00	1.00	
Incremental Delay, d2	107.5	2.2		4.2	5.3			32.0	0.1	59.5	1.1	
Delay (s)	158.3	26.6		42.2	19.3			81.8	25.9	116.1	56.3	
Level of Service	F	C		D	B			F	C	F	E	
Approach Delay (s)		31.3			25.0			43.7			92.1	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM Average Control Delay	31.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1162	1043	1849	774	360	337	328
v/c Ratio	0.54	0.72	0.88	0.52	0.76	0.70	0.69
Control Delay	6.3	8.6	22.6	1.3	50.5	44.6	43.8
Queue Delay	0.5	0.0	11.8	0.0	0.0	0.0	0.0
Total Delay	6.8	8.6	34.4	1.3	50.5	44.6	43.9
Queue Length 50th (ft)	100	230	559	0	267	239	221
Queue Length 95th (ft)	131	474	691	0	#395	359	335
Internal Link Dist (ft)	509		1069			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2167	1439	2113	1478	474	481	472
Starvation Cap Reductn	513	0	0	0	0	0	0
Spillback Cap Reductn	0	0	279	0	0	1	1
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.72	1.01	0.52	0.76	0.70	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)	0	1069	960	0	1701	712	0	0	0	395	0	548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.88	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.99	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1637	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.99	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1637	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1162	1043	0	1849	774	0	0	0	429	0	596
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	17	17
Lane Group Flow (vph)	0	1162	1043	0	1849	774	0	0	0	360	320	311
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Prot
Protected Phases		2			6					4	4	4
Permitted Phases			2 4			Free				4		
Actuated Green, G (s)		78.0	120.0		78.0	120.0				34.0	34.0	34.0
Effective Green, g (s)		79.0	120.0		79.0	120.0				35.0	34.0	35.0
Actuated g/C Ratio		0.66	1.00		0.66	1.00				0.29	0.28	0.29
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2167	1439		2113	1478				474	464	455
v/s Ratio Prot		0.35			c0.58					0.22	0.20	0.20
v/s Ratio Perm			c0.72			0.52						
v/c Ratio		0.54	0.72		0.88	0.52				0.76	0.69	0.68
Uniform Delay, d1		10.8	0.0		16.5	0.0				38.7	38.3	37.6
Progression Factor		0.50	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.8	1.6		5.4	1.3				7.3	4.6	4.6
Delay (s)		6.2	1.6		22.0	1.3				46.0	42.9	42.2
Level of Service		A	A		C	A				D	D	D
Approach Delay (s)		4.0			15.9			0.0			43.7	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	3.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	61	59	207	243	428
v/c Ratio	0.79	0.08	0.38	0.32	0.53	0.58
Control Delay	22.0	3.5	36.0	12.9	21.6	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	3.5	36.0	12.9	21.6	5.9
Queue Length 50th (ft)	158	0	20	46	71	0
Queue Length 95th (ft)	#348	17	#68	88	133	57
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	1075	983	155	1091	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	0.38	0.19	0.35	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	56	54	190	224	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1559
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	61	59	207	243	428
RTOR Reduction (vph)	0	34	0	0	0	315
Lane Group Flow (vph)	604	27	59	207	243	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	18.6	12.7	12.7
Effective Green, g (s)	21.4	21.4	1.9	18.6	12.7	12.7
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)	748	669	64	708	451	412
v/s Ratio Prot	c0.36		c0.04	0.11	c0.14	
v/s Ratio Perm		0.02				0.07
v/c Ratio	0.81	0.04	0.92	0.29	0.54	0.27
Uniform Delay, d1	11.5	7.5	23.0	10.2	15.1	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.4	0.0	84.8	0.2	1.2	0.4
Delay (s)	17.9	7.5	107.8	10.4	16.4	14.4
Level of Service	B	A	F	B	B	B
Approach Delay (s)	17.0			32.0	15.1	
Approach LOS	B			C	B	

Intersection Summary			
HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	84	117	104	26	694	66	460
v/c Ratio	0.21	0.30	0.23	0.06	0.40	0.18	0.26
Control Delay	11.5	13.6	4.7	7.8	8.1	9.4	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.5	13.6	4.7	7.8	8.1	9.4	7.2
Queue Length 50th (ft)	10	17	0	2	39	6	23
Queue Length 95th (ft)	42	60	25	17	128	37	81
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	1003	1009	981	648	2384	498	2390
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	0.08	0.12	0.11	0.04	0.29	0.13	0.19

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	44	9	55	52	96	24	581	57	61	394	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1534			1687	1309	1615	3030		1561	3040	
Flt Permitted		0.88			0.80	1.00	0.49	1.00		0.39	1.00	
Satd. Flow (perm)		1370			1383	1309	828	3030		634	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)	26	48	10	60	57	104	26	632	62	66	428	32
RTOR Reduction (vph)	0	8	0	0	0	79	0	10	0	0	7	0
Lane Group Flow (vph)	0	76	0	0	117	25	26	684	0	66	453	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)		9.3			9.3	9.3	20.9	20.9		20.9	20.9	
Effective Green, g (s)		9.3			9.3	9.3	20.9	20.9		20.9	20.9	
Actuated g/C Ratio		0.24			0.24	0.24	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)		323			326	309	439	1607		336	1613	
v/s Ratio Prot								c0.23			0.15	
v/s Ratio Perm		0.06			c0.08	0.02	0.03			0.10		
v/c Ratio		0.24			0.36	0.08	0.06	0.43		0.20	0.28	
Uniform Delay, d1		12.2			12.6	11.7	4.5	5.6		4.8	5.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.9	0.2	0.1	0.2		0.4	0.1	
Delay (s)		12.7			13.5	11.9	4.6	5.9		5.2	5.2	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		12.7			12.7			5.8			5.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	39.4	Sum of lost time (s)	9.2
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	20	193	309	159	162	34
v/c Ratio	0.07	0.23	0.44	0.13	0.36	0.08
Control Delay	17.9	7.2	11.9	0.7	13.9	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	7.2	11.9	0.7	13.9	6.1
Queue Length 50th (ft)	2	17	30	0	17	0
Queue Length 95th (ft)	23	59	150	9	87	16
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	485	1827	1650	1574	1358	1179
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	0.19	0.10	0.12	0.03

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	18	178	284	146	149	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	1620	1562	1362
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1620	1562	1362
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	193	309	159	162	34
RTOR Reduction (vph)	0	0	0	55	0	25
Lane Group Flow (vph)	20	193	309	104	162	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	19.9	15.0	25.5	10.5	10.5
Effective Green, g (s)	0.9	19.9	15.0	25.5	10.5	10.5
Actuated g/C Ratio	0.02	0.51	0.38	0.65	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)	37	932	656	1059	421	367
v/s Ratio Prot	0.01	c0.11	c0.18	0.03	c0.10	
v/s Ratio Perm				0.04		0.01
v/c Ratio	0.54	0.21	0.47	0.10	0.38	0.02
Uniform Delay, d1	18.8	5.2	9.0	2.5	11.6	10.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.1	0.1	0.5	0.0	0.6	0.0
Delay (s)	34.0	5.3	9.6	2.5	12.2	10.5
Level of Service	C	A	A	A	B	B
Approach Delay (s)		8.0	7.2		11.9	
Approach LOS		A	A		B	

Intersection Summary			
HCM Average Control Delay	8.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	39.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	32.0%	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)	205	141	199	243	250	201
v/c Ratio	0.52	0.32	0.56	0.28	0.41	0.34
Control Delay	30.9	7.3	33.1	10.9	22.0	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	7.3	33.1	10.9	22.0	8.7
Queue Length 50th (ft)	74	0	72	52	76	15
Queue Length 95th (ft)	176	45	183	118	194	75
Internal Link Dist (ft)	328			4916	905	
Turn Bay Length (ft)		350	75			100
Base Capacity (vph)	1005	897	814	1622	821	810
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	0.20	0.16	0.24	0.15	0.30	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	188	130	183	223	1	228	2	185	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)		1757	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	204	141	199	242	1	248	2	201	0	0	0
RTOR Reduction (vph)	0	0	108	0	0	0	0	0	102	0	0	0
Lane Group Flow (vph)	0	205	33	199	243	0	0	250	99	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)		16.3	16.3	16.2	36.5			24.7	20.7			
Effective Green, g (s)		16.3	16.3	16.2	36.5			24.7	20.7			
Actuated g/C Ratio		0.23	0.23	0.23	0.52			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)		407	339	360	885			591	508			
v/s Ratio Prot				c0.13	0.14			c0.15	0.02			
v/s Ratio Perm		c0.12	0.02						0.04			
v/c Ratio		0.50	0.10	0.55	0.27			0.42	0.19			
Uniform Delay, d1		23.5	21.2	23.9	9.5			17.4	18.6			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Incremental Delay, d2		1.0	0.1	1.8	0.2			0.5	0.2			
Delay (s)		24.5	21.3	25.7	9.6			17.9	18.7			
Level of Service		C	C	C	A			B	B			
Approach Delay (s)		23.2			16.9			18.3			0.0	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	70.3	Sum of lost time (s)	12.6
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
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	225	386	402	24	372	128	201	457
v/c Ratio	0.63	0.80	0.14	0.71	0.67	0.55	0.24	0.64	0.41	0.72	0.44
Control Delay	57.7	50.1	22.4	57.2	39.8	6.2	64.2	48.8	21.5	61.0	29.4
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	57.7	50.1	22.4	57.2	39.8	6.2	64.2	48.8	21.5	61.0	29.4
Queue Length 50th (ft)	111	263	20	149	230	0	17	130	25	134	129
Queue Length 95th (ft)	217	460	62	282	411	80	52	211	92	#262	205
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	376	702	601	431	772	840	106	925	442	383	1372
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	0.44	0.58	0.11	0.52	0.50	0.48	0.23	0.40	0.29	0.52	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)	153	375	59	207	355	370	22	342	118	185	314	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1452	1620	1739	1396	1652	3240	1332	1620	2954	
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	1396	1652	3240	1332	1620	2954	
Peak-hour factor, PHF	0.92	0.92	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	225	386	402	24	372	128	201	341	116
RTOR Reduction (vph)	0	0	18	0	0	270	0	0	70	0	24	0
Lane Group Flow (vph)	166	408	46	225	386	132	24	372	58	201	433	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)	17.3	31.8	31.8	21.2	35.7	35.7	3.9	21.6	21.6	19.7	37.4	
Effective Green, g (s)	17.2	31.7	31.7	21.1	35.6	35.6	2.9	21.1	21.1	18.7	36.9	
Actuated g/C Ratio	0.16	0.29	0.29	0.19	0.33	0.33	0.03	0.19	0.19	0.17	0.34	
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)	262	508	424	315	570	458	44	630	259	279	1004	
v/s Ratio Prot	0.10	c0.23		c0.14	c0.22		0.01	c0.11		c0.12	0.15	
v/s Ratio Perm			0.03			0.09			0.04			
v/c Ratio	0.63	0.80	0.11	0.71	0.68	0.29	0.55	0.59	0.22	0.72	0.43	
Uniform Delay, d1	42.8	35.6	28.1	40.9	31.5	27.1	52.2	39.8	36.9	42.5	27.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.5	9.4	0.2	8.0	3.5	0.5	16.2	1.7	0.6	9.4	0.4	
Delay (s)	48.3	45.0	28.3	48.9	35.0	27.6	68.4	41.6	37.4	51.9	28.1	
Level of Service	D	D	C	D	D	C	E	D	D	D	C	
Approach Delay (s)		44.2			35.1			41.8			35.4	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	38.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	108.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	65.1%	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)	55	557	51	665	1052	70	243	393	179	136	17
v/c Ratio	0.47	0.58	0.15	0.80	0.81	0.57	0.23	0.24	0.79	0.13	0.03
Control Delay	58.1	37.8	9.6	37.1	24.1	64.2	26.8	9.8	70.0	25.6	11.5
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	58.1	37.8	9.6	37.1	24.1	64.2	26.8	9.8	70.0	25.6	11.5
Queue Length 50th (ft)	34	118	0	201	296	44	61	59	59	33	0
Queue Length 95th (ft)	75	146	29	#314	328	#106	94	97	#114	57	16
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	117	1187	415	836	1315	122	1058	1657	228	1083	504
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	0.47	0.12	0.80	0.80	0.57	0.23	0.24	0.79	0.13	0.03

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	512	47	612	724	244	64	224	362	165	125	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	3.1	4.0	4.0	3.1	4.0		4.0	4.0	3.1	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3105		1678	3355	2706	3255	3240	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3105		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	557	51	665	787	265	70	243	393	179	136	17
RTOR Reduction (vph)	0	0	40	0	33	0	0	0	0	0	0	12
Lane Group Flow (vph)	55	557	11	665	1019	0	70	243	393	179	136	5
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	5.3	19.2	19.2	25.6	39.5		5.9	28.4	58.0	7.8	30.3	30.3
Effective Green, g (s)	6.2	20.7	20.7	26.5	41.0		5.9	29.9	58.9	7.8	31.8	31.8
Actuated g/C Ratio	0.06	0.21	0.21	0.26	0.41		0.06	0.30	0.59	0.08	0.32	0.32
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)	97	964	306	863	1273		99	1003	1594	254	1030	469
v/s Ratio Prot	0.04	c0.12		0.20	c0.33		c0.04	c0.07	0.15	c0.05	0.04	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.57	0.58	0.03	0.77	0.80		0.71	0.24	0.25	0.70	0.13	0.01
Uniform Delay, d1	45.6	35.7	31.7	33.9	25.9		46.2	26.5	9.9	45.0	24.3	23.3
Progression Factor	1.00	1.00	1.00	0.84	0.78		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	1.0	0.1	4.0	3.4		21.8	0.6	0.1	9.2	0.3	0.0
Delay (s)	54.5	36.7	31.7	32.6	23.5		68.0	27.1	10.0	54.2	24.5	23.4
Level of Service	D	D	C	C	C		E	C	A	D	C	C
Approach Delay (s)		37.8			27.0			21.6			40.4	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	300	1300	376	192	706	224	226	120	126
v/c Ratio	0.68	0.76	0.47	0.60	0.53	0.62	0.62	0.27	0.64
Control Delay	40.7	29.1	3.8	47.8	31.9	40.5	40.2	6.1	41.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	29.1	3.8	47.8	31.9	40.5	40.2	6.1	41.6
Queue Length 50th (ft)	126	289	20	109	139	137	138	0	22
Queue Length 95th (ft)	#379	#361	53	#272	184	180	180	36	#60
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	438	1716	802	320	1339	563	572	631	197
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	0.76	0.47	0.60	0.53	0.40	0.40	0.19	0.64

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	1196	346	177	625	25	355	59	110	18	43	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	4655	1531	1678	4624		1539	1564	1515		3050	
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	4624		1539	1564	1515		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)	300	1300	376	192	679	27	386	64	120	20	47	59
RTOR Reduction (vph)	0	0	238	0	4	0	0	0	92	0	56	0
Lane Group Flow (vph)	300	1300	138	192	702	0	224	226	28	0	70	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)	26.0	35.8	35.8	18.1	27.9		22.9	22.9	22.9		4.0	
Effective Green, g (s)	27.0	36.8	36.8	19.1	28.9		23.5	23.5	23.5		4.6	
Actuated g/C Ratio	0.27	0.37	0.37	0.19	0.29		0.24	0.24	0.24		0.05	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	437	1713	563	320	1336		362	368	356		140	
v/s Ratio Prot	c0.19	c0.28		0.11	0.15		c0.15	0.14			c0.02	
v/s Ratio Perm			0.09						0.02			
v/c Ratio	0.69	0.76	0.25	0.60	0.53		0.62	0.61	0.08		0.50	
Uniform Delay, d1	32.7	27.7	22.0	37.0	29.8		34.2	34.2	29.8		46.6	
Progression Factor	0.89	0.89	0.64	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.7	3.1	1.0	3.6	1.5		3.6	3.5	0.1		3.8	
Delay (s)	33.9	27.8	15.0	40.6	31.3		37.8	37.7	29.9		50.3	
Level of Service	C	C	B	D	C		D	D	C		D	
Approach Delay (s)		26.3			33.3			36.1			50.3	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	163	1347	117	533	161	117	159	23	190
v/c Ratio	0.39	0.67	0.49	0.60	0.48	0.13	0.27	0.17	0.36
Control Delay	29.6	20.4	42.9	29.0	43.2	24.4	5.8	46.2	20.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	20.4	42.9	29.0	43.2	24.4	5.8	46.2	20.7
Queue Length 50th (ft)	59	172	52	117	38	22	0	5	26
Queue Length 95th (ft)	167	335	135	210	#96	48	43	21	56
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	499	2381	293	1395	345	1584	893	132	1315
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	0.33	0.57	0.40	0.38	0.47	0.07	0.18	0.17	0.14

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	952	287	108	476	15	148	108	146	21	105	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4561		1652	3274		3143	3240	1661	3204	3023	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4561		1652	3274		3143	3240	1661	3204	3023	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	1035	312	117	517	16	161	117	159	23	114	76
RTOR Reduction (vph)	0	47	0	0	2	0	0	0	115	0	62	0
Lane Group Flow (vph)	163	1300	0	117	531	0	161	117	44	23	128	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)	21.0	32.1		8.9	20.0		9.2	22.4	22.4	1.3	14.5	
Effective Green, g (s)	20.9	33.1		8.8	21.0		8.2	22.0	22.0	0.3	14.1	
Actuated g/C Ratio	0.26	0.42		0.11	0.26		0.10	0.28	0.28	0.00	0.18	
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)	427	1904		183	867		325	899	461	12	538	
v/s Ratio Prot	0.10	c0.29		0.07	c0.16		c0.05	0.04		0.01	c0.04	
v/s Ratio Perm									0.03			
v/c Ratio	0.38	0.68		0.64	0.61		0.50	0.13	0.10	1.92	0.24	
Uniform Delay, d1	23.9	18.8		33.7	25.6		33.6	21.5	21.3	39.5	28.0	
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	1.1		8.0	1.5		1.6	0.1	0.1	620.9	0.3	
Delay (s)	24.5	19.9		41.7	27.1		35.2	21.6	21.4	660.4	28.3	
Level of Service	C	B		D	C		D	C	C	F	C	
Approach Delay (s)		20.4			29.7			26.5			96.5	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	79.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	15	4	4	592	533	44
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	4	4	643	579	48
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	0.96					
vC, conflicting volume	936	316	629			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	843	316	629			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	99	100			
cM capacity (veh/h)	284	673	933			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	21	219	429	386	241
Volume Left	16	4	0	0	0
Volume Right	4	0	0	0	48
cSH	323	933	1700	1700	1700
Volume to Capacity	0.06	0.00	0.25	0.23	0.14
Queue Length 95th (ft)	5	0	0	0	0
Control Delay (s)	16.9	0.2	0.0	0.0	0.0
Lane LOS	C	A			
Approach Delay (s)	16.9	0.1		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	212	67	67	126	165	60	349	118	297
v/c Ratio	0.47	0.15	0.20	0.23	0.31	0.21	0.42	0.35	0.28
Control Delay	18.2	5.2	15.3	14.7	4.8	23.5	17.0	22.8	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	5.2	15.3	14.7	4.8	23.5	17.0	22.8	13.1
Queue Length 50th (ft)	45	0	13	25	0	14	36	27	27
Queue Length 95th (ft)	117	22	44	69	34	54	96	87	75
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	1132	999	815	1357	1058	539	2024	746	2318
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	0.07	0.08	0.09	0.16	0.11	0.17	0.16	0.13

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	118	62	62	116	152	55	264	57	109	226	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	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	0.97	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1701	1261	1620	1739	1320	1711	2984		1620	2995	
Flt Permitted		0.84	1.00	0.61	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1455	1261	1044	1739	1320	1711	2984		1620	2995	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	128	67	67	126	165	60	287	62	118	246	51
RTOR Reduction (vph)	0	0	46	0	0	114	0	20	0	0	19	0
Lane Group Flow (vph)	0	212	21	67	126	51	60	329	0	118	278	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		14.5	14.5	14.5	14.5	14.5	4.3	13.3		7.4	16.4	
Effective Green, g (s)		14.5	14.5	14.5	14.5	14.5	4.3	13.3		7.4	16.4	
Actuated g/C Ratio		0.31	0.31	0.31	0.31	0.31	0.09	0.28		0.16	0.35	
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)		452	392	324	540	410	158	850		257	1052	
v/s Ratio Prot					0.07		0.04	c0.11		c0.07	0.09	
v/s Ratio Perm		c0.15	0.02	0.06		0.04						
v/c Ratio		0.47	0.05	0.21	0.23	0.12	0.38	0.39		0.46	0.26	
Uniform Delay, d1		13.0	11.3	11.9	12.0	11.5	19.9	13.4		17.8	10.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8	0.1	0.3	0.2	0.1	1.5	0.4		1.3	0.2	
Delay (s)		13.8	11.3	12.2	12.2	11.7	21.5	13.8		19.1	11.0	
Level of Service		B	B	B	B	B	C	B		B	B	
Approach Delay (s)		13.2			12.0			14.9			13.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	46.7	Sum of lost time (s)	11.5
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	116	150	63	57	142	66	92	565	51	588
v/c Ratio	0.57	0.43	0.21	0.39	0.57	0.28	0.49	0.35	0.36	0.38
Control Delay	55.1	43.4	10.7	53.5	53.4	12.9	54.3	18.7	53.2	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	43.4	10.7	53.5	53.4	12.9	54.3	18.7	53.2	20.9
Queue Length 50th (ft)	78	97	0	39	95	0	62	120	34	134
Queue Length 95th (ft)	131	150	35	78	153	38	110	205	72	228
Internal Link Dist (ft)		2946			1126			956		727
Turn Bay Length (ft)	240		200	230		100	200		150	
Base Capacity (vph)	262	493	395	179	396	340	230	1620	166	1559
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	0.44	0.30	0.16	0.32	0.36	0.19	0.40	0.35	0.31	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	107	138	58	52	131	61	85	435	85	47	468	73
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	3148		1593	3157	
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	3148		1593	3157	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	116	150	63	57	142	66	92	473	92	51	509	79
RTOR Reduction (vph)	0	0	51	0	0	57	0	12	0	0	9	0
Lane Group Flow (vph)	116	150	12	57	142	9	92	553	0	51	579	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	14.2	20.7	20.7	8.9	15.4	15.4	10.8	54.7		8.5	52.4	
Effective Green, g (s)	14.2	20.7	20.7	8.9	15.4	15.4	10.8	54.7		8.5	52.4	
Actuated g/C Ratio	0.13	0.19	0.19	0.08	0.14	0.14	0.10	0.50		0.08	0.48	
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)	204	347	246	129	261	189	162	1565		123	1504	
v/s Ratio Prot	c0.07	0.08		0.04	c0.08		c0.06	0.18		0.03	c0.18	
v/s Ratio Perm			0.01			0.01						
v/c Ratio	0.57	0.43	0.05	0.44	0.54	0.05	0.57	0.35		0.41	0.39	
Uniform Delay, d1	45.0	39.5	36.6	48.2	44.0	41.0	47.4	16.9		48.4	18.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.4	1.2	0.1	3.3	2.9	0.1	5.5	0.6		3.1	0.7	
Delay (s)	49.4	40.6	36.7	51.5	46.9	41.1	52.8	17.5		51.5	19.2	
Level of Service	D	D	D	D	D	D	D	B		D	B	
Approach Delay (s)		43.0			46.4			22.4			21.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	29.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	196	12	28	233	9	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)	213	13	30	253	10	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			228		529	215
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			228		529	215
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		98	99
cM capacity (veh/h)			1338		498	824

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	213	13	30	253	21
Volume Left	0	0	30	0	10
Volume Right	0	13	0	0	11
cSH	1700	1700	1338	1700	1051
Volume to Capacity	0.13	0.01	0.02	0.15	0.02
Queue Length 95th (ft)	0	0	2	0	2
Control Delay (s)	0.0	0.0	7.8	0.0	10.8
Lane LOS			A		B
Approach Delay (s)	0.0		0.8		10.8
Approach LOS					B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	55	208	7	214	41	59	7	36	261
v/c Ratio	0.17	0.25	0.03	0.35	0.14	0.10	0.02	0.10	0.45
Control Delay	20.1	7.9	22.0	12.5	14.0	12.8	9.2	13.4	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	7.9	22.0	12.5	14.0	12.8	9.2	13.4	13.5
Queue Length 50th (ft)	7	18	1	22	4	6	0	4	24
Queue Length 95th (ft)	48	77	13	96	31	38	8	28	120
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	333	1489	238	1224	767	1445	1029	963	1403
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	0.17	0.14	0.03	0.17	0.05	0.04	0.01	0.04	0.19

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	123	68	6	158	39	38	54	6	33	152	88
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	0.95		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	1906		1711	1661		1652	1863	1329	1646	1795	
Flt Permitted	0.95	1.00		0.95	1.00		0.57	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1711	1906		1711	1661		989	1863	1329	1245	1795	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	134	74	7	172	42	41	59	7	36	165	96
RTOR Reduction (vph)	0	26	0	0	12	0	0	0	5	0	32	0
Lane Group Flow (vph)	55	182	0	7	202	0	41	59	2	36	229	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)	2.1	16.3		0.7	14.9		12.0	12.0	12.0	12.0	12.0	
Effective Green, g (s)	2.1	16.3		0.7	14.9		12.0	12.0	12.0	12.0	12.0	
Actuated g/C Ratio	0.05	0.39		0.02	0.35		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	86	740		29	589		283	532	380	356	513	
v/s Ratio Prot	c0.03	0.10		0.00	c0.12			0.03			c0.13	
v/s Ratio Perm							0.04		0.00	0.03		
v/c Ratio	0.64	0.25		0.24	0.34		0.14	0.11	0.01	0.10	0.45	
Uniform Delay, d1	19.6	8.7		20.4	10.0		11.2	11.1	10.7	11.0	12.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.3	0.2		5.8	0.5		0.3	0.1	0.0	0.2	0.8	
Delay (s)	35.8	8.9		26.2	10.4		11.5	11.2	10.7	11.2	13.1	
Level of Service	D	A		C	B		B	B	B	B	B	
Approach Delay (s)		14.6			10.9			11.3			12.9	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	42.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	49.7%	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)	72	60	3	10	216	432	40	24	478
v/c Ratio	0.26	0.13	0.02	0.03	0.51	0.25	0.05	0.14	0.52
Control Delay	32.4	8.0	38.0	18.9	28.4	11.2	6.9	37.5	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	8.0	38.0	18.9	28.4	11.2	6.9	37.5	19.9
Queue Length 50th (ft)	22	2	1	2	64	34	1	8	59
Queue Length 95th (ft)	89	30	11	14	202	133	23	42	168
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	337	1127	130	1005	716	2474	1109	169	1590
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	0.05	0.02	0.01	0.30	0.17	0.04	0.14	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	9	46	3	5	5	199	397	37	22	292	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.92		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	1546		1652	1592		1652	3240	1455	1711	3207	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1546		1652	1592		1652	3240	1455	1711	3207	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	72	10	50	3	5	5	216	432	40	24	317	161
RTOR Reduction (vph)	0	37	0	0	4	0	0	0	16	0	59	0
Lane Group Flow (vph)	72	23	0	3	6	0	216	432	24	24	419	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)	4.9	16.1		0.5	11.7		14.9	31.6	31.6	1.5	18.2	
Effective Green, g (s)	4.9	16.1		0.5	11.7		14.9	31.6	31.6	1.5	18.2	
Actuated g/C Ratio	0.08	0.26		0.01	0.19		0.24	0.51	0.51	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)	135	400		13	299		396	1646	739	41	938	
v/s Ratio Prot	c0.04	c0.01		0.00	0.00		c0.13	0.13		0.01	c0.13	
v/s Ratio Perm									0.02			
v/c Ratio	0.53	0.06		0.23	0.02		0.55	0.26	0.03	0.59	0.45	
Uniform Delay, d1	27.6	17.3		30.7	20.6		20.7	8.7	7.7	30.0	17.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.1	0.1		12.0	0.0		1.9	0.1	0.0	22.8	0.5	
Delay (s)	32.6	17.4		42.7	20.6		22.6	8.8	7.7	52.8	18.4	
Level of Service	C	B		D	C		C	A	A	D	B	
Approach Delay (s)		25.7			25.7			13.1			20.0	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	62.2	Sum of lost time (s)	9.5
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	58	16	16	588	596
v/c Ratio	0.17	0.05	0.03	0.24	0.25
Control Delay	14.4	7.1	5.7	4.8	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	7.1	5.7	4.8	4.7
Queue Length 50th (ft)	14	0	1	26	26
Queue Length 95th (ft)	32	10	10	85	84
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	860	700	565	2467	2446
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	0.02	0.03	0.24	0.24

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	53	15	15	541	512	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	3207	
Flt Permitted	0.95	1.00	0.43	1.00	1.00	
Satd. Flow (perm)	1652	1330	742	3240	3207	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	16	16	588	557	39
RTOR Reduction (vph)	0	14	0	0	6	0
Lane Group Flow (vph)	58	2	16	588	590	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)	5.5	5.5	27.2	27.2	27.2	
Effective Green, g (s)	5.5	5.5	27.2	27.2	27.2	
Actuated g/C Ratio	0.13	0.13	0.65	0.65	0.65	
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)	218	175	484	2113	2092	
v/s Ratio Prot	c0.04			0.18	c0.18	
v/s Ratio Perm		0.00	0.02			
v/c Ratio	0.27	0.01	0.03	0.28	0.28	
Uniform Delay, d1	16.3	15.7	2.6	3.1	3.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.0	0.1	0.2	0.2	
Delay (s)	16.9	15.8	2.7	3.3	3.3	
Level of Service	B	B	A	A	A	
Approach Delay (s)	16.7			3.3	3.3	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	4.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	41.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	26.1%	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)	775	576	490	1164	677	708
v/c Ratio	0.64	0.43	0.64	0.53	0.40	0.85
Control Delay	21.2	2.0	42.9	11.1	0.7	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	2.0	42.9	11.1	0.7	38.2
Queue Length 50th (ft)	113	2	172	207	0	195
Queue Length 95th (ft)	197	15	224	280	0	259
Internal Link Dist (ft)	364			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1216	1325	770	2189	1686	954
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	0.64	0.43	0.64	0.53	0.40	0.74

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	713	530	451	1071	0	0	0	623	0	0	651
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	576	490	1164	0	0	0	677	0	0	708
RTOR Reduction (vph)	0	0	367	0	0	0	0	0	0	0	0	111
Lane Group Flow (vph)	0	775	209	490	1164	0	0	0	677	0	0	597
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		36.2	36.2	24.5	65.2				100.0			25.8
Effective Green, g (s)		36.2	36.2	24.5	65.2				100.0			25.8
Actuated g/C Ratio		0.36	0.36	0.24	0.65				1.00			0.26
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1215	956	770	2187				1686			719
v/s Ratio Prot		c0.23		c0.16	0.35							c0.21
v/s Ratio Perm			0.08						0.40			
v/c Ratio		0.64	0.22	0.64	0.53				0.40			0.83
Uniform Delay, d1		26.5	22.1	33.8	9.3				0.0			35.0
Progression Factor		0.68	0.46	1.15	1.03				1.00			1.00
Incremental Delay, d2		2.4	0.5	3.7	0.8				0.7			8.1
Delay (s)		20.3	10.7	42.4	10.3				0.7			43.1
Level of Service		C	B	D	B				A			D
Approach Delay (s)		16.2			19.8			0.7			43.1	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	59.9%	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)	449	1003	791	521	639	908
v/c Ratio	0.63	0.30	0.40	0.55	0.40	0.59
Control Delay	21.7	0.2	2.6	5.6	0.7	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	0.2	2.6	5.6	0.7	1.7
Queue Length 50th (ft)	113	0	27	20	0	0
Queue Length 95th (ft)	154	0	38	129	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	798	3355	1985	948	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	0.56	0.30	0.40	0.55	0.40	0.59

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	413	923	0	0	728	479	0	0	588	0	0	835
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	1003	0	0	791	521	0	0	639	0	0	908
RTOR Reduction (vph)	0	0	0	0	0	43	0	0	0	0	0	0
Lane Group Flow (vph)	449	1003	0	0	791	478	0	0	639	0	0	908
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)	11.4	50.0			29.6	29.6			50.0			50.0
Effective Green, g (s)	11.4	50.0			29.6	29.6			50.0			50.0
Actuated g/C Ratio	0.23	1.00			0.59	0.59			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	717	3355			1986	906			1611			1528
v/s Ratio Prot	0.14	0.30			0.24							
v/s Ratio Perm						0.31			0.40			c0.59
v/c Ratio	0.63	0.30			0.40	0.53			0.40			0.59
Uniform Delay, d1	17.4	0.0			5.4	6.1			0.0			0.0
Progression Factor	1.05	1.00			0.35	0.67			1.00			1.00
Incremental Delay, d2	1.5	0.2			0.6	2.0			0.7			1.7
Delay (s)	19.8	0.2			2.5	6.1			0.7			1.7
Level of Service	B	A			A	A			A			A
Approach Delay (s)		6.3			3.9			0.7			1.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	3.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	48.9%	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)	245	311	453	243	13	274	526	15	42	509	167
v/c Ratio	0.61	0.44	0.26	0.70	0.04	0.75	0.33	0.03	0.34	0.62	0.36
Control Delay	29.6	25.2	0.4	50.6	20.0	51.6	20.2	11.2	57.9	39.1	16.2
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	29.6	25.2	0.4	50.6	20.0	51.6	20.2	11.2	57.9	39.1	16.2
Queue Length 50th (ft)	115	152	0	155	1	174	126	1	28	158	31
Queue Length 95th (ft)	194	247	0	253	18	281	180	14	69	240	97
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	402	825	1770	453	394	483	1768	660	125	933	515
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	0.61	0.38	0.26	0.54	0.03	0.57	0.30	0.02	0.34	0.55	0.32

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	225	286	417	4	220	12	252	484	14	39	468	154
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		1737	1473	1652	3539	1337	1652	3303	1551
Flt Permitted	0.29	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	499	1739	1770		1728	1473	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)	245	311	453	4	239	13	274	526	15	42	509	167
RTOR Reduction (vph)	0	0	0	0	0	9	0	0	7	0	0	79
Lane Group Flow (vph)	245	311	453	0	243	4	274	526	8	42	509	88
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)	41.1	41.1	103.4		20.0	20.0	21.4	44.3	44.3	3.6	26.4	26.4
Effective Green, g (s)	41.6	41.6	103.4		20.5	20.5	22.4	45.3	44.3	4.5	27.4	27.4
Actuated g/C Ratio	0.40	0.40	1.00		0.20	0.20	0.22	0.44	0.43	0.04	0.26	0.26
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)	391	700	1770		343	292	358	1550	573	72	875	411
v/s Ratio Prot	c0.10	0.18					c0.17	0.15		0.03	c0.15	
v/s Ratio Perm	0.15		0.26		c0.14	0.00			0.01			0.06
v/c Ratio	0.63	0.44	0.26		0.71	0.01	0.77	0.34	0.01	0.58	0.58	0.21
Uniform Delay, d1	22.7	22.5	0.0		38.7	33.3	38.0	19.2	17.0	48.5	33.0	29.6
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5	0.6	0.3		7.0	0.0	9.4	0.4	0.0	12.2	1.9	0.7
Delay (s)	26.3	23.1	0.3		45.7	33.4	47.4	19.5	17.0	60.8	34.9	30.4
Level of Service	C	C	A		D	C	D	B	B	E	C	C
Approach Delay (s)		13.7			45.1			28.9			35.4	
Approach LOS		B			D			C			D	

Intersection Summary			
HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	103.4	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	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	28	90	589	160	617
v/c Ratio	0.09	0.22	0.17	0.31	0.25
Control Delay	12.0	5.0	4.1	8.3	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	5.0	4.1	8.3	4.8
Queue Length 50th (ft)	5	0	14	13	24
Queue Length 95th (ft)	19	23	50	74	86
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				150	
Base Capacity (vph)	765	851	4245	618	3007
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	0.14	0.26	0.21

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	504	38	147	566	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		4894		1618	3469	
Flt Permitted					0.80	1.00		1.00		0.42	1.00	
Satd. Flow (perm)					1315	1401		4894		714	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	28	0	90	0	548	41	160	615	2
RTOR Reduction (vph)	0	0	0	0	0	77	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	28	13	0	577	0	160	617	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		22.1		22.1	22.1	
Effective Green, g (s)					5.0	5.0		22.1		22.1	22.1	
Actuated g/C Ratio					0.14	0.14		0.62		0.62	0.62	
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)					184	196		3030		442	2147	
v/s Ratio Prot								0.12			0.18	
v/s Ratio Perm					c0.02	0.01				c0.22		
v/c Ratio					0.15	0.06		0.19		0.36	0.29	
Uniform Delay, d1					13.5	13.3		2.9		3.3	3.2	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.4	0.1		0.0		0.2	0.0	
Delay (s)					13.9	13.5		2.9		3.5	3.2	
Level of Service					B	B		A		A	A	
Approach Delay (s)		0.0			13.6			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	0.32		
Actuated Cycle Length (s)	35.7	Sum of lost time (s)	8.6
Intersection Capacity Utilization	36.0%	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)	42	176	291	166	863	27	912	236	651	647	67
v/c Ratio	0.56	0.44	0.29	0.24	0.86	0.36	0.74	0.25	0.91	0.42	0.09
Control Delay	92.8	53.3	37.2	28.3	29.4	78.8	50.5	1.6	69.1	26.4	5.6
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	92.8	53.3	37.2	28.3	29.4	78.8	50.5	1.6	69.1	26.4	5.6
Queue Length 50th (ft)	39	73	98	99	582	24	282	0	306	218	0
Queue Length 95th (ft)	#91	102	157	155	#887	58	336	20	#424	274	29
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	79	1034	1016	718	998	83	1276	953	719	1530	750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.17	0.29	0.23	0.86	0.33	0.71	0.25	0.91	0.42	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	136	26	268	153	794	25	839	217	599	595	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	10	10	11	10	11	10	10	10	10	10	12
Total Lost time (s)	2.5	2.5		2.5	2.5	2.5	2.5	1.8	1.8	2.5	1.8	1.8
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1678	3112		3255	1689	1501	1620	4655	1449	3143	3240	1514
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3112		3255	1689	1501	1620	4655	1449	3143	3240	1514
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	148	28	291	166	863	27	912	236	651	647	67
RTOR Reduction (vph)	0	14	0	0	0	18	0	0	96	0	0	36
Lane Group Flow (vph)	42	162	0	291	166	845	27	912	140	651	647	31
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	4.2	15.0		42.3	53.1	87.7	3.4	35.5	77.8	30.1	62.2	62.2
Effective Green, g (s)	5.2	17.0		43.3	55.1	89.7	4.4	37.5	81.8	31.1	64.2	64.2
Actuated g/C Ratio	0.04	0.12		0.31	0.40	0.65	0.03	0.27	0.59	0.23	0.46	0.46
Clearance Time (s)	3.5	4.5		3.5	4.5		3.5	3.8		3.5	3.8	3.8
Vehicle Extension (s)	2.0	4.5		2.0	4.0		2.0	4.0		2.0	3.0	3.0
Lane Grp Cap (vph)	63	383		1020	673	974	52	1263	858	707	1505	703
v/s Ratio Prot	c0.03	0.05		0.09	0.10	c0.56	0.02	c0.20	0.10	c0.21	0.20	
v/s Ratio Perm												0.02
v/c Ratio	0.67	0.42		0.29	0.25	0.87	0.52	0.72	0.16	0.92	0.43	0.04
Uniform Delay, d1	65.6	56.1		35.8	27.7	19.5	65.9	45.6	12.7	52.3	24.8	20.2
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	18.7	1.3		0.1	0.3	8.5	3.6	2.2	0.1	17.1	0.2	0.0
Delay (s)	84.3	57.4		35.8	28.0	28.0	69.5	47.8	12.9	69.5	25.0	20.3
Level of Service	F	E		D	C	C	E	D	B	E	C	C
Approach Delay (s)		62.6			29.7			41.3			46.0	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM Average Control Delay	40.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	138.2	Sum of lost time (s)	6.8
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	124	923	25	1217	153	28	149	182	124
v/c Ratio	0.67	0.42	0.15	0.65	0.18	0.25	0.64	0.48	0.51
Control Delay	62.2	9.7	60.4	7.8	0.5	50.7	21.2	46.6	28.4
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	9.7	60.4	8.0	0.5	50.7	21.2	46.6	28.4
Queue Length 50th (ft)	81	84	17	60	1	18	1	60	36
Queue Length 95th (ft)	139	249	m29	202	2	45	60	92	92
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	221	2208	170	1883	869	224	318	461	278
Starvation Cap Reductn	0	0	0	116	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.42	0.15	0.69	0.18	0.13	0.47	0.39	0.45

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	833	17	23	1104	156	26	2	135	167	42	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	2.0	3.0		2.0	3.0	3.0	2.0	2.0		2.0	2.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3169		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	3169		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)	124	905	18	25	1200	170	28	2	147	182	46	78
RTOR Reduction (vph)	0	1	0	0	1	59	0	137	0	0	59	0
Lane Group Flow (vph)	124	922	0	25	1216	94	28	12	0	182	65	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	10.9	70.3		4.0	63.4	63.4	6.0	6.0		11.7	11.7	
Effective Green, g (s)	11.9	71.3		5.0	64.4	64.4	7.0	7.0		12.7	12.7	
Actuated g/C Ratio	0.11	0.68		0.05	0.61	0.61	0.07	0.07		0.12	0.12	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	184	2152		77	1881	809	112	95		380	182	
v/s Ratio Prot	c0.08	0.29		0.02	c0.40		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.07						
v/c Ratio	0.67	0.43		0.32	0.65	0.12	0.25	0.12		0.48	0.36	
Uniform Delay, d1	44.7	7.6		48.4	13.0	8.5	46.5	46.1		43.1	42.4	
Progression Factor	1.00	1.00		1.36	0.42	0.07	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.4	0.6		0.7	1.4	0.2	0.4	0.2		1.0	1.2	
Delay (s)	52.1	8.3		66.6	6.9	0.8	46.9	46.3		44.0	43.6	
Level of Service	D	A		E	A	A	D	D		D	D	
Approach Delay (s)		13.4			7.3			46.4			43.9	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	28	1156	301	1294	171	223	121	96
v/c Ratio	0.30	0.48	0.73	0.61	0.71	0.25	0.69	0.51
Control Delay	60.3	13.6	54.0	12.5	59.6	4.1	64.0	45.4
Queue Delay	0.0	0.2	0.0	0.1	0.0	0.0	0.3	0.0
Total Delay	60.3	13.7	54.0	12.6	59.6	4.1	64.4	45.4
Queue Length 50th (ft)	18	197	98	230	111	0	79	51
Queue Length 95th (ft)	m47	157	141	377	176	27	135	100
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	98	2404	468	2110	310	938	238	251
Starvation Cap Reductn	0	435	0	106	0	0	0	0
Spillback Cap Reductn	0	128	0	40	0	9	10	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.59	0.64	0.65	0.55	0.24	0.53	0.38

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	944	120	277	1136	54	139	18	205	111	64	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	2.0	3.0		2.5	3.0			2.0	2.5	2.0	2.0	
Lane Util. Factor	1.00	0.91		0.97	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99			1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4491		3143	3298			1808	2806	1562	1558	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4491		3143	3298			1808	2806	1562	1558	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	1026	130	301	1235	59	151	20	223	121	70	26
RTOR Reduction (vph)	0	13	0	0	3	0	0	0	164	0	13	0
Lane Group Flow (vph)	28	1143	0	301	1291	0	0	171	59	121	83	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	3.3	55.0		12.8	65.0			12.9	25.7	10.8	10.8	
Effective Green, g (s)	4.3	56.0		13.8	66.0			13.9	27.7	11.8	11.8	
Actuated g/C Ratio	0.04	0.53		0.13	0.63			0.13	0.26	0.11	0.11	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	66	2395		413	2073			239	740	176	175	
v/s Ratio Prot	0.02	0.25		c0.10	c0.39			c0.09	0.01	c0.08	0.05	
v/s Ratio Perm									0.01			
v/c Ratio	0.42	0.48		0.73	0.62			0.72	0.08	0.69	0.47	
Uniform Delay, d1	49.1	15.3		43.8	11.9			43.7	29.1	44.8	43.7	
Progression Factor	1.10	0.78		1.03	0.83			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.6		4.6	1.2			8.2	0.0	8.6	0.7	
Delay (s)	55.8	12.5		49.7	11.1			51.8	29.1	53.4	44.4	
Level of Service	E	B		D	B			D	C	D	D	
Approach Delay (s)		13.5			18.4			39.0			49.4	
Approach LOS		B			B			D			D	

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

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	582	1459	1225	443	186	242	240
v/c Ratio	0.23	1.01	0.50	0.30	0.63	0.63	0.62
Control Delay	2.1	43.5	5.7	0.5	50.5	26.5	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.1	43.5	5.7	0.5	50.5	26.5	25.5
Queue Length 50th (ft)	20	~871	137	0	123	73	68
Queue Length 95th (ft)	32	#1329	174	0	202	168	157
Internal Link Dist (ft)	509		867			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2508	1439	2445	1478	294	384	389
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	30	0	0	1	1
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	1.01	0.51	0.30	0.63	0.63	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)	0	535	1342	0	1127	408	0	0	0	190	0	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.86	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	1.00	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1608	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	1.00	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1608	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	582	1459	0	1225	443	0	0	0	207	0	461
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	109	107
Lane Group Flow (vph)	0	582	1459	0	1225	443	0	0	0	186	133	133
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Prot
Protected Phases		2			6					4	4	4
Permitted Phases			2 4			Free				4		
Actuated Green, G (s)		79.0	105.0		79.0	105.0				18.0	18.0	18.0
Effective Green, g (s)		80.0	105.0		80.0	105.0				19.0	18.0	19.0
Actuated g/C Ratio		0.76	1.00		0.76	1.00				0.18	0.17	0.18
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2508	1439		2445	1478				294	276	282
v/s Ratio Prot		0.18			0.38					0.11	0.08	0.09
v/s Ratio Perm			c1.01			0.30						
v/c Ratio		0.23	1.01		0.50	0.30				0.63	0.48	0.47
Uniform Delay, d1		3.6	52.5		4.8	0.0				39.8	39.3	38.5
Progression Factor		0.53	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.2	26.9		0.7	0.5				4.9	1.8	1.7
Delay (s)		2.1	79.4		5.6	0.5				44.7	41.1	40.2
Level of Service		A	E		A	A				D	D	D
Approach Delay (s)		57.3			4.2			0.0			41.8	
Approach LOS		E			A			A			D	

Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	196	27	41	114	251	122
v/c Ratio	0.53	0.08	0.20	0.09	0.24	0.12
Control Delay	25.2	7.6	26.0	4.4	8.8	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	7.6	26.0	4.4	8.8	2.9
Queue Length 50th (ft)	63	0	14	11	27	0
Queue Length 95th (ft)	105	15	38	32	108	25
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	587	543	216	1242	1034	994
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.05	0.19	0.09	0.24	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	180	25	38	105	231	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1562
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	27	41	114	251	122
RTOR Reduction (vph)	0	21	0	0	0	53
Lane Group Flow (vph)	196	6	41	114	251	69
Confl. Peds. (#/hr)						2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Turn Type		Perm	Prot			Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	12.2	12.2	2.8	39.8	33.0	33.0
Effective Green, g (s)	13.2	13.2	3.8	40.8	34.0	34.0
Actuated g/C Ratio	0.22	0.22	0.06	0.68	0.57	0.57
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	369	330	103	1242	966	885
v/s Ratio Prot	c0.12		c0.03	0.06	c0.15	
v/s Ratio Perm		0.00				0.04
v/c Ratio	0.53	0.02	0.40	0.09	0.26	0.08
Uniform Delay, d1	20.7	18.3	27.0	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	2.5	0.1	0.7	0.2
Delay (s)	22.1	18.3	29.5	3.4	7.3	6.1
Level of Service	C	B	C	A	A	A
Approach Delay (s)	21.7			10.3	6.9	
Approach LOS	C			B	A	

Intersection Summary			
HCM Average Control Delay	12.0	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)	213	234	235	30	981	49	717
v/c Ratio	0.49	0.57	0.49	0.11	0.67	0.27	0.49
Control Delay	18.4	21.5	13.0	9.6	12.8	14.0	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	21.5	13.0	9.6	12.8	14.0	10.4
Queue Length 50th (ft)	48	58	32	4	102	8	66
Queue Length 95th (ft)	110	129	92	20	201	34	132
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	678	649	712	386	1995	243	1997
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	0.31	0.36	0.33	0.08	0.49	0.20	0.36

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	59	116	21	122	93	216	28	822	81	45	610	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.99			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1537			1683	1308	1616	3030		1561	3037	
Flt Permitted		0.85			0.73	1.00	0.35	1.00		0.22	1.00	
Satd. Flow (perm)		1319			1270	1308	589	3030		369	3037	
Peak-hour factor, PHF	0.92	0.92	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	133	101	235	30	893	88	49	663	54
RTOR Reduction (vph)	0	7	0	0	0	62	0	11	0	0	9	0
Lane Group Flow (vph)	0	206	0	0	234	173	30	970	0	49	708	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)		16.1			16.1	16.1	24.2	24.2		24.2	24.2	
Effective Green, g (s)		16.1			16.1	16.1	24.2	24.2		24.2	24.2	
Actuated g/C Ratio		0.33			0.33	0.33	0.49	0.49		0.49	0.49	
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)		429			413	425	288	1481		180	1485	
v/s Ratio Prot								c0.32			0.23	
v/s Ratio Perm		0.16			c0.18	0.13	0.05			0.13		
v/c Ratio		0.48			0.57	0.41	0.10	0.65		0.27	0.48	
Uniform Delay, d1		13.3			13.8	13.0	6.8	9.5		7.5	8.4	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.2			2.2	0.9	0.2	1.2		1.1	0.3	
Delay (s)		14.5			16.0	13.9	7.0	10.7		8.6	8.8	
Level of Service		B			B	B	A	B		A	A	
Approach Delay (s)		14.5			14.9			10.6			8.7	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	9.2
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	28	288	553	178	243	28
v/c Ratio	0.27	0.22	0.49	0.13	0.82	0.10
Control Delay	55.2	5.6	10.2	0.2	64.4	16.1
Queue Delay	0.0	0.0	0.6	0.0	0.0	0.0
Total Delay	55.2	5.6	10.7	0.2	64.4	16.1
Queue Length 50th (ft)	19	60	102	0	163	2
Queue Length 95th (ft)	49	96	257	m0	#266	26
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	118	1338	1139	1409	341	313
Starvation Cap Reductn	0	0	251	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	0.24	0.22	0.62	0.13	0.71	0.09

Intersection Summary

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

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	26	265	509	164	224	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	288	553	178	243	28
RTOR Reduction (vph)	0	0	0	28	0	19
Lane Group Flow (vph)	28	288	553	150	243	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)	4.7	80.5	71.8	92.7	20.9	20.9
Effective Green, g (s)	4.7	80.5	71.8	92.7	20.9	20.9
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	1337	1113	1326	297	256
v/s Ratio Prot	c0.02	0.16	c0.32	0.02	c0.16	
v/s Ratio Perm				0.07		0.01
v/c Ratio	0.41	0.22	0.50	0.11	0.82	0.03
Uniform Delay, d1	51.3	4.7	9.8	1.5	42.7	36.3
Progression Factor	1.00	1.00	0.80	0.20	1.00	1.00
Incremental Delay, d2	3.9	0.4	1.4	0.0	15.9	0.1
Delay (s)	55.2	5.1	9.3	0.3	58.6	36.4
Level of Service	E	A	A	A	E	D
Approach Delay (s)		9.5	7.1		56.3	
Approach LOS		A	A		E	

Intersection Summary			
HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	46.8%	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)	353	261	247	355	383	262	3
v/c Ratio	0.55	0.37	0.78	0.34	0.76	0.47	0.04
Control Delay	22.0	1.6	59.8	13.5	44.9	14.2	51.0
Queue Delay	1.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	23.0	1.6	59.8	13.5	45.0	14.2	51.0
Queue Length 50th (ft)	105	0	161	114	241	53	2
Queue Length 95th (ft)	290	m0	#326	227	338	118	12
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	646	703	319	1033	574	557	85
Starvation Cap Reductn	116	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	8	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.37	0.77	0.34	0.68	0.47	0.04

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	324	240	227	326	1	350	3	241	2	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (prot)		1759	1464	1562	1704			1683	1727		1754	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.97	
Satd. Flow (perm)		1758	1464	1562	1704			1683	1727		1754	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	352	261	247	354	1	380	3	262	2	1	0
RTOR Reduction (vph)	0	0	172	0	0	0	0	0	118	0	0	0
Lane Group Flow (vph)	0	353	89	247	355	0	0	383	144	0	3	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		37.3	37.3	22.2	63.5			32.9	28.4		1.0	
Effective Green, g (s)		37.3	37.3	22.2	63.5			28.4	28.4		1.0	
Actuated g/C Ratio		0.34	0.34	0.20	0.58			0.26	0.26		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		596	496	315	984			435	517		16	
v/s Ratio Prot				c0.16	0.21			c0.23	0.03		c0.00	
v/s Ratio Perm		c0.20	0.06						0.05			
v/c Ratio		0.59	0.18	0.78	0.36			0.88	0.28		0.19	
Uniform Delay, d1		30.1	25.6	41.6	12.4			39.2	32.6		54.1	
Progression Factor		0.62	0.05	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		4.0	0.7	12.0	1.0			18.4	0.3		5.6	
Delay (s)		22.6	1.9	53.7	13.4			57.5	32.9		59.7	
Level of Service		C	A	D	B			E	C		E	
Approach Delay (s)		13.8			29.9			47.5			59.7	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	30.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	71.5%	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)	80	160	27	142	121	257	15	623	139	226	395
v/c Ratio	0.44	0.55	0.10	0.57	0.28	0.48	0.12	0.67	0.33	0.68	0.26
Control Delay	53.7	47.4	18.7	50.3	36.1	8.0	53.1	34.9	19.3	48.2	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.7	47.4	18.7	50.3	36.1	8.0	53.1	34.9	19.3	48.2	15.3
Queue Length 50th (ft)	43	84	1	75	59	0	8	163	32	118	55
Queue Length 95th (ft)	119	197	30	182	139	71	36	305	104	264	138
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	250	587	505	415	769	758	212	1547	669	547	2075
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	0.32	0.27	0.05	0.34	0.16	0.34	0.07	0.40	0.21	0.41	0.19

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	147	25	131	111	236	14	573	128	208	311	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1447	1620	1739	1399	1652	3240	1332	1620	3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1652	1739	1447	1620	1739	1399	1652	3240	1332	1620	3008	
Peak-hour factor, PHF	0.92	0.92	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	257	15	623	139	226	338	57
RTOR Reduction (vph)	0	0	20	0	0	195	0	0	45	0	9	0
Lane Group Flow (vph)	80	160	7	142	121	62	15	623	94	226	386	0
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)									0		0	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases			8			4			2			
Actuated Green, G (s)	9.0	16.9	16.9	15.4	23.3	23.3	2.8	29.3	29.3	20.1	46.6	
Effective Green, g (s)	8.0	16.4	16.4	14.4	22.8	22.8	1.8	28.8	28.8	19.1	46.1	
Actuated g/C Ratio	0.08	0.17	0.17	0.15	0.24	0.24	0.02	0.30	0.30	0.20	0.49	
Clearance Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	140	301	251	246	419	337	31	985	405	327	1464	
v/s Ratio Prot	0.05	c0.09		c0.09	0.07		0.01	c0.19		c0.14	0.13	
v/s Ratio Perm			0.00			0.04			0.07			
v/c Ratio	0.57	0.53	0.03	0.58	0.29	0.18	0.48	0.63	0.23	0.69	0.26	
Uniform Delay, d1	41.7	35.7	32.5	37.3	29.3	28.6	46.0	28.4	24.7	35.1	14.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.6	2.3	0.1	3.9	0.5	0.4	15.3	1.5	0.4	6.7	0.1	
Delay (s)	48.3	37.9	32.6	41.2	29.9	28.9	61.3	29.9	25.1	41.7	14.4	
Level of Service	D	D	C	D	C	C	E	C	C	D	B	
Approach Delay (s)		40.5			32.5			29.6			24.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	94.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.2%	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	568	88	941	1031	68	388	820	220	366	27
v/c Ratio	0.35	0.61	0.24	1.10	0.73	0.44	0.44	0.53	0.61	0.37	0.06
Control Delay	55.8	39.0	8.8	90.7	21.2	52.2	32.4	15.4	50.5	29.7	10.4
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	55.8	39.0	8.8	90.7	21.2	52.2	32.4	15.4	50.5	29.7	10.4
Queue Length 50th (ft)	21	120	0	~356	237	41	108	174	70	100	0
Queue Length 95th (ft)	52	155	39	#500	327	85	153	244	108	143	20
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	94	1047	401	859	1412	168	889	1539	358	989	469
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.54	0.22	1.10	0.73	0.40	0.44	0.53	0.61	0.37	0.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	523	81	866	718	231	63	357	754	202	337	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	568	88	941	780	251	68	388	820	220	366	27
RTOR Reduction (vph)	0	0	70	0	29	0	0	0	0	0	0	19
Lane Group Flow (vph)	33	568	18	941	1002	0	68	388	820	220	366	8
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	3.6	18.6	18.6	28.0	43.0		7.8	22.6	54.6	11.8	26.6	26.6
Effective Green, g (s)	3.6	20.1	20.1	28.0	44.5		7.8	24.1	54.6	11.8	28.1	28.1
Actuated g/C Ratio	0.04	0.20	0.20	0.28	0.44		0.08	0.24	0.55	0.12	0.28	0.28
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	56	936	297	911	1384		131	809	1477	384	910	414
v/s Ratio Prot	0.02	c0.12		c0.29	c0.32		0.04	0.12	c0.30	c0.07	0.11	
v/s Ratio Perm			0.01									0.01
v/c Ratio	0.59	0.61	0.06	1.03	0.72		0.52	0.48	0.56	0.57	0.40	0.02
Uniform Delay, d1	47.5	36.4	32.3	36.0	22.7		44.3	32.6	14.8	41.7	29.1	26.0
Progression Factor	1.00	1.00	1.00	0.86	0.80		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.4	1.3	0.1	36.4	1.8		4.6	2.0	0.6	2.5	1.3	0.1
Delay (s)	64.8	37.7	32.4	67.2	20.0		48.9	34.6	15.3	44.2	30.5	26.1
Level of Service	E	D	C	E	B		D	C	B	D	C	C
Approach Delay (s)		38.3			42.5			23.0			35.2	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	35.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
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	SBT
Lane Group Flow (vph)	166	865	385	213	875	149	151	85	300
v/c Ratio	0.73	0.48	0.47	0.64	0.43	0.50	0.50	0.23	0.90
Control Delay	47.9	14.4	2.1	48.2	21.7	39.7	39.4	7.3	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	14.4	2.1	48.2	21.7	39.7	39.4	7.3	54.3
Queue Length 50th (ft)	99	73	0	121	127	93	94	0	51
Queue Length 95th (ft)	#197	177	24	#283	230	121	122	31	#131
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	227	1790	826	332	2046	563	576	609	333
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.48	0.47	0.64	0.43	0.26	0.26	0.14	0.90

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	153	796	354	196	770	35	221	55	78	25	116	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (prot)	1620	4655	1531	1678	4619		1539	1572	1514		3056	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		1.00	
Satd. Flow (perm)	1620	4655	1531	1678	4619		1539	1572	1514		3056	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	166	865	385	213	837	38	240	60	85	27	126	147
RTOR Reduction (vph)	0	0	237	0	4	0	0	0	69	0	138	0
Lane Group Flow (vph)	166	865	148	213	871	0	149	151	16	0	162	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	13.1	37.4	37.4	18.8	43.1		18.8	18.8	18.8		5.8	
Effective Green, g (s)	14.1	38.4	38.4	19.8	44.1		19.4	19.4	19.4		6.4	
Actuated g/C Ratio	0.14	0.38	0.38	0.20	0.44		0.19	0.19	0.19		0.06	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	228	1788	588	332	2037		299	305	294		196	
v/s Ratio Prot	c0.10	c0.19		c0.13	0.19		c0.10	0.10			c0.05	
v/s Ratio Perm			0.10						0.01			
v/c Ratio	0.73	0.48	0.25	0.64	0.43		0.50	0.50	0.06		0.83	
Uniform Delay, d1	41.1	23.3	21.0	36.8	19.3		36.0	35.9	32.8		46.3	
Progression Factor	0.68	0.54	0.10	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	11.4	0.9	1.0	4.7	0.7		1.8	1.7	0.1		25.1	
Delay (s)	39.4	13.5	3.1	41.5	19.9		37.7	37.7	32.9		71.3	
Level of Service	D	B	A	D	B		D	D	C		E	
Approach Delay (s)		13.7			24.1			36.6			71.3	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.0%	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)	122	946	263	762	148	162	175	49	348
v/c Ratio	0.51	0.55	0.60	0.48	1.12	0.26	0.38	0.36	0.57
Control Delay	45.7	22.1	37.4	8.6	158.2	32.5	6.8	52.0	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	22.1	37.4	8.6	158.2	32.5	6.8	52.0	24.3
Queue Length 50th (ft)	69	137	115	37	~53	47	0	14	62
Queue Length 95th (ft)	126	188	m#211	m149	#115	61	45	34	84
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	239	1714	438	1576	132	1044	654	135	1069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.55	0.60	0.48	1.12	0.16	0.27	0.36	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	112	607	263	242	685	16	136	149	161	45	193	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4504		1652	3278		3143	3240	1659	3204	3024	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4504		1652	3278		3143	3240	1659	3204	3024	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	660	286	263	745	17	148	162	175	49	210	138
RTOR Reduction (vph)	0	82	0	0	1	0	0	0	141	0	114	0
Lane Group Flow (vph)	122	864	0	263	761	0	148	162	34	49	234	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.1	32.2		25.3	43.4		5.0	19.0	19.0	3.0	17.0	
Effective Green, g (s)	14.0	33.2		25.2	44.4		4.0	18.6	18.6	2.0	16.6	
Actuated g/C Ratio	0.15	0.35		0.27	0.47		0.04	0.20	0.20	0.02	0.17	
Clearance Time (s)	3.9	5.0		3.9	5.0		3.0	3.6	3.6	3.0	3.6	
Vehicle Extension (s)	3.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	239	1574		438	1532		132	634	325	67	528	
v/s Ratio Prot	0.08	c0.19		c0.16	0.23		c0.05	0.05		0.02	c0.08	
v/s Ratio Perm									0.02			
v/c Ratio	0.51	0.55		0.60	0.50		1.12	0.26	0.11	0.73	0.44	
Uniform Delay, d1	37.3	24.9		30.5	17.5		45.5	32.3	31.4	46.2	35.1	
Progression Factor	1.00	1.00		1.03	0.44		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	1.4		0.7	0.3		114.6	0.3	0.2	35.2	0.8	
Delay (s)	39.2	26.3		32.1	8.1		160.1	32.6	31.6	81.5	35.9	
Level of Service	D	C		C	A		F	C	C	F	D	
Approach Delay (s)		27.7			14.3			71.1			41.5	
Approach LOS		C			B			E			D	

Intersection Summary			
HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	28	247	21	887	91	503	858
v/c Ratio	0.40	0.25	0.56	0.06	0.57	0.12	0.85	0.31
Control Delay	50.1	51.9	11.0	4.6	17.5	1.6	48.3	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	51.9	11.0	4.6	17.5	1.6	48.3	3.2
Queue Length 50th (ft)	24	19	0	2	92	1	276	44
Queue Length 95th (ft)	59	47	41	m5	336	m8	368	85
Internal Link Dist (ft)	387	350			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	225	240	663	364	1568	788	657	2741
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.12	0.37	0.06	0.57	0.12	0.77	0.31

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	0	8	24	2	227	19	816	84	463	712	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	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			0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1700			1780	2787	1677	3355	1583	1770	3411	
Flt Permitted		0.75			0.79	1.00	0.33	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1328			1469	2787	582	3355	1583	1770	3411	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	0	9	26	2	247	21	887	91	503	774	84
RTOR Reduction (vph)	0	8	0	0	0	228	0	0	48	0	5	0
Lane Group Flow (vph)	0	36	0	0	28	19	21	887	43	503	853	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	pm+pt		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2			
Actuated Green, G (s)		8.5			8.5	8.5	53.8	51.4	51.4	36.6	85.6	
Effective Green, g (s)		8.5			8.5	8.5	53.8	51.4	51.4	36.6	85.6	
Actuated g/C Ratio		0.08			0.08	0.08	0.49	0.47	0.47	0.33	0.78	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		103			114	215	309	1568	740	589	2654	
v/s Ratio Prot							0.00	c0.26		c0.28	0.25	
v/s Ratio Perm		c0.03			0.02	0.01	0.03		0.03			
v/c Ratio		0.35			0.25	0.09	0.07	0.57	0.06	0.85	0.32	
Uniform Delay, d1		48.1			47.7	47.2	14.9	21.2	16.0	34.2	3.6	
Progression Factor		1.00			1.00	1.00	0.45	0.70	0.27	1.03	0.82	
Incremental Delay, d2		2.0			1.1	0.2	0.1	1.3	0.1	10.7	0.3	
Delay (s)		50.1			48.9	47.3	6.7	16.1	4.5	46.0	3.3	
Level of Service		D			D	D	A	B	A	D	A	
Approach Delay (s)		50.1			47.5			14.8			19.0	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	219	26	68	92	286	32	492	197	316
v/c Ratio	0.57	0.07	0.26	0.19	0.50	0.16	0.57	0.54	0.21
Control Delay	26.3	8.6	21.3	18.8	6.2	31.7	21.6	28.6	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	8.6	21.3	18.8	6.2	31.7	21.6	28.6	10.3
Queue Length 50th (ft)	61	0	17	23	0	10	68	58	22
Queue Length 95th (ft)	160	17	58	69	53	43	159	156	77
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	808	759	551	1032	894	254	1755	631	2395
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	0.03	0.12	0.09	0.32	0.13	0.28	0.31	0.13

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	94	24	63	85	263	29	374	78	181	261	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	0.98	
Flt Protected		0.97	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1686	1260	1620	1739	1317	1711	2986		1620	3029	
Flt Permitted		0.79	1.00	0.55	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1366	1260	930	1739	1317	1711	2986		1620	3029	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	102	26	68	92	286	32	407	85	197	284	32
RTOR Reduction (vph)	0	0	19	0	0	208	0	19	0	0	9	0
Lane Group Flow (vph)	0	219	7	68	92	78	32	473	0	197	307	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	2.4	18.6		13.2	29.4	
Effective Green, g (s)		16.3	16.3	16.3	16.3	16.3	2.4	18.6		13.2	29.4	
Actuated g/C Ratio		0.27	0.27	0.27	0.27	0.27	0.04	0.31		0.22	0.49	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0	3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)		374	345	254	476	360	69	932		359	1494	
v/s Ratio Prot					0.05		0.02	c0.16		c0.12	0.10	
v/s Ratio Perm		c0.16	0.01	0.07		0.06						
v/c Ratio		0.59	0.02	0.27	0.19	0.22	0.46	0.51		0.55	0.21	
Uniform Delay, d1		18.7	15.8	17.0	16.6	16.7	28.0	16.8		20.6	8.5	
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	0.0	0.6	0.2	0.3	4.9	0.6		1.7	0.1	
Delay (s)		21.1	15.8	17.5	16.8	17.0	32.8	17.4		22.3	8.6	
Level of Service		C	B	B	B	B	C	B		C	A	
Approach Delay (s)		20.5			17.1			18.3			13.9	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	11.5
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	208	138	111	333	153	117	879	43	760
v/c Ratio	0.68	0.47	0.33	0.62	0.83	0.34	0.62	0.59	0.41	0.63
Control Delay	61.5	39.4	7.8	70.6	54.2	7.3	62.9	22.4	69.9	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	39.4	7.8	70.6	54.2	7.3	62.9	22.4	69.9	28.5
Queue Length 50th (ft)	98	123	0	60	222	30	83	207	27	171
Queue Length 95th (ft)	166	195	48	141	#344	44	147	245	72	235
Internal Link Dist (ft)		2946			561			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	244	480	442	203	435	481	210	1485	105	1208
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.43	0.31	0.55	0.77	0.32	0.56	0.59	0.41	0.63

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	191	127	102	306	141	108	658	151	40	615	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1845	1306	1593	1863	1559	1652	3134		1593	3163	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3134		1593	3163	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	208	138	111	333	153	117	715	164	43	668	92
RTOR Reduction (vph)	0	0	105	0	0	120	0	16	0	0	9	0
Lane Group Flow (vph)	146	208	33	111	333	33	117	863	0	43	751	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	14.9	26.2	26.2	12.4	23.7	23.7	12.6	49.9		4.3	41.6	
Effective Green, g (s)	14.9	26.2	26.2	12.4	23.7	23.7	12.6	49.9		4.3	41.6	
Actuated g/C Ratio	0.14	0.24	0.24	0.11	0.22	0.22	0.11	0.45		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)	214	439	311	180	401	336	189	1422		62	1196	
v/s Ratio Prot	c0.09	0.11		0.07	c0.18		c0.07	c0.28		0.03	0.24	
v/s Ratio Perm			0.03			0.02						
v/c Ratio	0.68	0.47	0.11	0.62	0.83	0.10	0.62	0.61		0.69	0.63	
Uniform Delay, d1	45.3	36.0	32.7	46.5	41.2	34.6	46.4	22.7		52.2	27.9	
Progression Factor	1.00	1.00	1.00	1.21	0.88	0.94	1.06	0.90		1.17	0.90	
Incremental Delay, d2	9.4	1.1	0.2	6.9	13.9	0.2	6.5	1.8		29.6	2.4	
Delay (s)	54.7	37.1	32.9	63.0	50.2	32.7	55.5	22.2		90.5	27.4	
Level of Service	D	D	C	E	D	C	E	C		F	C	
Approach Delay (s)		41.1			48.1			26.1			30.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	36	345	86	878	13	14	17	15	22
v/c Ratio	0.29	0.28	0.44	0.57	0.13	0.12	0.17	0.13	0.21
Control Delay	55.7	7.6	52.0	12.0	50.7	25.5	51.7	25.4	52.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	7.6	52.0	12.0	50.7	25.5	51.7	25.4	52.8
Queue Length 50th (ft)	25	50	57	244	9	1	12	1	15
Queue Length 95th (ft)	57	160	106	630	28	21	34	22	40
Internal Link Dist (ft)		485		1458		986		702	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	126	1250	194	1537	251	273	259	274	264
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	0.28	0.44	0.57	0.05	0.05	0.07	0.05	0.08

Intersection Summary

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	286	31	79	708	99	12	1	12	16	1	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	8	9	14	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1831		1593	1950		1711	1603		1770	1602	
Flt Permitted	0.95	1.00		0.95	1.00		0.85	1.00		0.85	1.00	
Satd. Flow (perm)	1770	1831		1593	1950		1532	1603		1585	1602	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	311	34	86	770	108	13	1	13	17	1	14
RTOR Reduction (vph)	0	3	0	0	0	0	0	12	0	0	13	0
Lane Group Flow (vph)	36	342	0	86	878	0	13	2	0	17	2	0
Confl. Peds. (#/hr)			2									
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.3	70.5		13.4	78.6		4.7	4.7		4.7	4.7	
Effective Green, g (s)	5.3	70.5		13.4	78.6		4.7	4.7		4.7	4.7	
Actuated g/C Ratio	0.05	0.64		0.12	0.71		0.04	0.04		0.04	0.04	
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	1174		194	1393		65	68		68	68	
v/s Ratio Prot	0.02	0.19		c0.05	c0.45			0.00			0.00	
v/s Ratio Perm							0.01			c0.01		
v/c Ratio	0.42	0.29		0.44	0.63		0.20	0.02		0.25	0.02	
Uniform Delay, d1	50.9	8.7		44.8	8.2		50.8	50.4		50.9	50.5	
Progression Factor	1.05	0.75		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.3	0.6		1.6	2.2		1.5	0.1		1.9	0.1	
Delay (s)	56.5	7.1		46.5	10.3		52.4	50.6		52.9	50.6	
Level of Service	E	A		D	B		D	D		D	D	
Approach Delay (s)		11.8			13.6			51.4			51.8	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.8%	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)	1611
Flt Permitted	1.00
Satd. Flow (perm)	1611
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	22
Confl. Peds. (#/hr)	
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	
Actuated Green, G (s)	3.4
Effective Green, g (s)	3.4
Actuated g/C Ratio	0.03
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	50
v/s Ratio Prot	c0.01
v/s Ratio Perm	
v/c Ratio	0.44
Uniform Delay, d1	52.4
Progression Factor	1.00
Incremental Delay, d2	6.1
Delay (s)	58.4
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)	86	264	12	749	66	126	14	78	420
v/c Ratio	0.54	0.25	0.11	0.97	0.55	0.23	0.04	0.23	0.74
Control Delay	46.3	9.2	35.4	50.4	38.3	18.7	8.5	19.3	26.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	9.2	35.4	50.4	38.3	18.7	8.5	19.3	26.3
Queue Length 50th (ft)	35	40	5	~318	23	39	0	24	132
Queue Length 95th (ft)	#103	119	21	#624	64	76	11	54	224
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	160	1075	107	769	173	787	568	494	785
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	0.25	0.11	0.97	0.38	0.16	0.02	0.16	0.54

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	160	83	11	634	55	61	116	13	72	206	180
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	1912		1711	1698		1652	1863	1326	1643	1767	
Flt Permitted	0.95	1.00		0.95	1.00		0.23	1.00	1.00	0.68	1.00	
Satd. Flow (perm)	1711	1912		1711	1698		408	1863	1326	1169	1767	
Peak-hour factor, PHF	0.92	0.92	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	90	12	689	60	66	126	14	78	224	196
RTOR Reduction (vph)	0	20	0	0	4	0	0	0	10	0	47	0
Lane Group Flow (vph)	86	244	0	12	745	0	66	126	4	78	373	0
Confl. Peds. (#/hr)						14			5	5		
Confl. Bikes (#/hr)			7			5						
Bus Blockages (#/hr)	0	2	0	0	2	2	0	0	2	0	0	0
Parking (#/hr)											0	0
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8		8	4		
Actuated Green, G (s)	4.5	35.7		0.7	31.9		19.3	19.3	19.3	19.3	19.3	
Effective Green, g (s)	4.5	35.7		0.7	31.9		19.3	19.3	19.3	19.3	19.3	
Actuated g/C Ratio	0.07	0.52		0.01	0.46		0.28	0.28	0.28	0.28	0.28	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	112	994		17	788		115	523	373	328	496	
v/s Ratio Prot	c0.05	c0.13		0.01	c0.44			0.07			c0.21	
v/s Ratio Perm							0.16		0.00	0.07		
v/c Ratio	0.77	0.25		0.71	0.95		0.57	0.24	0.01	0.24	0.75	
Uniform Delay, d1	31.6	9.1		33.9	17.6		21.2	19.1	17.8	19.0	22.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	27.9	0.2		88.4	20.0		8.1	0.3	0.0	0.5	6.7	
Delay (s)	59.5	9.3		122.3	37.6		29.2	19.4	17.8	19.5	29.2	
Level of Service	E	A		F	D		C	B	B	B	C	
Approach Delay (s)		21.6			38.9			22.4			27.7	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	68.7	Sum of lost time (s)	17.5
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	174	56	4	28	520	460	13	27	566
v/c Ratio	0.65	0.10	0.04	0.12	1.01	0.27	0.02	0.18	0.67
Control Delay	45.5	8.3	40.2	17.7	70.8	12.6	9.5	39.6	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.5	8.3	40.2	17.7	70.8	12.6	9.5	39.6	18.9
Queue Length 50th (ft)	68	3	2	5	209	42	1	11	58
Queue Length 95th (ft)	#242	30	14	26	#656	147	13	45	148
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	267	870	94	712	517	1844	825	146	1233
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	0.06	0.04	0.04	1.01	0.25	0.02	0.18	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)	160	10	41	4	11	15	484	423	12	25	252	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.91		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1554		1652	1572		1652	3240	1450	1711	3127	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1554		1652	1572		1652	3240	1450	1711	3127	
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	520	460	13	27	274	292
RTOR Reduction (vph)	0	31	0	0	13	0	0	0	5	0	197	0
Lane Group Flow (vph)	174	25	0	4	15	0	520	460	8	27	369	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	11.3	24.0		0.6	13.3		22.7	37.7	37.7	2.1	17.1	
Effective Green, g (s)	11.3	24.0		0.6	13.3		22.7	37.7	37.7	2.1	17.1	
Actuated g/C Ratio	0.15	0.31		0.01	0.17		0.30	0.49	0.49	0.03	0.22	
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)	251	485		13	272		488	1588	711	47	695	
v/s Ratio Prot	c0.10	c0.02		0.00	0.01		c0.31	0.14		0.02	c0.12	
v/s Ratio Perm									0.01			
v/c Ratio	0.69	0.05		0.31	0.05		1.07	0.29	0.01	0.57	0.53	
Uniform Delay, d1	31.2	18.5		37.9	26.5		27.1	11.6	10.0	37.0	26.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.6	0.1		17.5	0.1		59.3	0.1	0.0	18.7	1.0	
Delay (s)	39.8	18.6		55.4	26.7		86.4	11.8	10.1	55.7	27.4	
Level of Service	D	B		E	C		F	B	B	E	C	
Approach Delay (s)		34.6			30.3			50.8			28.7	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	9.5
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	38	7	17	999	861
v/c Ratio	0.27	0.06	0.03	0.35	0.30
Control Delay	49.5	24.2	2.6	2.5	0.7
Queue Delay	0.0	0.0	0.0	0.7	0.0
Total Delay	49.5	24.2	2.6	3.2	0.7
Queue Length 50th (ft)	26	0	1	57	4
Queue Length 95th (ft)	54	13	8	140	24
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	345	284	506	2874	2837
Starvation Cap Reductn	0	0	0	1419	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.02	0.03	0.69	0.30

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	6	16	919	724	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3196	
Flt Permitted	0.95	1.00	0.33	1.00	1.00	
Satd. Flow (perm)	1652	1330	570	3240	3196	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	7	17	999	787	74
RTOR Reduction (vph)	0	7	0	0	3	0
Lane Group Flow (vph)	38	0	17	999	858	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	7.0	7.0	94.0	94.0	94.0	
Effective Green, g (s)	7.0	7.0	94.0	94.0	94.0	
Actuated g/C Ratio	0.06	0.06	0.85	0.85	0.85	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	105	85	487	2769	2731	
v/s Ratio Prot	c0.02			c0.31	0.27	
v/s Ratio Perm		0.00	0.03			
v/c Ratio	0.36	0.01	0.03	0.36	0.31	
Uniform Delay, d1	49.4	48.2	1.2	1.7	1.6	
Progression Factor	1.00	1.00	1.00	1.00	0.21	
Incremental Delay, d2	2.1	0.0	0.1	0.4	0.2	
Delay (s)	51.5	48.3	1.3	2.0	0.6	
Level of Service	D	D	A	A	A	
Approach Delay (s)	51.0			2.0	0.6	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	2.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1114	596	362	1234	628	766
v/c Ratio	0.88	0.44	0.60	0.60	0.37	0.84
Control Delay	31.2	2.2	32.6	12.2	0.6	36.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	2.2	32.6	12.2	0.6	36.7
Queue Length 50th (ft)	309	1	59	187	0	218
Queue Length 95th (ft)	#407	18	119	302	0	#325
Internal Link Dist (ft)	363			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1292	1384	607	2063	1686	915
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	0.86	0.43	0.60	0.60	0.37	0.84

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	1025	548	333	1135	0	0	0	578	0	0	705
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1114	596	362	1234	0	0	0	628	0	0	766
RTOR Reduction (vph)	0	0	371	0	0	0	0	0	0	0	0	93
Lane Group Flow (vph)	0	1114	225	362	1234	0	0	0	628	0	0	673
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		37.7	37.7	19.3	61.5				100.0			29.5
Effective Green, g (s)		37.7	37.7	19.3	61.5				100.0			29.5
Actuated g/C Ratio		0.38	0.38	0.19	0.62				1.00			0.29
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1265	996	607	2063				1686			822
v/s Ratio Prot		c0.33		0.12	c0.37							c0.24
v/s Ratio Perm			0.09						0.37			
v/c Ratio		0.88	0.23	0.60	0.60				0.37			0.82
Uniform Delay, d1		29.1	21.2	36.8	11.7				0.0			32.8
Progression Factor		0.78	0.72	0.76	0.93				1.00			1.00
Incremental Delay, d2		6.6	0.1	4.0	1.1				0.6			8.9
Delay (s)		29.3	15.5	32.1	12.0				0.6			41.7
Level of Service		C	B	C	B				A			D
Approach Delay (s)		24.5			16.6			0.6			41.7	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.5%	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)	602	1057	724	520	416	915
v/c Ratio	0.72	0.32	0.39	0.59	0.26	0.60
Control Delay	23.3	0.2	7.5	11.6	0.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	0.2	7.5	11.6	0.4	1.7
Queue Length 50th (ft)	121	0	141	202	0	0
Queue Length 95th (ft)	m156	m0	m16	m58	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	911	3355	1853	876	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	0.66	0.32	0.39	0.59	0.26	0.60

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	554	972	0	0	666	478	0	0	383	0	0	842
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	602	1057	0	0	724	520	0	0	416	0	0	915
RTOR Reduction (vph)	0	0	0	0	0	30	0	0	0	0	0	0
Lane Group Flow (vph)	602	1057	0	0	724	490	0	0	416	0	0	915
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	13.4	50.0			27.6	27.6			50.0			50.0
Effective Green, g (s)	13.4	50.0			27.6	27.6			50.0			50.0
Actuated g/C Ratio	0.27	1.00			0.55	0.55			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	842	3355			1852	845			1611			1528
v/s Ratio Prot	0.19	0.32			0.22							
v/s Ratio Perm						0.32			0.26			c0.60
v/c Ratio	0.71	0.32			0.39	0.58			0.26			0.60
Uniform Delay, d1	16.6	0.0			6.4	7.4			0.0			0.0
Progression Factor	1.18	1.00			1.03	1.30			1.00			1.00
Incremental Delay, d2	2.1	0.0			0.6	2.6			0.4			1.7
Delay (s)	21.7	0.0			7.2	12.2			0.4			1.7
Level of Service	C	A			A	B			A			A
Approach Delay (s)		7.9			9.3			0.4			1.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	315	317	439	443	18	470	867	9	41	612	210
v/c Ratio	1.09	0.45	0.25	1.09	0.05	1.08	0.56	0.02	0.35	0.91	0.50
Control Delay	98.0	12.8	0.3	107.7	19.5	102.8	16.8	9.9	51.3	51.7	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.0	12.8	0.3	107.7	19.5	102.8	16.8	9.9	51.3	51.7	17.2
Queue Length 50th (ft)	~156	67	0	~304	4	~324	171	1	19	198	70
Queue Length 95th (ft)	#317	106	0	#490	22	#504	252	m4	m46	#299	m97
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	289	707	1770	406	353	435	1562	579	118	675	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.45	0.25	1.09	0.05	1.08	0.56	0.02	0.35	0.91	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	292	404	2	406	17	432	798	8	38	563	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1738	1477	1652	3539	1338	1652	3303	1552
Flt Permitted	0.15	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	265	1739	1770		1736	1477	1652	3539	1338	1652	3303	1552
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	315	317	439	2	441	18	470	867	9	41	612	210
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	3	0	0	103
Lane Group Flow (vph)	315	317	439	0	443	10	470	867	6	41	612	107
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	38.1	38.1	95.0		21.7	21.7	24.0	39.1	39.1	3.8	18.4	18.4
Effective Green, g (s)	38.6	38.6	95.0		22.2	22.2	25.0	40.1	39.1	4.3	19.4	19.4
Actuated g/C Ratio	0.41	0.41	1.00		0.23	0.23	0.26	0.42	0.41	0.05	0.20	0.20
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	289	707	1770		406	345	435	1494	551	75	675	317
v/s Ratio Prot	c0.14	0.18					c0.28	0.24		0.02	c0.19	
v/s Ratio Perm	c0.30		0.25		0.26	0.01			0.00			0.07
v/c Ratio	1.09	0.45	0.25		1.09	0.03	1.08	0.58	0.01	0.55	0.91	0.34
Uniform Delay, d1	24.9	20.5	0.0		36.4	28.1	35.0	21.0	16.5	44.4	36.9	32.3
Progression Factor	0.69	0.52	1.00		1.00	1.00	1.07	0.74	0.72	1.02	0.89	0.95
Incremental Delay, d2	77.3	0.6	0.3		71.5	0.0	65.7	1.6	0.0	8.5	17.6	2.8
Delay (s)	94.5	11.2	0.3		107.9	28.1	103.1	17.1	11.9	53.7	50.5	33.4
Level of Service	F	B	A		F	C	F	B	B	D	D	C
Approach Delay (s)		31.3			104.8			47.1			46.5	
Approach LOS		C			F			D			D	

Intersection Summary			
HCM Average Control Delay	49.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	14	1	1202	82	1379
v/c Ratio	0.17	0.10	0.00	0.27	0.25	0.45
Control Delay	46.4	19.5	3.0	1.6	5.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4
Total Delay	46.4	19.5	3.0	1.6	5.0	3.6
Queue Length 50th (ft)	12	0	0	16	7	78
Queue Length 95th (ft)	31	18	m0	76	43	253
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		115	
Base Capacity (vph)	278	328	282	4373	333	3077
Starvation Cap Reductn	0	0	0	0	0	994
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.04	0.00	0.27	0.25	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)	0	0	0	16	1	13	1	1076	29	75	1265	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	4931		1618	3470	
Flt Permitted					0.74	1.00	0.18	1.00		0.22	1.00	
Satd. Flow (perm)					1222	1397	318	4931		376	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	1170	32	82	1375	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	1201	0	82	1379	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	272	4218		322	2968	
v/s Ratio Prot								0.24			c0.40	
v/s Ratio Perm					c0.01	0.00	0.00			0.22		
v/c Ratio					0.22	0.01	0.00	0.28		0.25	0.46	
Uniform Delay, d1					48.7	48.0	1.2	1.5		1.5	1.9	
Progression Factor					1.00	1.00	0.85	0.70		1.00	1.00	
Incremental Delay, d2					1.4	0.0	0.0	0.1		1.9	0.5	
Delay (s)					50.1	48.0	1.0	1.2		3.4	2.4	
Level of Service					D	D	A	A		A	A	
Approach Delay (s)		0.0			49.2			1.2			2.5	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	2.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	36	364	797	16	17
v/c Ratio	0.29	0.21	0.27	0.15	0.15
Control Delay	46.8	1.0	0.9	51.5	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	1.0	0.9	51.5	23.4
Queue Length 50th (ft)	23	20	13	11	0
Queue Length 95th (ft)	m50	38	19	34	22
Internal Link Dist (ft)		561	485	363	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	249	1698	2923	426	394
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	0.14	0.21	0.27	0.04	0.04

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	33	335	657	76	15	16
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	3484		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3484		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	364	714	83	16	17
RTOR Reduction (vph)	0	0	3	0	0	16
Lane Group Flow (vph)	36	364	794	0	16	1
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	5.3	96.7	86.9		4.3	4.3
Effective Green, g (s)	5.3	96.7	86.9		4.3	4.3
Actuated g/C Ratio	0.05	0.88	0.79		0.04	0.04
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	85	1638	2752		69	62
v/s Ratio Prot	c0.02	0.20	c0.23		c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.42	0.22	0.29		0.23	0.01
Uniform Delay, d1	50.9	1.0	3.1		51.2	50.8
Progression Factor	0.87	0.68	0.20		1.00	1.00
Incremental Delay, d2	3.0	0.3	0.2		1.7	0.1
Delay (s)	47.3	1.0	0.9		53.0	50.9
Level of Service	D	A	A		D	D
Approach Delay (s)		5.1	0.9		51.9	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	3.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	39.9%	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)	85	183	276	65	1098	46	691	350	727	892	53
v/c Ratio	1.08	0.50	0.24	0.09	1.14	0.54	0.63	0.35	1.16	0.70	0.09
Control Delay	185.3	47.8	34.3	26.5	100.6	87.2	50.5	1.8	138.6	39.7	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	185.3	47.8	34.3	26.5	100.6	87.2	50.5	1.8	138.6	39.7	8.0
Queue Length 50th (ft)	~88	64	90	37	~1180	42	206	0	~412	360	1
Queue Length 95th (ft)	#204	94	147	70	#1447	85	252	23	#539	453	31
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	79	1015	1145	692	964	117	1177	1012	625	1270	623
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.18	0.24	0.09	1.14	0.39	0.59	0.35	1.16	0.70	0.09

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

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

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

Intersection Summary

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

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

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

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

c Critical Lane Group

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

Intersection Summary

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

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

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

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

c Critical Lane Group

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

Intersection Summary

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

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

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

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

Intersection Summary

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

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

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

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

Intersection Summary

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

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

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

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	32	435	332	201	165	26
v/c Ratio	0.28	0.31	0.28	0.15	0.68	0.11
Control Delay	53.9	5.1	6.0	0.3	57.8	14.2
Queue Delay	0.0	0.0	0.2	0.0	0.0	0.0
Total Delay	53.9	5.1	6.2	0.3	57.8	14.2
Queue Length 50th (ft)	22	78	35	0	111	0
Queue Length 95th (ft)	53	149	109	0	172	24
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	148	1402	1189	1496	454	411
Starvation Cap Reductn	0	0	336	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.31	0.39	0.13	0.36	0.06

Intersection Summary

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

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

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	318	273	175	190	329	327	3
v/c Ratio	0.41	0.34	0.75	0.18	0.71	0.57	0.04
Control Delay	18.5	1.5	64.4	10.7	36.4	11.5	45.3
Queue Delay	0.5	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	1.6	64.4	10.7	36.4	11.5	45.3
Queue Length 50th (ft)	100	0	118	50	216	111	1
Queue Length 95th (ft)	228	13	#208	117	307	164	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	782	803	263	1074	566	573	84
Starvation Cap Reductn	179	105	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.39	0.67	0.18	0.58	0.57	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	293	251	161	174	1	301	2	301	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		0.90	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1759	1466	1562	1703			1682	1729		1538	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)		1759	1466	1562	1703			1682	1729		1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	318	273	175	189	1	327	2	327	1	1	1
RTOR Reduction (vph)	0	0	159	0	0	0	0	0	175	0	1	0
Lane Group Flow (vph)	0	318	114	175	190	0	0	329	152	0	2	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		45.8	45.8	16.4	66.2			30.2	25.7		1.0	
Effective Green, g (s)		45.8	45.8	16.4	66.2			25.7	25.7		1.0	
Actuated g/C Ratio		0.42	0.42	0.15	0.60			0.23	0.23		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		732	610	233	1025			393	475		14	
v/s Ratio Prot		c0.18		c0.11	0.11			c0.20	0.03		c0.00	
v/s Ratio Perm			0.08						0.05			
v/c Ratio		0.43	0.19	0.75	0.19			0.84	0.32		0.14	
Uniform Delay, d1		22.9	20.3	44.8	9.8			40.2	34.9		54.1	
Progression Factor		0.70	0.10	1.00	1.00			0.81	0.82		1.00	
Incremental Delay, d2		1.8	0.6	12.8	0.4			12.7	0.3		4.7	
Delay (s)		17.9	2.7	57.6	10.2			45.2	29.0		58.8	
Level of Service		B	A	E	B			D	C		E	
Approach Delay (s)		10.9			32.9			37.1			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	61	140	25	170	249	211	26	373	116	308	779
v/c Ratio	0.34	0.49	0.10	0.57	0.51	0.39	0.21	0.58	0.36	0.72	0.54
Control Delay	50.0	44.9	16.3	45.2	34.9	6.9	52.9	39.0	18.1	42.4	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.0	44.9	16.3	45.2	34.9	6.9	52.9	39.0	18.1	42.4	20.0
Queue Length 50th (ft)	31	69	0	84	118	0	13	96	16	150	136
Queue Length 95th (ft)	95	170	26	202	253	58	52	196	79	318	299
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	217	587	506	469	881	807	132	1172	533	762	2243
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.24	0.05	0.36	0.28	0.26	0.20	0.32	0.22	0.40	0.35

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	690	53	960	826	164	499	1130	414	242	20
v/c Ratio	0.65	0.75	0.16	1.22	0.67	1.07	0.57	0.83	0.84	0.23	0.04
Control Delay	76.8	47.0	11.2	140.4	22.5	141.1	28.0	22.6	67.9	23.9	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.8	47.0	11.2	140.4	22.5	141.1	28.0	22.6	67.9	23.9	8.9
Queue Length 50th (ft)	52	168	0	~444	252	~131	145	290	154	50	1
Queue Length 95th (ft)	#123	213	34	#570	311	#263	210	462	#226	80	m11
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	114	952	344	788	1239	153	878	1364	503	1046	490
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	0.65	0.72	0.15	1.22	0.67	1.07	0.57	0.83	0.82	0.23	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	49	883	575	185	151	459	1040	381	223	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	690	53	960	625	201	164	499	1130	414	242	20
RTOR Reduction (vph)	0	0	42	0	27	0	0	0	0	0	0	14
Lane Group Flow (vph)	74	690	11	960	799	0	164	499	1130	414	242	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)	6.4	20.4	20.4	27.4	41.4		10.0	26.5	53.9	16.7	33.2	33.2
Effective Green, g (s)	6.4	21.9	21.9	27.4	42.9		10.0	28.0	53.9	16.7	34.7	34.7
Actuated g/C Ratio	0.06	0.20	0.20	0.25	0.39		0.09	0.25	0.49	0.15	0.32	0.32
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)	91	927	294	811	1213		153	854	1326	494	1022	465
v/s Ratio Prot	0.05	c0.15		c0.29	0.26		c0.10	0.15	c0.42	c0.13	0.07	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.81	0.74	0.04	1.18	0.66		1.07	0.58	0.85	0.84	0.24	0.01
Uniform Delay, d1	51.2	41.4	35.5	41.3	27.5		50.0	35.9	24.6	45.3	27.9	25.9
Progression Factor	1.00	1.00	1.00	0.84	0.74		1.05	0.72	1.33	1.16	0.85	0.83
Incremental Delay, d2	42.1	3.5	0.1	93.0	1.2		91.1	2.8	5.4	12.0	0.5	0.1
Delay (s)	93.3	44.9	35.6	127.7	21.7		143.6	28.4	38.1	64.6	24.2	21.6
Level of Service	F	D	D	F	C		F	C	D	E	C	C
Approach Delay (s)		48.7			78.6			45.1			48.9	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	58.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	235	1560	225	293	939	207	208	123	175
v/c Ratio	0.74	0.77	0.28	1.07	0.50	0.63	0.62	0.29	0.84
Control Delay	56.1	19.9	1.0	117.4	27.3	46.7	46.3	7.0	58.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	19.9	1.0	117.4	27.3	46.7	46.3	7.0	58.8
Queue Length 50th (ft)	125	199	0	~229	180	142	143	0	33
Queue Length 95th (ft)	#281	#533	11	#400	261	189	190	40	#95
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	326	2029	794	275	1874	512	520	586	209
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.77	0.28	1.07	0.50	0.40	0.40	0.21	0.84

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)	216	1435	207	270	829	35	334	48	113	29	52	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1620	4655	1531	1678	4622		1539	1561	1514		3030	
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	1531	1678	4622		1539	1561	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)	235	1560	225	293	901	38	363	52	123	32	57	86
RTOR Reduction (vph)	0	0	127	0	4	0	0	0	97	0	82	0
Lane Group Flow (vph)	235	1560	98	293	935	0	207	208	26	0	93	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	20.4	46.9	46.9	17.0	43.5		22.9	22.9	22.9		4.0	
Effective Green, g (s)	21.4	47.9	47.9	18.0	44.5		23.5	23.5	23.5		4.6	
Actuated g/C Ratio	0.19	0.44	0.44	0.16	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)	315	2027	667	275	1870		329	333	323		127	
v/s Ratio Prot	0.15	c0.34		c0.17	0.20		c0.13	0.13			c0.03	
v/s Ratio Perm			0.06						0.02			
v/c Ratio	0.75	0.77	0.15	1.07	0.50		0.63	0.62	0.08		0.73	
Uniform Delay, d1	41.7	26.4	18.7	46.0	24.4		39.3	39.2	34.6		52.1	
Progression Factor	1.00	0.56	0.05	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	9.3	2.7	0.4	72.7	1.0		4.2	4.1	0.1		19.9	
Delay (s)	51.0	17.6	1.4	118.7	25.4		43.5	43.4	34.8		72.0	
Level of Service	D	B	A	F	C		D	D	C		E	
Approach Delay (s)		19.7			47.6			41.5			72.0	
Approach LOS		B			D			D			E	

Intersection Summary			
HCM Average Control Delay	33.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	170	1695	116	610	230	155	304	85	534
v/c Ratio	0.71	0.86	0.59	0.47	0.92	0.18	0.49	0.45	0.72
Control Delay	57.9	31.9	51.3	12.9	85.7	28.2	10.2	53.1	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	31.9	51.3	12.9	85.7	28.2	10.2	53.1	38.7
Queue Length 50th (ft)	104	353	63	100	76	41	34	27	156
Queue Length 95th (ft)	#199	#486	m#118	m181	#148	61	97	52	192
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	240	1976	196	1285	251	1056	701	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	0.71	0.86	0.59	0.47	0.92	0.15	0.43	0.44	0.54

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	1264	295	107	539	22	212	143	280	78	390	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4594		1652	3269		3143	3240	1660	3204	3128	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4594		1652	3269		3143	3240	1660	3204	3128	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	1374	321	116	586	24	230	155	304	85	424	110
RTOR Reduction (vph)	0	36	0	0	2	0	0	0	173	0	25	0
Lane Group Flow (vph)	170	1659	0	116	608	0	230	155	131	85	509	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.9	40.7		11.9	37.7		9.0	27.2	27.2	5.6	23.8	
Effective Green, g (s)	14.8	41.7		11.8	38.7		8.0	26.8	26.8	4.6	23.4	
Actuated g/C Ratio	0.15	0.42		0.12	0.39		0.08	0.27	0.27	0.05	0.23	
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)	240	1916		195	1265		251	868	445	147	732	
v/s Ratio Prot	0.10	c0.36		c0.07	0.19		c0.07	0.05		0.03	c0.16	
v/s Ratio Perm									c0.08			
v/c Ratio	0.71	0.87		0.59	0.48		0.92	0.18	0.29	0.58	0.69	
Uniform Delay, d1	40.5	26.6		41.8	23.1		45.7	28.1	29.1	46.7	35.0	
Progression Factor	1.00	1.00		0.95	0.50		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.2	5.6		4.4	1.0		35.4	0.1	0.5	6.5	3.1	
Delay (s)	49.7	32.1		44.1	12.5		81.1	28.3	29.6	53.2	38.1	
Level of Service	D	C		D	B		F	C	C	D	D	
Approach Delay (s)		33.8			17.5			46.5			40.2	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	82	111	578	2	1001	55	337	818
v/c Ratio	0.52	0.62	0.66	0.02	0.59	0.07	0.79	0.31
Control Delay	48.3	59.3	7.5	44.5	14.9	4.0	52.9	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	59.3	7.5	44.5	14.9	4.0	52.9	5.6
Queue Length 50th (ft)	45	74	0	1	91	0	252	79
Queue Length 95th (ft)	94	131	52	m3	263	m7	338	150
Internal Link Dist (ft)	387	336			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	191	222	939	92	1690	825	636	2637
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	0.43	0.50	0.62	0.02	0.59	0.07	0.53	0.31

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	55	1	19	102	0	532	2	921	51	310	711	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.96			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1694			1770	2787	1678	3355	1583	1770	3438	
Flt Permitted		0.63			0.73	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1102			1354	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)	60	1	21	111	0	578	2	1001	55	337	773	45
RTOR Reduction (vph)	0	11	0	0	0	501	0	0	27	0	3	0
Lane Group Flow (vph)	0	71	0	0	111	77	2	1001	28	337	815	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		14.6			14.6	14.6	1.2	55.4	55.4	26.5	80.7	
Effective Green, g (s)		14.6			14.6	14.6	1.2	55.4	55.4	26.5	80.7	
Actuated g/C Ratio		0.13			0.13	0.13	0.01	0.50	0.50	0.24	0.73	
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)		146			180	370	18	1690	797	426	2522	
v/s Ratio Prot							0.00	c0.30		c0.19	0.24	
v/s Ratio Perm		0.06			c0.08	0.03			0.02			
v/c Ratio		0.48			0.62	0.21	0.11	0.59	0.03	0.79	0.32	
Uniform Delay, d1		44.2			45.1	42.5	53.9	19.3	13.8	39.2	5.1	
Progression Factor		1.00			1.00	1.00	0.89	0.64	0.71	1.04	1.13	
Incremental Delay, d2		2.5			6.2	0.3	2.0	1.1	0.1	9.0	0.3	
Delay (s)		46.7			51.2	42.8	49.9	13.5	9.9	49.7	6.1	
Level of Service		D			D	D	D	B	A	D	A	
Approach Delay (s)		46.7			44.2			13.4			18.8	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

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

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	247	308	97	85	304	103	127	870	86	719
v/c Ratio	0.82	0.54	0.21	0.58	0.88	0.28	0.66	0.70	0.58	0.64
Control Delay	64.0	36.4	6.9	70.1	84.8	25.1	67.3	29.8	55.4	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	64.0	36.4	6.9	70.1	84.8	25.1	67.3	29.8	55.4	29.0
Queue Length 50th (ft)	165	182	0	64	230	0	88	252	48	150
Queue Length 95th (ft)	#282	273	39	112	#369	79	#156	307	103	215
Internal Link Dist (ft)		2946			524			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	330	571	472	159	357	382	210	1250	159	1117
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.54	0.21	0.53	0.85	0.27	0.60	0.70	0.54	0.64

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	227	283	89	78	280	95	117	669	132	79	604	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	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	1559	1652	3146		1593	3178	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3146		1593	3178	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	247	308	97	85	304	103	127	727	143	86	657	62
RTOR Reduction (vph)	0	0	67	0	0	84	0	14	0	0	6	0
Lane Group Flow (vph)	247	308	30	85	304	19	127	856	0	86	713	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	21.8	33.7	33.7	8.6	20.5	20.5	12.7	41.7		8.8	37.8	
Effective Green, g (s)	21.8	33.7	33.7	8.6	20.5	20.5	12.7	41.7		8.8	37.8	
Actuated g/C Ratio	0.20	0.31	0.31	0.08	0.19	0.19	0.12	0.38		0.08	0.34	
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)	313	565	400	125	347	291	191	1193		127	1092	
v/s Ratio Prot	c0.16	0.17		0.05	c0.16		0.08	c0.27		0.05	c0.22	
v/s Ratio Perm			0.02			0.01						
v/c Ratio	0.79	0.55	0.07	0.68	0.88	0.07	0.66	0.72		0.68	0.65	
Uniform Delay, d1	41.9	31.8	27.1	49.4	43.5	36.9	46.6	29.1		49.2	30.6	
Progression Factor	1.00	1.00	1.00	1.14	1.37	3.07	1.09	0.91		0.85	0.84	
Incremental Delay, d2	13.1	1.4	0.1	15.2	21.5	0.1	9.1	3.7		14.0	2.9	
Delay (s)	55.0	33.1	27.2	71.3	81.2	113.3	59.8	30.0		55.7	28.7	
Level of Service	E	C	C	E	F	F	E	C		E	C	
Approach Delay (s)		40.5			86.2			33.8			31.6	
Approach LOS		D			F			C			C	

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	11	534	21	367	74	69	149	48	48
v/c Ratio	0.11	0.46	0.20	0.29	0.38	0.23	0.75	0.17	0.37
Control Delay	59.7	9.8	52.7	11.7	46.6	11.7	67.0	13.0	51.5
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	10.1	52.7	11.7	46.6	11.7	67.0	13.0	51.5
Queue Length 50th (ft)	8	79	14	104	47	1	101	1	29
Queue Length 95th (ft)	25	292	40	234	91	39	169	33	66
Internal Link Dist (ft)		522		1458		986		464	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	104	1154	104	1277	239	346	242	329	268
Starvation Cap Reductn	0	192	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.56	0.20	0.29	0.31	0.20	0.62	0.15	0.18

Intersection Summary

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	478	13	19	323	15	68	1	63	137	1	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	8	9	14	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1854		1593	1974		1711	1587		1770	1589	
Flt Permitted	0.95	1.00		0.95	1.00		0.73	1.00		0.71	1.00	
Satd. Flow (perm)	1770	1854		1593	1974		1307	1587		1326	1589	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	520	14	21	351	16	74	1	68	149	1	47
RTOR Reduction (vph)	0	1	0	0	0	0	0	58	0	0	40	0
Lane Group Flow (vph)	11	533	0	21	367	0	74	11	0	149	8	0
Confl. Peds. (#/hr)			2									
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.5	64.8		3.4	66.7		16.5	16.5		16.5	16.5	
Effective Green, g (s)	1.5	64.8		3.4	66.7		16.5	16.5		16.5	16.5	
Actuated g/C Ratio	0.01	0.59		0.03	0.61		0.15	0.15		0.15	0.15	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	24	1092		49	1197		196	238		199	238	
v/s Ratio Prot	0.01	c0.29		c0.01	0.19			0.01			0.01	
v/s Ratio Perm							0.06			c0.11		
v/c Ratio	0.46	0.49		0.43	0.31		0.38	0.05		0.75	0.03	
Uniform Delay, d1	53.8	13.0		52.3	10.5		42.1	40.0		44.8	39.9	
Progression Factor	1.18	0.57		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.0	1.5		5.9	0.7		1.2	0.1		14.3	0.1	
Delay (s)	76.6	9.0		58.3	11.1		43.3	40.1		59.0	40.0	
Level of Service	E	A		E	B		D	D		E	D	
Approach Delay (s)		10.3			13.7			41.8			54.4	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

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

Intersection Summary

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

Intersection Summary

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

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

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

c Critical Lane Group

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

Intersection Summary

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

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

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

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	59	23	5	811	1033
v/c Ratio	0.42	0.17	0.01	0.29	0.37
Control Delay	56.1	19.9	2.2	2.3	0.9
Queue Delay	0.0	0.0	0.0	0.8	0.0
Total Delay	56.1	19.9	2.2	3.1	0.9
Queue Length 50th (ft)	40	0	0	48	14
Queue Length 95th (ft)	80	25	3	81	26
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	375	320	403	2787	2776
Starvation Cap Reductn	0	0	0	1560	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.07	0.01	0.66	0.37

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	54	21	5	746	925	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	12
Total Lost time (s)	4.0	4.0	5.0	5.0	5.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1652	1330	1652	3240	3226	
Flt Permitted	0.95	1.00	0.27	1.00	1.00	
Satd. Flow (perm)	1652	1330	469	3240	3226	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	23	5	811	1005	28
RTOR Reduction (vph)	0	21	0	0	1	0
Lane Group Flow (vph)	59	2	5	811	1032	0
Confl. Peds. (#/hr)	2					2
Confl. Bikes (#/hr)						4
Heavy Vehicles (%)	2%	2%	2%	4%	4%	2%
Parking (#/hr)		0				
Turn Type		Perm	Perm			
Protected Phases	5			2	6	
Permitted Phases		5	2			
Actuated Green, G (s)	8.2	8.2	92.8	92.8	92.8	
Effective Green, g (s)	8.2	8.2	92.8	92.8	92.8	
Actuated g/C Ratio	0.07	0.07	0.84	0.84	0.84	
Clearance Time (s)	4.0	4.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	123	99	396	2733	2722	
v/s Ratio Prot	c0.04			0.25	c0.32	
v/s Ratio Perm		0.00	0.01			
v/c Ratio	0.48	0.02	0.01	0.30	0.38	
Uniform Delay, d1	48.9	47.2	1.4	1.8	2.0	
Progression Factor	1.00	1.00	1.00	1.00	0.23	
Incremental Delay, d2	2.9	0.1	0.1	0.3	0.4	
Delay (s)	51.8	47.2	1.4	2.1	0.8	
Level of Service	D	D	A	A	A	
Approach Delay (s)	50.5			2.1	0.8	
Approach LOS	D			A	A	

Intersection Summary			
HCM Average Control Delay	3.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1163	1126	311	1265	680	610
v/c Ratio	0.84	0.64	0.48	0.57	0.40	0.73
Control Delay	27.7	2.4	52.4	13.4	0.7	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	2.4	52.4	13.4	0.7	33.7
Queue Length 50th (ft)	325	18	121	274	0	171
Queue Length 95th (ft)	394	25	165	321	0	244
Internal Link Dist (ft)	363			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1418	1767	644	2211	1686	833
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	0.82	0.64	0.48	0.57	0.40	0.73

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1070	1036	286	1164	0	0	0	626	0	0	561
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1163	1126	311	1265	0	0	0	680	0	0	610
RTOR Reduction (vph)	0	0	660	0	0	0	0	0	0	0	0	111
Lane Group Flow (vph)	0	1163	466	311	1265	0	0	0	680	0	0	499
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		45.5	45.5	22.5	72.5				110.0			28.5
Effective Green, g (s)		45.5	45.5	22.5	72.5				110.0			28.5
Actuated g/C Ratio		0.41	0.41	0.20	0.66				1.00			0.26
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1388	1093	643	2211				1686			722
v/s Ratio Prot		c0.35		0.10	c0.38							c0.18
v/s Ratio Perm			0.18						0.40			
v/c Ratio		0.84	0.43	0.48	0.57				0.40			0.69
Uniform Delay, d1		28.9	23.0	38.6	10.3				0.0			36.8
Progression Factor		0.81	0.94	1.27	1.19				1.00			1.00
Incremental Delay, d2		3.1	0.2	2.5	1.0				0.7			5.4
Delay (s)		26.4	21.7	51.4	13.2				0.7			42.1
Level of Service		C	C	D	B				A			D
Approach Delay (s)		24.1			20.7			0.7			42.1	
Approach LOS		C			C			A			D	

Intersection Summary			
HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	478	1374	760	497	549	810
v/c Ratio	0.71	0.41	0.36	0.51	0.34	0.53
Control Delay	30.8	0.3	3.3	5.9	0.6	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	0.3	3.3	5.9	0.6	1.3
Queue Length 50th (ft)	146	0	26	5	0	0
Queue Length 95th (ft)	m179	0	m38	m72	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	714	3355	2088	977	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	0.67	0.41	0.36	0.51	0.34	0.53

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	440	1264	0	0	699	457	0	0	505	0	0	745
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	478	1374	0	0	760	497	0	0	549	0	0	810
RTOR Reduction (vph)	0	0	0	0	0	25	0	0	0	0	0	0
Lane Group Flow (vph)	478	1374	0	0	760	472	0	0	549	0	0	810
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	11.8	55.0			34.2	34.2			55.0			55.0
Effective Green, g (s)	11.8	55.0			34.2	34.2			55.0			55.0
Actuated g/C Ratio	0.21	1.00			0.62	0.62			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	674	3355			2086	952			1611			1528
v/s Ratio Prot	0.15	0.41			0.23							
v/s Ratio Perm						0.31			0.34			c0.53
v/c Ratio	0.71	0.41			0.36	0.50			0.34			0.53
Uniform Delay, d1	20.0	0.0			5.1	5.7			0.0			0.0
Progression Factor	1.30	1.00			0.55	0.81			1.00			1.00
Incremental Delay, d2	2.6	0.1			0.4	1.6			0.6			1.3
Delay (s)	28.6	0.1			3.2	6.2			0.6			1.3
Level of Service	C	A			A	A			A			A
Approach Delay (s)		7.4			4.4			0.6			1.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	447	663	975	231	17	272	558	25	75	798	172
v/c Ratio	1.16	0.95	0.55	0.68	0.05	0.92	0.38	0.05	0.47	0.81	0.33
Control Delay	111.5	38.5	3.5	47.1	14.0	76.1	22.8	10.5	52.6	40.0	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.5	38.5	3.5	47.1	14.0	76.1	22.8	10.5	52.6	40.0	15.6
Queue Length 50th (ft)	~196	318	52	135	0	172	137	2	46	248	40
Queue Length 95th (ft)	m#469	m#583	m143	219	18	#325	184	20	92	323	95
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	386	706	1770	348	347	297	1450	546	172	991	527
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.94	0.55	0.66	0.05	0.92	0.38	0.05	0.44	0.81	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	411	610	897	8	204	16	250	513	23	69	734	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	3.6	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1735	1475	1652	3539	1337	1652	3303	1551
Flt Permitted	0.34	1.00	1.00		0.88	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	597	1739	1770		1538	1475	1652	3539	1337	1652	3303	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	447	663	975	9	222	17	272	558	25	75	798	172
RTOR Reduction (vph)	0	0	0	0	0	13	0	0	12	0	0	62
Lane Group Flow (vph)	447	663	975	0	231	4	272	558	13	75	798	110
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	39.5	39.5	100.0		21.5	21.5	17.0	39.0	39.0	7.5	29.0	29.0
Effective Green, g (s)	40.0	40.0	100.0		22.0	22.0	18.0	40.0	39.0	8.4	30.0	30.0
Actuated g/C Ratio	0.40	0.40	1.00		0.22	0.22	0.18	0.40	0.39	0.08	0.30	0.30
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	387	696	1770		338	325	297	1416	521	139	991	465
v/s Ratio Prot	c0.16	0.38					c0.16	0.16		0.05	c0.24	
v/s Ratio Perm	c0.30		0.55		0.15	0.00			0.01			0.07
v/c Ratio	1.16	0.95	0.55		0.68	0.01	0.92	0.39	0.02	0.54	0.81	0.24
Uniform Delay, d1	27.4	29.1	0.0		35.8	30.5	40.3	21.4	18.8	43.9	32.3	26.4
Progression Factor	0.64	0.54	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	90.1	19.3	0.9		6.1	0.0	31.0	0.8	0.1	4.5	7.0	1.2
Delay (s)	107.7	35.1	0.9		41.9	30.5	71.3	22.2	18.9	48.4	39.3	27.6
Level of Service	F	D	A		D	C	E	C	B	D	D	C
Approach Delay (s)		34.7			41.1			37.7			38.0	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

23: Wells Fargo Drwy & Merced St

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	91	1674	141	1243
v/c Ratio	0.41	0.52	0.40	0.76	0.42
Control Delay	55.7	33.5	0.9	30.5	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.4
Total Delay	55.7	33.5	0.9	30.5	2.5
Queue Length 50th (ft)	33	28	22	58	28
Queue Length 95th (ft)	67	75	32	m60	m32
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	260	331	4217	186	2965
Starvation Cap Reductn	0	0	0	0	1076
Spillback Cap Reductn	0	3	42	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.28	0.40	0.76	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)	0	0	0	44	0	84	0	1506	34	130	1143	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		1.00		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1562	1395		4935		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.13	1.00	
Satd. Flow (perm)					1245	1395		4935		218	3471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	48	0	91	0	1637	37	141	1242	1
RTOR Reduction (vph)	0	0	0	0	0	46	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	45	0	1673	0	141	1243	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					9.2	9.2		92.2		92.2	92.2	
Effective Green, g (s)					9.2	9.2		92.2		92.2	92.2	
Actuated g/C Ratio					0.08	0.08		0.84		0.84	0.84	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					104	117		4136		183	2909	
v/s Ratio Prot								0.34			0.36	
v/s Ratio Perm					c0.04	0.03				c0.65		
v/c Ratio					0.46	0.39		0.40		0.77	0.43	
Uniform Delay, d1					48.0	47.7		2.2		4.1	2.2	
Progression Factor					1.00	1.00		0.25		2.05	0.69	
Incremental Delay, d2					3.2	2.1		0.2		12.6	0.2	
Delay (s)					51.3	49.8		0.8		21.0	1.8	
Level of Service					D	D		A		C	A	
Approach Delay (s)		0.0			50.3			0.8			3.7	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	11	410	471	134	54
v/c Ratio	0.11	0.28	0.17	0.61	0.22
Control Delay	67.4	3.2	2.7	56.7	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	67.4	3.2	2.7	56.7	13.2
Queue Length 50th (ft)	8	51	17	91	0
Queue Length 95th (ft)	m14	68	24	148	35
Internal Link Dist (ft)		524	522	183	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	386	1479	2708	579	554
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	0.03	0.28	0.17	0.23	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)	10	377	408	26	123	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3508		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3508		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	410	443	28	134	54
RTOR Reduction (vph)	0	0	2	0	0	47
Lane Group Flow (vph)	11	410	469	0	134	7
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	1.5	87.3	81.3		13.7	13.7
Effective Green, g (s)	1.5	87.3	81.3		13.7	13.7
Actuated g/C Ratio	0.01	0.79	0.74		0.12	0.12
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	1479	2593		220	197
v/s Ratio Prot	0.01	c0.22	0.13		c0.08	
v/s Ratio Perm						0.00
v/c Ratio	0.46	0.28	0.18		0.61	0.03
Uniform Delay, d1	53.8	3.0	4.3		45.6	42.3
Progression Factor	1.35	0.82	0.62		1.00	1.00
Incremental Delay, d2	10.9	0.4	0.1		4.7	0.1
Delay (s)	83.4	2.9	2.8		50.3	42.4
Level of Service	F	A	A		D	D
Approach Delay (s)		5.0	2.8		48.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	221	249	205	876	34	550	187	382	411	54
v/c Ratio	0.74	0.55	0.18	0.25	0.87	0.45	0.62	0.20	0.81	0.39	0.10
Control Delay	100.1	51.9	25.8	21.5	27.6	80.5	50.5	1.3	67.7	36.3	9.0
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	100.1	51.9	25.8	21.5	27.6	80.5	50.5	1.3	67.7	36.3	9.0
Queue Length 50th (ft)	62	83	62	96	481	28	158	0	162	150	0
Queue Length 95th (ft)	#160	125	121	174	#990	69	199	18	#276	201	32
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	107	1368	1349	870	1012	96	1309	1060	472	1205	596
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	0.69	0.16	0.18	0.24	0.87	0.35	0.42	0.18	0.81	0.34	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	68	162	41	229	189	806	31	506	172	351	378	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	1510
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1678	3093		3255	1689	1501	1620	4655	1449	3143	3240	1510
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	176	45	249	205	876	34	550	187	382	411	54
RTOR Reduction (vph)	0	23	0	0	0	28	0	0	73	0	0	37
Lane Group Flow (vph)	74	198	0	249	205	848	34	550	114	382	411	17
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Turn Type	Prot			Prot		pt+ov	Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6	6 7	3	8	8 1	7	4	
Permitted Phases												4
Actuated Green, G (s)	7.5	15.4		52.3	60.2	83.6	3.9	25.5	77.8	18.9	40.5	40.5
Effective Green, g (s)	7.5	15.4		52.3	60.2	83.6	3.9	25.5	77.8	18.9	40.5	40.5
Actuated g/C Ratio	0.06	0.12		0.41	0.47	0.66	0.03	0.20	0.61	0.15	0.32	0.32
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)	99	374		1336	798	985	50	932	885	466	1030	480
v/s Ratio Prot	c0.04	0.06		0.08	0.12	c0.57	0.02	c0.12	0.08	0.12	0.13	
v/s Ratio Perm												0.01
v/c Ratio	0.75	0.53		0.19	0.26	0.86	0.68	0.59	0.13	0.82	0.40	0.04
Uniform Delay, d1	59.0	52.6		24.0	20.2	17.3	61.1	46.2	10.5	52.6	33.9	30.0
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	23.2	2.2		0.0	0.2	8.1	26.2	1.0	0.1	10.3	0.3	0.0
Delay (s)	82.3	54.8		24.0	20.4	25.4	87.3	47.2	10.5	62.9	34.2	30.0
Level of Service	F	D		C	C	C	F	D	B	E	C	C
Approach Delay (s)		61.7			24.4			40.1			46.9	
Approach LOS		E			C			D			D	

Intersection Summary			
HCM Average Control Delay	37.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	127.4	Sum of lost time (s)	11.8
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	154	673	105	1472	633	54	235	563	278
v/c Ratio	0.86	0.39	0.65	0.90	0.63	0.56	0.80	0.95	0.65
Control Delay	91.8	17.1	74.5	19.6	1.7	76.7	28.1	74.7	22.1
Queue Delay	0.0	0.0	0.0	30.8	2.3	0.0	3.1	0.0	0.0
Total Delay	91.8	17.1	74.5	50.4	4.0	76.7	31.1	74.7	22.1
Queue Length 50th (ft)	117	150	87	397	0	42	7	223	58
Queue Length 95th (ft)	#244	216	m93	m#718	m9	84	#112	#330	155
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	185	1731	203	1627	1000	126	317	602	433
Starvation Cap Reductn	0	0	0	242	233	0	0	0	0
Spillback Cap Reductn	0	27	0	0	0	0	30	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.39	0.52	1.06	0.83	0.43	0.82	0.94	0.64

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	142	604	15	97	1217	719	50	8	208	518	41	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98	0.85	1.00	0.86		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3166		1620	3025	1318	1678	1437		3143	1451	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3166		1620	3025	1318	1678	1437		3143	1451	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	657	16	105	1323	782	54	9	226	563	45	233
RTOR Reduction (vph)	0	1	0	0	6	294	0	213	0	0	156	0
Lane Group Flow (vph)	154	672	0	105	1466	339	54	22	0	563	122	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	13.2	65.6		11.9	64.3	64.3	6.8	6.8		22.7	22.7	
Effective Green, g (s)	13.2	65.6		11.9	64.3	64.3	6.8	6.8		22.7	22.7	
Actuated g/C Ratio	0.11	0.55		0.10	0.54	0.54	0.06	0.06		0.19	0.19	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	178	1731		161	1621	706	95	81		595	274	
v/s Ratio Prot	c0.10	0.21		0.06	c0.48		c0.03	0.02		c0.18	0.08	
v/s Ratio Perm						0.26						
v/c Ratio	0.87	0.39		0.65	0.90	0.48	0.57	0.27		0.95	0.45	
Uniform Delay, d1	52.5	15.7		52.1	25.1	17.4	55.2	54.2		48.0	43.1	
Progression Factor	1.00	1.00		1.26	0.55	0.19	1.00	1.00		1.00	1.00	
Incremental Delay, d2	31.8	0.7		3.4	4.5	1.1	4.6	0.7		24.1	1.2	
Delay (s)	84.4	16.3		68.7	18.3	4.4	59.8	54.9		72.2	44.2	
Level of Service	F	B		E	B	A	E	D		E	D	
Approach Delay (s)		29.0			16.7			55.8			62.9	
Approach LOS		C			B			E			E	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	55	1477	676	1979	267	559	67	46
v/c Ratio	0.81	0.76	0.87	0.92	0.93	0.48	0.87	0.49
Control Delay	105.7	26.3	48.2	20.2	87.0	18.1	127.4	52.4
Queue Delay	0.0	2.5	0.0	12.6	0.0	0.0	0.0	0.0
Total Delay	105.7	28.8	48.2	32.9	87.0	18.1	127.4	52.4
Queue Length 50th (ft)	45	290	262	583	205	126	53	18
Queue Length 95th (ft)	m#86	m326	m#322	#926	#358	171	#142	#62
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	68	1956	773	2157	302	1164	78	94
Starvation Cap Reductn	0	344	0	193	0	0	0	0
Spillback Cap Reductn	0	0	0	208	0	31	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.92	0.87	1.02	0.88	0.49	0.86	0.49

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)	51	1190	169	622	1709	111	216	29	514	62	22	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Lane Util. Factor	1.00	0.91		0.97	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99			1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4483		3143	3289			1808	2810	1562	1461	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4483		3143	3289			1808	2810	1562	1461	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	1293	184	676	1858	121	235	32	559	67	24	22
RTOR Reduction (vph)	0	15	0	0	4	0	0	0	37	0	21	0
Lane Group Flow (vph)	55	1462	0	676	1975	0	0	267	522	67	25	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)	4.0	51.4		30.1	78.0			19.1	49.2	5.9	5.9	
Effective Green, g (s)	4.0	51.4		30.1	78.0			19.1	49.2	5.9	5.9	
Actuated g/C Ratio	0.03	0.43		0.25	0.65			0.16	0.41	0.05	0.05	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	54	1920		788	2138			288	1152	77	72	
v/s Ratio Prot	c0.03	0.33		0.22	c0.60			c0.15	0.11	c0.04	0.02	
v/s Ratio Perm									0.07			
v/c Ratio	1.02	0.76		0.86	0.92			0.93	0.45	0.87	0.35	
Uniform Delay, d1	58.0	29.1		42.9	18.4			49.8	25.6	56.7	55.2	
Progression Factor	0.87	0.84		0.90	0.77			1.00	1.00	1.00	1.00	
Incremental Delay, d2	113.7	2.3		5.6	5.4			33.6	0.1	59.5	1.1	
Delay (s)	164.5	26.8		44.2	19.6			83.4	25.8	116.1	56.3	
Level of Service	F	C		D	B			F	C	F	E	
Approach Delay (s)		31.7			25.8			44.4			91.8	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	1162	1046	1849	776	368	345	337
v/c Ratio	0.54	0.73	0.88	0.53	0.78	0.72	0.71
Control Delay	6.2	8.7	22.6	1.3	51.6	45.6	44.9
Queue Delay	0.5	0.0	13.0	0.0	0.0	0.1	0.1
Total Delay	6.7	8.7	35.7	1.3	51.6	45.7	45.0
Queue Length 50th (ft)	100	233	559	0	274	247	229
Queue Length 95th (ft)	130	476	691	0	#424	370	346
Internal Link Dist (ft)	509		1069			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2167	1439	2113	1478	474	480	472
Starvation Cap Reductn	514	0	0	0	0	0	0
Spillback Cap Reductn	0	0	287	0	0	2	2
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.73	1.01	0.53	0.78	0.72	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)	0	1069	962	0	1701	714	0	0	0	403	0	563
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.88	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	0.99	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1636	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	0.99	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1636	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1162	1046	0	1849	776	0	0	0	438	0	612
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	17	17
Lane Group Flow (vph)	0	1162	1046	0	1849	776	0	0	0	368	328	320
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Perm
Protected Phases		2			6					4	4	
Permitted Phases			2 4			Free				4		4
Actuated Green, G (s)		78.0	120.0		78.0	120.0				34.0	34.0	34.0
Effective Green, g (s)		79.0	120.0		79.0	120.0				35.0	34.0	35.0
Actuated g/C Ratio		0.66	1.00		0.66	1.00				0.29	0.28	0.29
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2167	1439		2113	1478				474	464	455
v/s Ratio Prot		0.35			c0.58					0.23	0.20	
v/s Ratio Perm			c0.73			0.53						0.21
v/c Ratio		0.54	0.73		0.88	0.53				0.78	0.71	0.70
Uniform Delay, d1		10.8	0.0		16.5	0.0				38.9	38.5	37.9
Progression Factor		0.49	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.8	1.6		5.4	1.3				8.3	5.2	5.2
Delay (s)		6.1	1.6		22.0	1.3				47.2	43.7	43.1
Level of Service		A	A		C	A				D	D	D
Approach Delay (s)		4.0			15.9			0.0			44.7	
Approach LOS		A			B			A			D	

Intersection Summary			
HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	3.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	604	61	61	211	260	428
v/c Ratio	0.79	0.09	0.40	0.32	0.55	0.58
Control Delay	22.3	3.6	37.1	12.9	22.1	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	3.6	37.1	12.9	22.1	5.8
Queue Length 50th (ft)	162	0	21	47	78	0
Queue Length 95th (ft)	#348	17	#71	89	143	57
Internal Link Dist (ft)	164			1970	1135	
Turn Bay Length (ft)			125			
Base Capacity (vph)	1066	976	153	1079	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	0.57	0.06	0.40	0.20	0.38	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)	556	56	56	194	239	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	11	11	10	12	10	13
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1678	1501	1620	1827	1705	1559
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1678	1501	1620	1827	1705	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	604	61	61	211	260	428
RTOR Reduction (vph)	0	34	0	0	0	313
Lane Group Flow (vph)	604	27	61	211	260	115
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)	21.6	21.6	1.9	18.9	13.0	13.0
Effective Green, g (s)	21.6	21.6	1.9	18.9	13.0	13.0
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)	747	668	63	712	457	418
v/s Ratio Prot	c0.36		c0.04	0.12	c0.15	
v/s Ratio Perm		0.02				0.07
v/c Ratio	0.81	0.04	0.97	0.30	0.57	0.27
Uniform Delay, d1	11.7	7.6	23.3	10.2	15.3	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.4	0.0	101.0	0.2	1.6	0.4
Delay (s)	18.1	7.6	124.3	10.4	17.0	14.4
Level of Service	B	A	F	B	B	B
Approach Delay (s)	17.1			36.0	15.4	
Approach LOS	B			D	B	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	48.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.8%	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)	84	117	104	26	712	66	462
v/c Ratio	0.21	0.30	0.23	0.05	0.41	0.19	0.26
Control Delay	11.6	13.7	4.7	7.8	8.1	9.5	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	13.7	4.7	7.8	8.1	9.5	7.2
Queue Length 50th (ft)	10	17	0	2	41	6	24
Queue Length 95th (ft)	42	60	25	17	132	38	81
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	997	1004	976	644	2371	482	2378
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	0.08	0.12	0.11	0.04	0.30	0.14	0.19

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	44	9	55	52	96	24	597	58	61	396	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	11	11	10	10	13	9	10	15
Total Lost time (s)		4.6			4.6	4.6	4.6	4.6		4.6	4.6	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.98			1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1534			1687	1309	1615	3031		1561	3040	
Flt Permitted		0.88			0.80	1.00	0.49	1.00		0.38	1.00	
Satd. Flow (perm)		1370			1383	1309	827	3031		618	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)	26	48	10	60	57	104	26	649	63	66	430	32
RTOR Reduction (vph)	0	8	0	0	0	80	0	9	0	0	7	0
Lane Group Flow (vph)	0	76	0	0	117	24	26	703	0	66	455	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)		9.3			9.3	9.3	21.1	21.1		21.1	21.1	
Effective Green, g (s)		9.3			9.3	9.3	21.1	21.1		21.1	21.1	
Actuated g/C Ratio		0.23			0.23	0.23	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)		322			325	307	441	1615		329	1620	
v/s Ratio Prot								c0.23			0.15	
v/s Ratio Perm		0.06			c0.08	0.02	0.03			0.11		
v/c Ratio		0.24			0.36	0.08	0.06	0.44		0.20	0.28	
Uniform Delay, d1		12.3			12.7	11.8	4.5	5.6		4.8	5.1	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5			0.9	0.2	0.1	0.3		0.4	0.1	
Delay (s)		12.8			13.6	12.0	4.5	5.9		5.2	5.2	
Level of Service		B			B	B	A	A		A	A	
Approach Delay (s)		12.8			12.8			5.8			5.2	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	39.6	Sum of lost time (s)	9.2
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	20	195	311	163	178	34
v/c Ratio	0.07	0.24	0.45	0.14	0.38	0.08
Control Delay	18.3	7.3	12.1	0.7	14.4	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	7.3	12.1	0.7	14.4	6.2
Queue Length 50th (ft)	2	18	31	0	19	0
Queue Length 95th (ft)	23	59	150	10	97	16
Internal Link Dist (ft)		2500	328		1970	
Turn Bay Length (ft)	100			100		100
Base Capacity (vph)	483	1827	1646	1582	1358	1178
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	0.19	0.10	0.13	0.03

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	18	179	286	150	164	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	1620	1562	1362
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1620	1827	1705	1620	1562	1362
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	195	311	163	178	34
RTOR Reduction (vph)	0	0	0	56	0	25
Lane Group Flow (vph)	20	195	311	107	178	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	19.8	14.9	25.8	10.9	10.9
Effective Green, g (s)	0.9	19.8	14.9	25.8	10.9	10.9
Actuated g/C Ratio	0.02	0.50	0.38	0.66	0.28	0.28
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)	37	920	646	1064	433	378
v/s Ratio Prot	0.01	c0.11	c0.18	0.03	c0.11	
v/s Ratio Perm				0.04		0.01
v/c Ratio	0.54	0.21	0.48	0.10	0.41	0.02
Uniform Delay, d1	19.0	5.4	9.3	2.5	11.6	10.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.1	0.1	0.6	0.0	0.6	0.0
Delay (s)	34.1	5.5	9.8	2.5	12.2	10.4
Level of Service	C	A	A	A	B	B
Approach Delay (s)		8.2	7.3		11.9	
Approach LOS		A	A		B	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	39.3	Sum of lost time (s)	13.2
Intersection Capacity Utilization	32.8%	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)	205	158	215	249	253	207
v/c Ratio	0.52	0.35	0.58	0.28	0.42	0.35
Control Delay	31.9	7.4	33.6	10.9	22.7	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	7.4	33.6	10.9	22.7	9.0
Queue Length 50th (ft)	76	0	79	54	80	17
Queue Length 95th (ft)	181	48	197	122	201	79
Internal Link Dist (ft)	328			4916	905	
Turn Bay Length (ft)		350	75			100
Base Capacity (vph)	984	889	797	1607	808	804
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	0.21	0.18	0.27	0.15	0.31	0.26

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	188	145	198	228	1	231	2	190	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)		1757	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	204	158	215	248	1	251	2	207	0	0	0
RTOR Reduction (vph)	0	0	122	0	0	0	0	0	104	0	0	0
Lane Group Flow (vph)	0	205	36	215	249	0	0	253	103	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)		16.5	16.5	17.2	37.7			25.0	21.0			
Effective Green, g (s)		16.5	16.5	17.2	37.7			25.0	21.0			
Actuated g/C Ratio		0.23	0.23	0.24	0.53			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)		404	336	374	895			586	505			
v/s Ratio Prot				c0.14	0.15			c0.15	0.02			
v/s Ratio Perm		c0.12	0.02						0.04			
v/c Ratio		0.51	0.11	0.57	0.28			0.43	0.20			
Uniform Delay, d1		24.1	21.8	24.1	9.5			18.0	19.1			
Progression Factor		1.00	1.00	1.00	1.00			1.00	1.00			
Incremental Delay, d2		1.0	0.1	2.1	0.2			0.5	0.2			
Delay (s)		25.1	22.0	26.2	9.7			18.5	19.3			
Level of Service		C	C	C	A			B	B			
Approach Delay (s)		23.7			17.3			18.8			0.0	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	12.6
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
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	229	386	425	24	374	130	204	458
v/c Ratio	0.63	0.80	0.14	0.72	0.67	0.57	0.24	0.64	0.42	0.72	0.44
Control Delay	58.1	50.5	22.5	57.9	39.9	6.3	64.5	49.2	21.6	61.5	29.5
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	58.1	50.5	22.5	57.9	39.9	6.3	64.5	49.2	21.6	61.5	29.5
Queue Length 50th (ft)	112	267	20	153	233	0	17	133	26	138	131
Queue Length 95th (ft)	217	460	62	287	412	81	53	212	92	#276	205
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	373	697	597	427	766	849	105	918	440	380	1362
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	0.59	0.11	0.54	0.50	0.50	0.23	0.41	0.30	0.54	0.34

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	211	355	391	22	344	120	188	315	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	10	10	10	10	10	10	11	10	10	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1652	1739	1452	1620	1739	1396	1652	3240	1332	1620	2954	
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	1396	1652	3240	1332	1620	2954	
Peak-hour factor, PHF	0.92	0.92	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	229	386	425	24	374	130	204	342	116
RTOR Reduction (vph)	0	0	18	0	0	285	0	0	71	0	24	0
Lane Group Flow (vph)	166	408	46	229	386	140	24	374	59	204	434	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)	17.4	31.9	31.9	21.5	36.0	36.0	3.9	21.7	21.7	19.9	37.7	
Effective Green, g (s)	17.3	31.8	31.8	21.4	35.9	35.9	2.9	21.2	21.2	18.9	37.2	
Actuated g/C Ratio	0.16	0.29	0.29	0.20	0.33	0.33	0.03	0.19	0.19	0.17	0.34	
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)	261	506	422	317	571	459	44	628	258	280	1005	
v/s Ratio Prot	0.10	c0.23		c0.14	0.22		0.01	c0.12		c0.13	0.15	
v/s Ratio Perm			0.03			0.10			0.04			
v/c Ratio	0.64	0.81	0.11	0.72	0.68	0.30	0.55	0.60	0.23	0.73	0.43	
Uniform Delay, d1	43.1	35.9	28.4	41.2	31.7	27.4	52.5	40.1	37.2	42.8	27.9	
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	5.6	9.6	0.2	8.4	3.5	0.5	16.2	1.8	0.6	9.7	0.4	
Delay (s)	48.7	45.5	28.5	49.6	35.1	27.9	68.7	41.9	37.8	52.5	28.3	
Level of Service	D	D	C	D	D	C	E	D	D	D	C	
Approach Delay (s)		44.6			35.4			42.1			35.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	109.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.6%	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)	55	557	57	792	1052	96	253	557	183	163	17
v/c Ratio	0.47	0.58	0.16	0.88	0.77	0.82	0.26	0.34	0.80	0.17	0.04
Control Delay	58.1	37.8	9.4	40.4	21.0	92.9	27.7	10.7	71.9	26.8	11.6
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	58.1	37.8	9.4	40.4	21.0	92.9	27.7	10.7	71.9	26.8	11.6
Queue Length 50th (ft)	34	118	0	247	242	62	64	89	60	40	0
Queue Length 95th (ft)	75	146	31	#403	325	#154	97	143	#117	66	16
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	117	1187	419	902	1368	117	990	1657	228	956	447
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	0.47	0.14	0.88	0.77	0.82	0.26	0.34	0.80	0.17	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)	51	512	52	729	724	244	88	233	512	168	150	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	3.1	4.0	4.0	3.1	4.0		4.0	4.0	3.1	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3105		1678	3355	2706	3255	3240	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3105		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	557	57	792	787	265	96	253	557	183	163	17
RTOR Reduction (vph)	0	0	45	0	32	0	0	0	0	0	0	12
Lane Group Flow (vph)	55	557	12	792	1020	0	96	253	557	183	163	5
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	5.3	19.2	19.2	27.6	41.5		7.0	27.2	58.8	7.0	27.2	27.2
Effective Green, g (s)	6.2	20.7	20.7	28.5	43.0		7.0	28.7	59.7	7.0	28.7	28.7
Actuated g/C Ratio	0.06	0.21	0.21	0.28	0.43		0.07	0.29	0.60	0.07	0.29	0.29
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)	97	964	306	928	1335		117	963	1615	228	930	423
v/s Ratio Prot	0.04	c0.12		c0.24	c0.33		c0.06	0.08	c0.21	c0.06	0.05	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.57	0.58	0.04	0.85	0.76		0.82	0.26	0.34	0.80	0.18	0.01
Uniform Delay, d1	45.6	35.7	31.7	33.8	24.2		45.9	27.5	10.2	45.8	26.8	25.5
Progression Factor	1.00	1.00	1.00	0.82	0.73		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	1.0	0.1	6.5	2.3		36.3	0.7	0.2	19.0	0.4	0.0
Delay (s)	54.5	36.7	31.8	34.3	20.1		82.2	28.2	10.4	64.9	27.2	25.6
Level of Service	D	D	C	C	C		F	C	B	E	C	C
Approach Delay (s)		37.8			26.2			23.0			46.1	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
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	SBT
Lane Group Flow (vph)	300	1349	400	192	725	224	226	120	127
v/c Ratio	0.68	0.79	0.49	0.60	0.54	0.62	0.62	0.27	0.64
Control Delay	41.1	29.7	3.6	47.8	32.2	40.5	40.2	6.1	42.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	29.7	3.6	47.8	32.2	40.5	40.2	6.1	42.1
Queue Length 50th (ft)	129	303	26	109	143	137	138	0	22
Queue Length 95th (ft)	#378	#395	53	#272	190	180	180	36	#61
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	438	1716	817	320	1339	563	572	631	197
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	0.79	0.49	0.60	0.54	0.40	0.40	0.19	0.64

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	1241	368	177	642	25	355	59	110	18	44	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	4655	1531	1678	4624		1539	1564	1515		3052	
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	4624		1539	1564	1515		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)	300	1349	400	192	698	27	386	64	120	20	48	59
RTOR Reduction (vph)	0	0	253	0	4	0	0	0	92	0	56	0
Lane Group Flow (vph)	300	1349	147	192	721	0	224	226	28	0	71	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)	26.0	35.8	35.8	18.1	27.9		22.9	22.9	22.9		4.0	
Effective Green, g (s)	27.0	36.8	36.8	19.1	28.9		23.5	23.5	23.5		4.6	
Actuated g/C Ratio	0.27	0.37	0.37	0.19	0.29		0.24	0.24	0.24		0.05	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	437	1713	563	320	1336		362	368	356		140	
v/s Ratio Prot	c0.19	c0.29		0.11	0.16		c0.15	0.14			c0.02	
v/s Ratio Perm			0.10						0.02			
v/c Ratio	0.69	0.79	0.26	0.60	0.54		0.62	0.61	0.08		0.51	
Uniform Delay, d1	32.7	28.1	22.1	37.0	30.0		34.2	34.2	29.8		46.6	
Progression Factor	0.91	0.87	0.55	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.7	3.7	1.1	3.5	1.6		3.6	3.5	0.1		3.9	
Delay (s)	34.4	28.2	13.4	40.5	31.5		37.8	37.7	29.9		50.5	
Level of Service	C	C	B	D	C		D	D	C		D	
Approach Delay (s)		26.2			33.4			36.1			50.5	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	165	1388	126	545	161	120	166	23	192
v/c Ratio	0.35	0.72	0.53	0.63	0.52	0.14	0.29	0.19	0.37
Control Delay	28.8	21.9	44.6	30.3	44.5	24.7	5.8	47.0	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	21.9	44.6	30.3	44.5	24.7	5.8	47.0	20.9
Queue Length 50th (ft)	60	183	58	126	40	24	0	5	28
Queue Length 95th (ft)	169	350	#152	214	#96	49	44	21	57
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	482	2237	274	1308	324	1484	851	124	1238
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.62	0.46	0.42	0.50	0.08	0.20	0.19	0.16

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)	152	990	287	116	487	15	148	110	153	21	107	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4566		1652	3274		3143	3240	1661	3204	3025	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4566		1652	3274		3143	3240	1661	3204	3025	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	1076	312	126	529	16	161	120	166	23	116	76
RTOR Reduction (vph)	0	46	0	0	2	0	0	0	122	0	63	0
Lane Group Flow (vph)	165	1342	0	126	543	0	161	120	44	23	129	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	23.6	32.2		11.5	20.1		9.0	22.0	22.0	1.4	14.4	
Effective Green, g (s)	23.5	33.2		11.4	21.1		8.0	21.6	21.6	0.4	14.0	
Actuated g/C Ratio	0.29	0.41		0.14	0.26		0.10	0.26	0.26	0.00	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)	466	1855		231	846		308	857	439	16	518	
v/s Ratio Prot	0.10	c0.29		0.08	c0.17		c0.05	0.04		0.01	c0.04	
v/s Ratio Perm									0.03			
v/c Ratio	0.35	0.72		0.55	0.64		0.52	0.14	0.10	1.44	0.25	
Uniform Delay, d1	23.1	20.4		32.7	26.9		35.0	23.0	22.7	40.6	29.3	
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	1.5		3.3	1.9		2.1	0.1	0.1	385.6	0.3	
Delay (s)	23.5	21.9		36.0	28.8		37.1	23.1	22.8	426.3	29.6	
Level of Service	C	C		D	C		D	C	C	F	C	
Approach Delay (s)		22.1			30.2			28.0			72.1	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM Average Control Delay	28.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	81.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	20	30	199	4	646	89	124	627
v/c Ratio	0.20	0.30	0.51	0.01	0.26	0.07	0.19	0.22
Control Delay	44.7	55.1	11.6	1.0	3.2	0.5	2.3	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	55.1	11.6	1.0	3.2	0.5	2.3	2.7
Queue Length 50th (ft)	11	20	0	0	10	0	10	29
Queue Length 95th (ft)	35	51	38	m1	57	1	23	87
Internal Link Dist (ft)	387	325			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	264	271	705	686	2489	1198	800	2832
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.11	0.28	0.01	0.26	0.07	0.15	0.22

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	15	0	4	28	0	183	4	594	82	114	533	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		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)		1701			1770	2787	1676	3355	1583	1770	3424	
Flt Permitted		0.75			0.74	1.00	0.41	1.00	1.00	0.38	1.00	
Satd. Flow (perm)		1331			1386	2787	730	3355	1583	699	3424	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	0	4	30	0	199	4	646	89	124	579	48
RTOR Reduction (vph)	0	4	0	0	0	185	0	0	23	0	3	0
Lane Group Flow (vph)	0	16	0	0	30	14	4	646	66	124	624	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	pm+pt		Perm	pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)		8.0			8.0	8.0	82.8	81.6	81.6	93.0	87.3	
Effective Green, g (s)		8.0			8.0	8.0	82.8	81.6	81.6	93.0	87.3	
Actuated g/C Ratio		0.07			0.07	0.07	0.75	0.74	0.74	0.85	0.79	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		97			101	203	560	2489	1174	658	2717	
v/s Ratio Prot							0.00	c0.19		c0.01	0.18	
v/s Ratio Perm		0.01			c0.02	0.01	0.01		0.04	0.15		
v/c Ratio		0.17			0.30	0.07	0.01	0.26	0.06	0.19	0.23	
Uniform Delay, d1		47.9			48.3	47.5	3.4	4.5	3.8	1.7	2.9	
Progression Factor		1.00			1.00	1.00	0.60	0.61	0.34	1.00	1.00	
Incremental Delay, d2		0.8			1.6	0.1	0.0	0.2	0.1	0.1	0.2	
Delay (s)		48.7			50.0	47.7	2.0	3.0	1.4	1.8	3.1	
Level of Service		D			D	D	A	A	A	A	A	
Approach Delay (s)		48.7			48.0			2.8			2.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	213	67	75	126	167	60	353	120	297
v/c Ratio	0.47	0.15	0.23	0.23	0.32	0.21	0.42	0.35	0.27
Control Delay	18.3	5.3	15.7	14.8	4.8	23.6	17.1	22.9	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	5.3	15.7	14.8	4.8	23.6	17.1	22.9	13.1
Queue Length 50th (ft)	46	0	15	25	0	14	37	28	28
Queue Length 95th (ft)	117	22	49	69	34	55	97	89	75
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	1131	997	809	1353	1056	538	2016	743	2311
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	0.07	0.09	0.09	0.16	0.11	0.18	0.16	0.13

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	119	62	69	116	154	55	265	60	110	226	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	9	10	10	11	11	10	10	10	10	10
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	3.0	4.5		3.0	4.5	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	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	0.97	
Flt Protected		0.98	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1701	1261	1620	1739	1320	1711	2981		1620	2995	
Flt Permitted		0.84	1.00	0.61	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1456	1261	1041	1739	1320	1711	2981		1620	2995	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	129	67	75	126	167	60	288	65	120	246	51
RTOR Reduction (vph)	0	0	46	0	0	115	0	21	0	0	19	0
Lane Group Flow (vph)	0	213	21	75	126	52	60	332	0	120	278	0
Confl. Peds. (#/hr)	14					14			2			5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Parking (#/hr)			0			0		0	0		0	0
Turn Type	Perm		Perm	Perm		Perm	Prot			Prot		
Protected Phases		4			4		5	2		1	6	
Permitted Phases	4		4	4		4						
Actuated Green, G (s)		14.6	14.6	14.6	14.6	14.6	4.3	13.3		7.5	16.5	
Effective Green, g (s)		14.6	14.6	14.6	14.6	14.6	4.3	13.3		7.5	16.5	
Actuated g/C Ratio		0.31	0.31	0.31	0.31	0.31	0.09	0.28		0.16	0.35	
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)		453	393	324	541	411	157	845		259	1054	
v/s Ratio Prot					0.07		0.04	c0.11		c0.07	0.09	
v/s Ratio Perm		c0.15	0.02	0.07		0.04						
v/c Ratio		0.47	0.05	0.23	0.23	0.13	0.38	0.39		0.46	0.26	
Uniform Delay, d1		13.0	11.3	12.0	12.0	11.6	20.0	13.5		17.9	10.9	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8	0.1	0.4	0.2	0.1	1.6	0.4		1.3	0.2	
Delay (s)		13.8	11.4	12.4	12.2	11.7	21.6	14.0		19.2	11.0	
Level of Service		B	B	B	B	B	C	B		B	B	
Approach Delay (s)		13.2			12.0			15.1			13.4	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	46.9	Sum of lost time (s)	11.5
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	120	151	64	60	155	129	92	590	55	602
v/c Ratio	0.58	0.42	0.21	0.40	0.60	0.39	0.49	0.37	0.38	0.39
Control Delay	55.2	42.3	10.4	48.3	50.0	8.8	54.3	19.8	59.9	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	42.3	10.4	48.3	50.0	8.8	54.3	19.8	59.9	19.7
Queue Length 50th (ft)	81	97	0	41	104	4	62	129	38	124
Queue Length 95th (ft)	135	149	35	53	165	64	110	222	85	243
Internal Link Dist (ft)		2946			525			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	263	493	396	180	396	433	230	1594	169	1533
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	0.46	0.31	0.16	0.33	0.39	0.30	0.40	0.37	0.33	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	139	59	55	143	119	85	455	87	51	477	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1845	1306	1593	1863	1559	1652	3149		1593	3155	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3149		1593	3155	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	151	64	60	155	129	92	495	95	55	518	84
RTOR Reduction (vph)	0	0	51	0	0	110	0	12	0	0	10	0
Lane Group Flow (vph)	120	151	13	60	155	19	92	578	0	55	592	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	14.5	21.5	21.5	9.1	16.1	16.1	10.8	53.4		8.8	51.4	
Effective Green, g (s)	14.5	21.5	21.5	9.1	16.1	16.1	10.8	53.4		8.8	51.4	
Actuated g/C Ratio	0.13	0.20	0.20	0.08	0.15	0.15	0.10	0.49		0.08	0.47	
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)	208	361	255	132	273	228	162	1529		127	1474	
v/s Ratio Prot	c0.08	0.08		0.04	c0.08		c0.06	0.18		0.03	c0.19	
v/s Ratio Perm			0.01			0.01						
v/c Ratio	0.58	0.42	0.05	0.45	0.57	0.08	0.57	0.38		0.43	0.40	
Uniform Delay, d1	44.9	38.8	35.9	48.1	43.7	40.6	47.4	17.8		48.2	19.2	
Progression Factor	1.00	1.00	1.00	0.89	0.92	0.74	1.00	1.00		1.14	0.90	
Incremental Delay, d2	4.6	1.1	0.1	3.4	3.3	0.2	5.5	0.7		3.2	0.8	
Delay (s)	49.5	39.8	36.1	45.9	43.5	30.4	52.8	18.5		58.2	18.1	
Level of Service	D	D	D	D	D	C	D	B		E	B	
Approach Delay (s)		42.6			39.0			23.2			21.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	1	233	30	310	10	11	5	7	11
v/c Ratio	0.01	0.15	0.27	0.17	0.09	0.01	0.04	0.01	0.11
Control Delay	45.0	3.6	53.8	3.2	50.1	0.0	49.0	0.0	51.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	3.6	53.8	3.2	50.1	0.0	49.0	0.0	51.2
Queue Length 50th (ft)	1	3	20	0	7	0	3	0	8
Queue Length 95th (ft)	m5	72	51	129	25	0	16	0	26
Internal Link Dist (ft)		522		1458		986		413	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	97	1545	167	1778	319	884	330	821	271
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	0.01	0.15	0.18	0.17	0.03	0.01	0.02	0.01	0.04

Intersection Summary

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)	1	202	12	28	277	8	9	0	10	5	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	8	9	14	12	11	12	11	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		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	1844		1593	1978		1711	1583		1770	1583	
Flt Permitted	0.95	1.00		0.95	1.00		1.00	1.00		1.00	1.00	
Satd. Flow (perm)	1770	1844		1593	1978		1801	1583		1863	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	220	13	30	301	9	10	0	11	5	0	7
RTOR Reduction (vph)	0	1	0	0	0	0	0	11	0	0	7	0
Lane Group Flow (vph)	1	232	0	30	310	0	10	0	0	5	0	0
Confl. Peds. (#/hr)			2									
Parking (#/hr)									0			
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	1.2	82.2		5.2	86.2		3.0	3.0		3.0	3.0	
Effective Green, g (s)	1.2	82.2		5.2	86.2		3.0	3.0		3.0	3.0	
Actuated g/C Ratio	0.01	0.75		0.05	0.78		0.03	0.03		0.03	0.03	
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)	19	1378		75	1550		49	43		51	43	
v/s Ratio Prot	0.00	0.13		c0.02	c0.16			0.00			0.00	
v/s Ratio Perm							c0.01			0.00		
v/c Ratio	0.05	0.17		0.40	0.20		0.20	0.01		0.10	0.00	
Uniform Delay, d1	53.8	4.0		50.9	3.1		52.3	52.1		52.2	52.0	
Progression Factor	0.91	0.76		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.3		3.5	0.3		2.1	0.1		0.8	0.0	
Delay (s)	50.2	3.3		54.4	3.3		54.4	52.1		53.0	52.1	
Level of Service	D	A		D	A		D	D		D	D	
Approach Delay (s)		3.5			7.8			53.2			52.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.7%	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)	1611
Flt Permitted	1.00
Satd. Flow (perm)	1611
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	11
RTOR Reduction (vph)	0
Lane Group Flow (vph)	11
Confl. Peds. (#/hr)	
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	
Actuated Green, G (s)	1.6
Effective Green, g (s)	1.6
Actuated g/C Ratio	0.01
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	23
v/s Ratio Prot	c0.01
v/s Ratio Perm	
v/c Ratio	0.48
Uniform Delay, d1	53.8
Progression Factor	1.00
Incremental Delay, d2	14.8
Delay (s)	68.6
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)	55	228	7	256	41	59	7	36	276
v/c Ratio	0.17	0.28	0.03	0.41	0.14	0.10	0.02	0.09	0.47
Control Delay	20.9	8.3	22.7	13.5	14.4	13.0	9.2	13.5	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.9	8.3	22.7	13.5	14.4	13.0	9.2	13.5	13.7
Queue Length 50th (ft)	8	22	1	29	5	7	0	4	28
Queue Length 95th (ft)	48	87	13	119	31	38	8	28	125
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	325	1471	233	1206	719	1426	1016	951	1379
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	0.17	0.15	0.03	0.21	0.06	0.04	0.01	0.04	0.20

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	137	73	6	197	39	38	54	6	33	152	102
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	0.95		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	1909		1711	1671		1652	1863	1329	1646	1785	
Flt Permitted	0.95	1.00		0.95	1.00		0.54	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	1711	1909		1711	1671		939	1863	1329	1245	1785	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	149	79	7	214	42	41	59	7	36	165	111
RTOR Reduction (vph)	0	25	0	0	10	0	0	0	5	0	37	0
Lane Group Flow (vph)	55	203	0	7	246	0	41	59	2	36	239	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)	2.1	16.9		0.7	15.5		12.4	12.4	12.4	12.4	12.4	
Effective Green, g (s)	2.1	16.9		0.7	15.5		12.4	12.4	12.4	12.4	12.4	
Actuated g/C Ratio	0.05	0.39		0.02	0.36		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	84	750		28	602		271	537	383	359	515	
v/s Ratio Prot	c0.03	0.11		0.00	c0.15			0.03			c0.13	
v/s Ratio Perm							0.04		0.00	0.03		
v/c Ratio	0.65	0.27		0.25	0.41		0.15	0.11	0.01	0.10	0.46	
Uniform Delay, d1	20.1	8.9		20.9	10.3		11.4	11.2	10.9	11.2	12.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	18.5	0.3		6.3	0.6		0.4	0.1	0.0	0.2	0.9	
Delay (s)	38.6	9.1		27.2	10.9		11.7	11.4	10.9	11.4	13.5	
Level of Service	D	A		C	B		B	B	B	B	B	
Approach Delay (s)		14.9			11.4			11.5			13.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	43.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	51.8%	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)	79	67	3	10	247	433	40	24	490
v/c Ratio	0.30	0.13	0.03	0.04	0.59	0.26	0.05	0.15	0.56
Control Delay	33.9	7.5	38.3	19.2	30.8	11.8	6.8	38.1	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	7.5	38.3	19.2	30.8	11.8	6.8	38.1	21.1
Queue Length 50th (ft)	25	2	1	2	76	35	1	8	62
Queue Length 95th (ft)	96	32	11	14	232	133	23	42	168
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	311	1047	120	927	660	2303	1035	156	1477
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	0.25	0.06	0.03	0.01	0.37	0.19	0.04	0.15	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	9	52	3	5	5	227	398	37	22	292	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.87		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	1541		1652	1592		1652	3240	1454	1711	3199	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1541		1652	1592		1652	3240	1454	1711	3199	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	10	57	3	5	5	247	433	40	24	317	173
RTOR Reduction (vph)	0	41	0	0	4	0	0	0	16	0	70	0
Lane Group Flow (vph)	79	26	0	3	6	0	247	433	24	24	420	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	7.1	19.0		0.5	12.4		15.8	32.2	32.2	1.6	18.0	
Effective Green, g (s)	7.1	19.0		0.5	12.4		15.8	32.2	32.2	1.6	18.0	
Actuated g/C Ratio	0.11	0.29		0.01	0.19		0.24	0.49	0.49	0.02	0.27	
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)	185	445		13	300		397	1586	712	42	875	
v/s Ratio Prot	c0.05	c0.02		0.00	0.00		c0.15	0.13		0.01	c0.13	
v/s Ratio Perm									0.02			
v/c Ratio	0.43	0.06		0.23	0.02		0.62	0.27	0.03	0.57	0.48	
Uniform Delay, d1	27.4	16.9		32.5	21.7		22.3	9.9	8.7	31.8	20.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.2	0.1		12.0	0.0		3.4	0.1	0.0	20.6	0.6	
Delay (s)	29.6	17.0		44.5	21.8		25.8	10.0	8.7	52.3	20.6	
Level of Service	C	B		D	C		C	B	A	D	C	
Approach Delay (s)		23.8			27.0			15.4			22.0	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	65.8	Sum of lost time (s)	9.5
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	58	16	16	614	611
v/c Ratio	0.17	0.05	0.03	0.25	0.26
Control Delay	14.8	7.3	5.6	4.7	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	7.3	5.6	4.7	4.6
Queue Length 50th (ft)	14	0	1	27	26
Queue Length 95th (ft)	32	10	10	88	86
Internal Link Dist (ft)	826			205	956
Turn Bay Length (ft)	75		50		
Base Capacity (vph)	853	694	553	2449	2427
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	0.02	0.03	0.25	0.25

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	53	15	15	565	526	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	3208	
Flt Permitted	0.95	1.00	0.42	1.00	1.00	
Satd. Flow (perm)	1652	1330	731	3240	3208	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	16	16	614	572	39
RTOR Reduction (vph)	0	14	0	0	6	0
Lane Group Flow (vph)	58	2	16	614	605	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)	5.5	5.5	27.6	27.6	27.6	
Effective Green, g (s)	5.5	5.5	27.6	27.6	27.6	
Actuated g/C Ratio	0.13	0.13	0.66	0.66	0.66	
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)	216	174	479	2124	2103	
v/s Ratio Prot	c0.04			c0.19	0.19	
v/s Ratio Perm		0.00	0.02			
v/c Ratio	0.27	0.01	0.03	0.29	0.29	
Uniform Delay, d1	16.5	15.9	2.6	3.1	3.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.0	0.1	0.2	0.2	
Delay (s)	17.2	16.0	2.6	3.3	3.3	
Level of Service	B	B	A	A	A	
Approach Delay (s)	16.9			3.3	3.3	
Approach LOS	B			A	A	

Intersection Summary			
HCM Average Control Delay	4.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	42.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	26.5%	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)	854	679	490	1257	678	742
v/c Ratio	0.73	0.50	0.64	0.59	0.40	0.87
Control Delay	28.0	3.1	42.8	12.6	0.7	40.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	3.1	42.8	12.6	0.7	40.9
Queue Length 50th (ft)	189	12	172	244	0	213
Queue Length 95th (ft)	321	28	224	309	0	289
Internal Link Dist (ft)	364			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1163	1359	770	2136	1686	933
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	0.73	0.50	0.64	0.59	0.40	0.80

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	786	625	451	1156	0	0	0	624	0	0	683
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	854	679	490	1257	0	0	0	678	0	0	742
RTOR Reduction (vph)	0	0	443	0	0	0	0	0	0	0	0	87
Lane Group Flow (vph)	0	854	236	490	1257	0	0	0	678	0	0	655
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		34.7	34.7	24.5	63.7				100.0			27.3
Effective Green, g (s)		34.7	34.7	24.5	63.7				100.0			27.3
Actuated g/C Ratio		0.35	0.35	0.24	0.64				1.00			0.27
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1164	917	770	2137				1686			761
v/s Ratio Prot		c0.25		0.16	c0.37							c0.23
v/s Ratio Perm			0.09						0.40			
v/c Ratio		0.73	0.26	0.64	0.59				0.40			0.86
Uniform Delay, d1		28.6	23.4	33.8	10.5				0.0			34.5
Progression Factor		0.80	0.86	1.14	1.03				1.00			1.00
Incremental Delay, d2		3.9	0.6	3.7	1.0				0.7			9.8
Delay (s)		26.9	20.8	42.3	11.8				0.7			44.3
Level of Service		C	C	D	B				A			D
Approach Delay (s)		24.2			20.4			0.7			44.3	
Approach LOS		C			C			A			D	

Intersection Summary			
HCM Average Control Delay	22.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	505	1028	801	521	658	992
v/c Ratio	0.68	0.31	0.41	0.56	0.41	0.65
Control Delay	23.6	0.2	2.7	6.2	0.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	0.2	2.7	6.2	0.8	2.2
Queue Length 50th (ft)	132	0	27	25	0	0
Queue Length 95th (ft)	173	0	43	150	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	798	3355	1959	926	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	0.63	0.31	0.41	0.56	0.41	0.65

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	465	946	0	0	737	479	0	0	605	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)	505	1028	0	0	801	521	0	0	658	0	0	992
RTOR Reduction (vph)	0	0	0	0	0	32	0	0	0	0	0	0
Lane Group Flow (vph)	505	1028	0	0	801	489	0	0	658	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)	11.8	50.0			29.2	29.2			50.0			50.0
Effective Green, g (s)	11.8	50.0			29.2	29.2			50.0			50.0
Actuated g/C Ratio	0.24	1.00			0.58	0.58			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	742	3355			1959	894			1611			1528
v/s Ratio Prot	0.16	0.31			0.24							
v/s Ratio Perm						0.32			0.41			c0.65
v/c Ratio	0.68	0.31			0.41	0.55			0.41			0.65
Uniform Delay, d1	17.4	0.0			5.7	6.4			0.0			0.0
Progression Factor	1.12	1.00			0.37	0.68			1.00			1.00
Incremental Delay, d2	2.1	0.2			0.6	2.2			0.8			2.2
Delay (s)	21.7	0.2			2.7	6.5			0.8			2.2
Level of Service	C	A			A	A			A			A
Approach Delay (s)		7.3			4.2			0.8			2.2	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	50.4%	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)	267	325	458	256	13	278	537	15	42	516	172
v/c Ratio	0.68	0.45	0.26	0.72	0.04	0.76	0.34	0.03	0.35	0.64	0.37
Control Delay	33.0	25.7	0.4	52.0	21.3	52.2	20.5	11.2	58.5	39.9	16.6
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	33.0	25.7	0.4	52.0	21.3	52.2	20.5	11.2	58.5	39.9	16.6
Queue Length 50th (ft)	129	162	0	165	2	180	131	1	28	164	34
Queue Length 95th (ft)	#224	259	0	268	19	286	184	14	69	243	100
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	394	816	1770	448	389	478	1749	653	124	923	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	0.68	0.40	0.26	0.57	0.03	0.58	0.31	0.02	0.34	0.56	0.34

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)	246	299	421	4	232	12	256	494	14	39	475	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	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		1737	1473	1652	3539	1337	1652	3303	1551
Flt Permitted	0.27	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	469	1739	1770		1728	1473	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)	267	325	458	4	252	13	278	537	15	42	516	172
RTOR Reduction (vph)	0	0	0	0	0	8	0	0	7	0	0	80
Lane Group Flow (vph)	267	325	458	0	256	5	278	537	8	42	516	92
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)	41.7	41.7	104.5		20.6	20.6	21.8	44.8	44.8	3.6	26.5	26.5
Effective Green, g (s)	42.2	42.2	104.5		21.1	21.1	22.8	45.8	44.8	4.5	27.5	27.5
Actuated g/C Ratio	0.40	0.40	1.00		0.20	0.20	0.22	0.44	0.43	0.04	0.26	0.26
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)	383	702	1770		349	297	360	1551	573	71	869	408
v/s Ratio Prot	c0.11	0.19					c0.17	0.15		0.03	c0.16	
v/s Ratio Perm	c0.17		0.26		0.15	0.00			0.01			0.06
v/c Ratio	0.70	0.46	0.26		0.73	0.02	0.77	0.35	0.01	0.59	0.59	0.22
Uniform Delay, d1	23.4	22.8	0.0		39.1	33.4	38.4	19.4	17.2	49.1	33.6	30.2
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	5.9	0.7	0.4		8.3	0.0	9.9	0.4	0.0	13.2	2.0	0.8
Delay (s)	29.3	23.5	0.4		47.3	33.4	48.3	19.8	17.2	62.3	35.6	30.9
Level of Service	C	C	A		D	C	D	B	B	E	D	C
Approach Delay (s)		14.9			46.7			29.3			36.1	
Approach LOS		B			D			C			D	

Intersection Summary			
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	104.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	29	90	789	160	741
v/c Ratio	0.10	0.23	0.22	0.37	0.29
Control Delay	13.9	5.6	3.9	9.5	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	5.6	3.9	9.5	4.6
Queue Length 50th (ft)	5	0	20	14	30
Queue Length 95th (ft)	22	25	67	85	103
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	733	817	4079	482	2882
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	0.19	0.33	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	1	83	0	688	38	147	680	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.99		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		0.99		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1570	1401		4910		1619	3470	
Flt Permitted					0.80	1.00		1.00		0.34	1.00	
Satd. Flow (perm)					1320	1401		4910		582	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	28	1	90	0	748	41	160	739	2
RTOR Reduction (vph)	0	0	0	0	0	78	0	8	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	29	12	0	781	0	160	741	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)					4.9	4.9		24.3		24.3	24.3	
Effective Green, g (s)					4.9	4.9		24.3		24.3	24.3	
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)					171	182		3156		374	2231	
v/s Ratio Prot								0.16			0.21	
v/s Ratio Perm					c0.02	0.01				c0.28		
v/c Ratio					0.17	0.06		0.25		0.43	0.33	
Uniform Delay, d1					14.6	14.4		2.9		3.3	3.1	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.5	0.1		0.0		0.3	0.0	
Delay (s)					15.1	14.6		2.9		3.6	3.1	
Level of Service					B	B		A		A	A	
Approach Delay (s)		0.0			14.7			2.9			3.2	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	3.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	37.8	Sum of lost time (s)	8.6
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	1	226	317	9	7
v/c Ratio	0.01	0.13	0.10	0.09	0.07
Control Delay	45.0	0.9	1.3	50.6	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.0	0.9	1.3	50.6	28.8
Queue Length 50th (ft)	0	0	0	6	0
Queue Length 95th (ft)	m3	40	6	23	15
Internal Link Dist (ft)		525	522	196	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	378	1755	3244	410	372
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	0.00	0.13	0.10	0.02	0.02

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	1	208	279	13	8	6
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	3516		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3516		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	226	303	14	9	7
RTOR Reduction (vph)	0	0	1	0	0	7
Lane Group Flow (vph)	1	226	316	0	9	0
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	1.2	98.2	92.5		2.8	2.8
Effective Green, g (s)	1.2	98.2	92.5		2.8	2.8
Actuated g/C Ratio	0.01	0.89	0.84		0.03	0.03
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)	19	1663	2957		45	40
v/s Ratio Prot	0.00	c0.12	0.09		c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.05	0.14	0.11		0.20	0.00
Uniform Delay, d1	53.8	0.7	1.5		52.5	52.2
Progression Factor	0.90	0.95	0.92		1.00	1.00
Incremental Delay, d2	1.1	0.2	0.1		2.2	0.0
Delay (s)	49.7	0.9	1.5		54.7	52.3
Level of Service	D	A	A		D	D
Approach Delay (s)		1.1	1.5		53.6	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	2.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	23.4%	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)	42	178	293	166	863	27	914	245	674	689	68
v/c Ratio	0.56	0.44	0.29	0.24	0.87	0.36	0.74	0.26	0.94	0.45	0.09
Control Delay	93.2	53.2	37.3	28.4	29.6	78.9	50.5	1.6	74.3	26.9	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	93.2	53.2	37.3	28.4	29.6	78.9	50.5	1.6	74.3	26.9	5.5
Queue Length 50th (ft)	39	74	99	99	582	24	283	0	319	236	0
Queue Length 95th (ft)	#91	103	158	155	#889	58	337	20	#447	295	29
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	79	1031	1017	715	996	82	1271	956	717	1530	750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.17	0.29	0.23	0.87	0.33	0.72	0.26	0.94	0.45	0.09

Intersection Summary

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

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

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

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	135	946	25	1217	153	28	149	182	124
v/c Ratio	0.71	0.43	0.15	0.65	0.18	0.25	0.64	0.48	0.51
Control Delay	63.9	9.9	60.5	8.1	0.5	50.7	21.2	46.6	28.4
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	9.9	60.5	8.3	0.5	50.7	21.2	46.6	28.4
Queue Length 50th (ft)	88	87	17	60	1	18	1	60	36
Queue Length 95th (ft)	150	258	m29	203	2	45	60	92	92
Internal Link Dist (ft)		1637		323			161		701
Turn Bay Length (ft)	120		140			60			
Base Capacity (vph)	222	2208	170	1869	864	224	318	461	278
Starvation Cap Reductn	0	0	0	114	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.43	0.15	0.69	0.18	0.13	0.47	0.39	0.45

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	124	852	18	23	1104	156	26	2	135	167	42	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	14	10	10	11	11	10	10	10	10	10
Total Lost time (s)	2.0	3.0		2.0	3.0	3.0	2.0	2.0		2.0	2.0	
Lane Util. Factor	1.00	0.95		1.00	0.91	0.91	1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.85		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1620	3168		1620	3067	1319	1678	1431		3143	1502	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1620	3168		1620	3067	1319	1678	1431		3143	1502	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	135	926	20	25	1200	170	28	2	147	182	46	78
RTOR Reduction (vph)	0	1	0	0	1	60	0	137	0	0	59	0
Lane Group Flow (vph)	135	945	0	25	1216	93	28	12	0	182	65	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	0	2	0	0	0
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases						6						
Actuated Green, G (s)	11.4	70.3		4.0	62.9	62.9	6.0	6.0		11.7	11.7	
Effective Green, g (s)	12.4	71.3		5.0	63.9	63.9	7.0	7.0		12.7	12.7	
Actuated g/C Ratio	0.12	0.68		0.05	0.61	0.61	0.07	0.07		0.12	0.12	
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	4.0	2.0	2.0		3.0	3.0	
Lane Grp Cap (vph)	191	2151		77	1866	803	112	95		380	182	
v/s Ratio Prot	c0.08	0.30		0.02	c0.40		c0.02	0.01		c0.06	0.04	
v/s Ratio Perm						0.07						
v/c Ratio	0.71	0.44		0.32	0.65	0.12	0.25	0.12		0.48	0.36	
Uniform Delay, d1	44.6	7.7		48.4	13.3	8.7	46.5	46.1		43.1	42.4	
Progression Factor	1.00	1.00		1.36	0.43	0.07	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.3	0.7		0.7	1.4	0.2	0.4	0.2		1.0	1.2	
Delay (s)	53.9	8.4		66.7	7.2	0.9	46.9	46.3		44.0	43.6	
Level of Service	D	A		E	A	A	D	D		D	D	
Approach Delay (s)		14.0			7.6			46.4			43.9	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	28	1183	325	1294	171	229	121	101
v/c Ratio	0.30	0.50	0.75	0.61	0.71	0.25	0.69	0.54
Control Delay	60.4	13.9	54.6	12.5	59.6	4.0	64.0	47.4
Queue Delay	0.0	0.2	0.0	0.1	0.0	0.0	0.3	0.0
Total Delay	60.4	14.1	54.6	12.6	59.6	4.0	64.4	47.4
Queue Length 50th (ft)	18	205	105	232	111	0	79	56
Queue Length 95th (ft)	m47	159	153	385	176	28	135	106
Internal Link Dist (ft)		323		509	1135			223
Turn Bay Length (ft)	80		280			500	80	
Base Capacity (vph)	98	2375	474	2110	310	947	238	250
Starvation Cap Reductn	0	411	0	110	0	0	0	0
Spillback Cap Reductn	0	131	0	40	0	10	10	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.60	0.69	0.65	0.55	0.24	0.53	0.40

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	954	134	299	1136	54	139	18	211	111	69	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	11	11	13	13	13	9	9	9
Total Lost time (s)	2.0	3.0		2.5	3.0			2.0	2.5	2.0	2.0	
Lane Util. Factor	1.00	0.91		0.97	0.95			1.00	0.88	1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99			1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4484		3143	3298			1808	2806	1562	1562	
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4484		3143	3298			1808	2806	1562	1562	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	1037	146	325	1235	59	151	20	229	121	75	26
RTOR Reduction (vph)	0	15	0	0	3	0	0	0	167	0	12	0
Lane Group Flow (vph)	28	1168	0	325	1291	0	0	171	62	121	89	0
Confl. Peds. (#/hr)			4			3						13
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	4%	6%	4%	4%	5%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	2	0	0	0	0	0	0	0	0	5
Turn Type	Prot			Prot			Split		pm+ov	Split		
Protected Phases	5	2		1	6		8	8	1	7	7	
Permitted Phases									8			
Actuated Green, G (s)	3.3	54.3		13.5	65.0			12.9	26.4	10.8	10.8	
Effective Green, g (s)	4.3	55.3		14.5	66.0			13.9	28.4	11.8	11.8	
Actuated g/C Ratio	0.04	0.53		0.14	0.63			0.13	0.27	0.11	0.11	
Clearance Time (s)	3.0	4.0		3.5	4.0			3.0	3.5	3.0	3.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0			2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	66	2362		434	2073			239	759	176	176	
v/s Ratio Prot	0.02	0.26		c0.10	c0.39			c0.09	0.01	c0.08	0.06	
v/s Ratio Perm									0.01			
v/c Ratio	0.42	0.49		0.75	0.62			0.72	0.08	0.69	0.50	
Uniform Delay, d1	49.1	15.9		43.5	11.9			43.7	28.6	44.8	43.8	
Progression Factor	1.11	0.77		1.03	0.83			1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.7		5.2	1.2			8.2	0.0	8.6	0.8	
Delay (s)	55.8	13.0		50.1	11.1			51.8	28.6	53.4	44.7	
Level of Service	E	B		D	B			D	C	D	D	
Approach Delay (s)		14.0			18.9			38.5			49.4	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	6.5
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	SBL	SBT	SBR
Lane Group Flow (vph)	582	1486	1225	446	191	250	249
v/c Ratio	0.23	1.03	0.50	0.30	0.65	0.65	0.64
Control Delay	2.1	49.1	5.7	0.5	51.4	27.8	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.1	49.1	5.7	0.5	51.4	27.8	26.9
Queue Length 50th (ft)	20	~903	137	0	126	80	75
Queue Length 95th (ft)	32	#1308	174	0	208	176	167
Internal Link Dist (ft)	509		867			1128	
Turn Bay Length (ft)				75			80
Base Capacity (vph)	2508	1439	2445	1478	294	384	389
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	32	0	0	1	1
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	1.03	0.51	0.30	0.65	0.65	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)	0	535	1367	0	1127	410	0	0	0	195	0	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	10	10	12	12	12	11	16	14
Total Lost time (s)		3.0	3.0		3.0	4.0				3.0	4.0	3.0
Lane Util. Factor		0.95	1.00		0.95	1.00				0.95	0.91	0.95
Frpb, ped/bikes		1.00	0.98		1.00	1.00				1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00				1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85				1.00	0.86	0.85
Flt Protected		1.00	1.00		1.00	1.00				0.95	1.00	1.00
Satd. Flow (prot)		3292	1439		3209	1478				1625	1607	1559
Flt Permitted		1.00	1.00		1.00	1.00				0.95	1.00	1.00
Satd. Flow (perm)		3292	1439		3209	1478				1625	1607	1559
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	582	1486	0	1225	446	0	0	0	212	0	478
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	109	107
Lane Group Flow (vph)	0	582	1486	0	1225	446	0	0	0	191	141	142
Confl. Peds. (#/hr)			4									
Confl. Bikes (#/hr)			2									
Heavy Vehicles (%)	2%	6%	6%	2%	5%	2%	2%	2%	2%	2%	2%	5%
Turn Type			custom			Free				custom		Prot
Protected Phases		2			6					4	4	4
Permitted Phases			2 4			Free				4		
Actuated Green, G (s)		79.0	105.0		79.0	105.0				18.0	18.0	18.0
Effective Green, g (s)		80.0	105.0		80.0	105.0				19.0	18.0	19.0
Actuated g/C Ratio		0.76	1.00		0.76	1.00				0.18	0.17	0.18
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0			4.5					4.0	4.0	4.0
Lane Grp Cap (vph)		2508	1439		2445	1478				294	275	282
v/s Ratio Prot		0.18			0.38					0.12	0.09	0.09
v/s Ratio Perm			c1.03			0.30						
v/c Ratio		0.23	1.03		0.50	0.30				0.65	0.51	0.50
Uniform Delay, d1		3.6	52.5		4.8	0.0				39.9	39.5	38.7
Progression Factor		0.52	1.00		1.00	1.00				1.00	1.00	1.00
Incremental Delay, d2		0.2	32.2		0.7	0.5				5.4	2.2	1.9
Delay (s)		2.1	84.7		5.6	0.5				45.4	41.7	40.7
Level of Service		A	F		A	A				D	D	D
Approach Delay (s)		61.4			4.2			0.0			42.3	
Approach LOS		E			A			A			D	

Intersection Summary			
HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

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

Intersection Summary

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

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

Lane Group	EBT	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	213	250	249	30	989	49	757
v/c Ratio	0.48	0.61	0.51	0.11	0.68	0.28	0.52
Control Delay	18.0	22.4	13.6	10.0	13.4	14.8	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	22.4	13.6	10.0	13.4	14.8	11.1
Queue Length 50th (ft)	49	65	38	5	110	8	75
Queue Length 95th (ft)	110	139	100	20	203	35	142
Internal Link Dist (ft)	726	2500			1318		2867
Turn Bay Length (ft)			100	85		100	
Base Capacity (vph)	661	625	697	352	1949	231	1953
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.40	0.36	0.09	0.51	0.21	0.39

Intersection Summary

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

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

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

Intersection Summary

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

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

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

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

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

Intersection Summary

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

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

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	160	27	142	121	257	15	641	139	236	413
v/c Ratio	0.47	0.56	0.10	0.57	0.29	0.48	0.12	0.68	0.32	0.70	0.27
Control Delay	55.2	48.4	19.0	51.4	37.1	8.1	54.1	35.4	19.7	49.5	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	48.4	19.0	51.4	37.1	8.1	54.1	35.4	19.7	49.5	15.3
Queue Length 50th (ft)	47	86	2	77	61	0	8	172	34	127	58
Queue Length 95th (ft)	127	199	30	184	141	72	36	314	105	279	145
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	245	577	497	407	756	749	208	1519	657	537	2043
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.28	0.05	0.35	0.16	0.34	0.07	0.42	0.21	0.44	0.20

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	568	109	1016	1031	72	388	760	220	428	27
v/c Ratio	0.35	0.61	0.28	1.18	0.73	0.47	0.44	0.49	0.61	0.43	0.06
Control Delay	55.8	39.0	8.4	123.9	21.2	53.1	32.4	14.7	50.5	30.6	10.4
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	55.8	39.0	8.4	123.9	21.2	53.1	32.4	14.7	50.5	30.6	10.4
Queue Length 50th (ft)	21	120	0	~408	238	44	108	156	70	120	0
Queue Length 95th (ft)	52	155	43	#554	327	89	153	220	108	167	20
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	94	1047	417	859	1412	168	889	1539	358	988	468
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.54	0.26	1.18	0.73	0.43	0.44	0.49	0.61	0.43	0.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	523	100	935	718	231	66	357	699	202	394	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	568	109	1016	780	251	72	388	760	220	428	27
RTOR Reduction (vph)	0	0	87	0	29	0	0	0	0	0	0	19
Lane Group Flow (vph)	33	568	22	1016	1002	0	72	388	760	220	428	8
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	4	0	0	0	0	0	5	0	0	0
Turn Type	Prot		Perm	Prot			Prot		pt+ov	Prot		Perm
Protected Phases	5	2		1	6		7	4	1 4	3	8	
Permitted Phases			2									8
Actuated Green, G (s)	3.6	18.6	18.6	28.0	43.0		7.8	22.6	54.6	11.8	26.6	26.6
Effective Green, g (s)	3.6	20.1	20.1	28.0	44.5		7.8	24.1	54.6	11.8	28.1	28.1
Actuated g/C Ratio	0.04	0.20	0.20	0.28	0.44		0.08	0.24	0.55	0.12	0.28	0.28
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5		4.0	5.5		4.0	5.5	5.5
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	56	936	297	911	1384		131	809	1477	384	910	414
v/s Ratio Prot	0.02	c0.12		c0.31	c0.32		0.04	c0.12	c0.28	c0.07	0.13	
v/s Ratio Perm			0.01									0.01
v/c Ratio	0.59	0.61	0.07	1.12	0.72		0.55	0.48	0.51	0.57	0.47	0.02
Uniform Delay, d1	47.5	36.4	32.4	36.0	22.7		44.4	32.6	14.3	41.7	29.8	26.0
Progression Factor	1.00	1.00	1.00	0.86	0.80		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.4	1.3	0.1	64.9	1.7		5.8	2.0	0.4	2.5	1.7	0.1
Delay (s)	64.8	37.7	32.5	95.8	20.0		50.2	34.6	14.7	44.2	31.5	26.1
Level of Service	E	D	C	F	B		D	C	B	D	C	C
Approach Delay (s)		38.1			57.6			23.1			35.4	
Approach LOS		D			E			C			D	

Intersection Summary			
HCM Average Control Delay	42.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.7%	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)	201	870	388	214	876	149	153	85	300
v/c Ratio	0.89	0.49	0.47	0.64	0.43	0.50	0.50	0.23	0.90
Control Delay	67.0	14.3	2.2	48.1	21.7	39.6	39.6	7.3	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	14.3	2.2	48.1	21.7	39.6	39.6	7.3	54.3
Queue Length 50th (ft)	123	74	0	122	128	93	95	0	51
Queue Length 95th (ft)	#254	178	25	#284	230	121	123	31	#131
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	227	1783	826	334	2044	563	576	609	333
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.49	0.47	0.64	0.43	0.26	0.27	0.14	0.90

Intersection Summary

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

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

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

c Critical Lane Group

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

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

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

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

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	45	49	196	27	893	123	676	858
v/c Ratio	0.37	0.40	0.47	0.09	0.73	0.19	0.89	0.32
Control Delay	46.7	55.8	10.3	6.5	26.5	2.1	44.3	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	55.8	10.3	6.5	26.5	2.1	44.3	4.2
Queue Length 50th (ft)	24	33	0	3	272	2	342	86
Queue Length 95th (ft)	59	71	36	m6	#421	m10	#501	103
Internal Link Dist (ft)	387	350			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	222	238	620	304	1223	655	778	2647
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.21	0.32	0.09	0.73	0.19	0.87	0.32

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)	32	0	9	42	3	180	25	822	113	622	712	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	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			0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1697			1779	2787	1677	3355	1583	1770	3411	
Flt Permitted		0.74			0.78	1.00	0.33	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1307			1452	2787	582	3355	1583	1770	3411	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	0	10	46	3	196	27	893	123	676	774	84
RTOR Reduction (vph)	0	9	0	0	0	179	0	0	78	0	5	0
Lane Group Flow (vph)	0	36	0	0	49	17	27	893	45	676	853	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	pm+pt		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2			
Actuated Green, G (s)		9.4			9.4	9.4	43.8	40.1	40.1	47.0	83.4	
Effective Green, g (s)		9.4			9.4	9.4	43.8	40.1	40.1	47.0	83.4	
Actuated g/C Ratio		0.09			0.09	0.09	0.40	0.36	0.36	0.43	0.76	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		112			124	238	269	1223	577	756	2586	
v/s Ratio Prot							0.00	c0.27		c0.38	0.25	
v/s Ratio Perm		0.03			c0.03	0.01	0.04		0.03			
v/c Ratio		0.32			0.40	0.07	0.10	0.73	0.08	0.89	0.33	
Uniform Delay, d1		47.3			47.6	46.3	20.9	30.3	22.9	29.2	4.3	
Progression Factor		1.00			1.00	1.00	0.44	0.71	0.31	1.04	0.89	
Incremental Delay, d2		1.7			2.1	0.1	0.1	3.2	0.2	11.8	0.3	
Delay (s)		49.0			49.7	46.4	9.4	24.6	7.3	42.2	4.1	
Level of Service		D			D	D	A	C	A	D	A	
Approach Delay (s)		49.0			47.1			22.2			20.9	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

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

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	146	211	145	114	380	177	118	911	43	760
v/c Ratio	0.68	0.46	0.33	0.63	0.89	0.36	0.62	0.63	0.42	0.65
Control Delay	61.5	38.3	7.5	71.8	60.7	8.6	63.1	23.7	74.0	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	38.3	7.5	71.8	60.7	8.6	63.1	23.7	74.0	29.9
Queue Length 50th (ft)	98	125	0	64	259	29	84	214	30	233
Queue Length 95th (ft)	166	198	49	147	#421	54	148	254	72	249
Internal Link Dist (ft)		2946			561			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	244	480	447	203	439	503	210	1444	104	1164
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.44	0.32	0.56	0.87	0.35	0.56	0.63	0.41	0.65

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	194	133	105	350	163	109	681	157	40	615	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1845	1306	1593	1863	1559	1652	3133		1593	3163	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3133		1593	3163	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	211	145	114	380	177	118	740	171	43	668	92
RTOR Reduction (vph)	0	0	109	0	0	136	0	17	0	0	10	0
Lane Group Flow (vph)	146	211	36	114	380	41	118	894	0	43	750	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	14.9	27.5	27.5	12.6	25.2	25.2	12.6	48.5		4.2	40.1	
Effective Green, g (s)	14.9	27.5	27.5	12.6	25.2	25.2	12.6	48.5		4.2	40.1	
Actuated g/C Ratio	0.14	0.25	0.25	0.11	0.23	0.23	0.11	0.44		0.04	0.36	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	214	461	327	182	427	357	189	1381		61	1153	
v/s Ratio Prot	c0.09	0.11		0.07	c0.20		c0.07	c0.29		0.03	0.24	
v/s Ratio Perm			0.03			0.03						
v/c Ratio	0.68	0.46	0.11	0.63	0.89	0.11	0.62	0.65		0.70	0.65	
Uniform Delay, d1	45.3	34.9	31.8	46.5	41.1	33.6	46.4	24.1		52.3	29.1	
Progression Factor	1.00	1.00	1.00	1.23	0.90	1.23	1.06	0.90		1.24	0.91	
Incremental Delay, d2	9.4	1.0	0.2	7.2	19.6	0.2	6.8	2.3		31.8	2.8	
Delay (s)	54.7	35.9	32.0	64.2	56.6	41.6	55.8	23.9		96.7	29.1	
Level of Service	D	D	C	E	E	D	E	C		F	C	
Approach Delay (s)		40.2			54.0			27.5			32.7	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL2	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	49	348	86	984	13	14	30	27	22
v/c Ratio	0.36	0.29	0.44	0.70	0.13	0.12	0.29	0.19	0.21
Control Delay	55.2	8.7	52.0	17.2	49.6	48.8	55.0	22.0	52.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	8.7	52.0	17.2	49.6	48.8	55.0	22.0	52.8
Queue Length 50th (ft)	34	54	57	330	9	9	20	1	15
Queue Length 95th (ft)	69	187	106	#908	28	29	51	29	40
Internal Link Dist (ft)		485		1458		986		702	
Turn Bay Length (ft)	205		60		100				
Base Capacity (vph)	138	1200	194	1410	218	262	228	283	264
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.29	0.44	0.70	0.06	0.05	0.13	0.10	0.08

Intersection Summary

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

Movement	EBL2	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	289	31	79	771	134	12	1	12	28	2	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	8	9	14	12	11	12	12	12	12	12
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1831		1593	1943		1711	1603		1770	1604	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.75	1.00	
Satd. Flow (perm)	1770	1831		1593	1943		1332	1603		1394	1604	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	314	34	86	838	146	13	1	13	30	2	25
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	23	0
Lane Group Flow (vph)	49	346	0	86	984	0	13	14	0	30	4	0
Confl. Peds. (#/hr)			2									
Parking (#/hr)												
Turn Type	Prot			Prot			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	7.4	68.4		13.4	74.4		6.8	6.8		6.8	6.8	
Effective Green, g (s)	7.4	68.4		13.4	74.4		6.8	6.8		6.8	6.8	
Actuated g/C Ratio	0.07	0.62		0.12	0.68		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)	119	1139		194	1314		82	99		86	99	
v/s Ratio Prot	0.03	0.19		c0.05	c0.51			0.01			0.00	
v/s Ratio Perm							0.01			c0.02		
v/c Ratio	0.41	0.30		0.44	0.75		0.16	0.14		0.35	0.04	
Uniform Delay, d1	49.2	9.7		44.8	11.7		48.9	48.8		49.5	48.5	
Progression Factor	1.02	0.77		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	0.7		1.6	3.9		0.9	0.7		2.4	0.1	
Delay (s)	52.3	8.1		46.5	15.6		49.8	49.5		51.9	48.7	
Level of Service	D	A		D	B		D	D		D	D	
Approach Delay (s)		13.6			18.1			49.6			50.4	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SWR
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)	1611
Flt Permitted	1.00
Satd. Flow (perm)	1611
Peak-hour factor, PHF	0.92
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	22
Confl. Peds. (#/hr)	
Parking (#/hr)	
Turn Type	custom
Protected Phases	9
Permitted Phases	
Actuated Green, G (s)	3.4
Effective Green, g (s)	3.4
Actuated g/C Ratio	0.03
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	50
v/s Ratio Prot	c0.01
v/s Ratio Perm	
v/c Ratio	0.44
Uniform Delay, d1	52.4
Progression Factor	1.00
Incremental Delay, d2	6.1
Delay (s)	58.4
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)	86	274	12	849	66	126	14	78	424
v/c Ratio	0.54	0.26	0.11	1.11	0.56	0.23	0.03	0.23	0.75
Control Delay	46.4	9.2	35.5	89.3	39.3	18.7	8.5	19.3	26.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	9.2	35.5	89.3	39.3	18.7	8.5	19.3	26.4
Queue Length 50th (ft)	35	41	5	~432	23	39	0	24	133
Queue Length 95th (ft)	#103	123	21	#733	65	76	11	54	226
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	160	1070	106	768	169	786	567	493	783
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.26	0.11	1.11	0.39	0.16	0.02	0.16	0.54

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

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

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	174	56	4	28	586	460	13	27	603
v/c Ratio	0.66	0.10	0.04	0.12	1.15	0.27	0.02	0.19	0.69
Control Delay	46.1	8.3	40.5	17.8	114.8	12.6	9.5	39.8	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	8.3	40.5	17.8	114.8	12.6	9.5	39.8	19.8
Queue Length 50th (ft)	68	3	2	5	~280	42	1	11	65
Queue Length 95th (ft)	#242	30	14	26	#753	147	13	45	163
Internal Link Dist (ft)		1442		221		1609			1977
Turn Bay Length (ft)	225		90		120		50	120	
Base Capacity (vph)	265	861	93	705	511	1822	816	144	1225
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.07	0.04	0.04	1.15	0.25	0.02	0.19	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.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	10	41	4	11	15	545	423	12	25	265	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	10	13	13	10	10	11	11	11	11
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.91		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1711	1554		1652	1572		1652	3240	1450	1711	3124	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1711	1554		1652	1572		1652	3240	1450	1711	3124	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	174	11	45	4	12	16	586	460	13	27	288	315
RTOR Reduction (vph)	0	31	0	0	13	0	0	0	5	0	199	0
Lane Group Flow (vph)	174	25	0	4	15	0	586	460	8	27	404	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	2	2	0	0	0	0	0	4	0	0	0
Parking (#/hr)					0	0						
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	11.3	24.0		0.6	13.3		22.7	38.3	38.3	2.1	17.7	
Effective Green, g (s)	11.3	24.0		0.6	13.3		22.7	38.3	38.3	2.1	17.7	
Actuated g/C Ratio	0.15	0.31		0.01	0.17		0.29	0.49	0.49	0.03	0.23	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.5	3.5	3.0	3.5	
Vehicle Extension (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	249	481		13	270		484	1601	717	46	713	
v/s Ratio Prot	c0.10	c0.02		0.00	0.01		c0.35	0.14		0.02	c0.13	
v/s Ratio Perm									0.01			
v/c Ratio	0.70	0.05		0.31	0.05		1.21	0.29	0.01	0.59	0.57	
Uniform Delay, d1	31.5	18.8		38.2	26.8		27.4	11.6	10.0	37.3	26.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.9	0.1		17.5	0.1		112.8	0.1	0.0	20.6	1.3	
Delay (s)	40.4	18.8		55.7	27.0		140.2	11.7	10.0	57.9	27.8	
Level of Service	D	B		E	C		F	B	A	E	C	
Approach Delay (s)		35.1			30.6			82.8			29.1	
Approach LOS		D			C			F			C	

Intersection Summary			
HCM Average Control Delay	59.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	77.5	Sum of lost time (s)	9.5
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

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

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1155	662	362	1236	643	766
v/c Ratio	0.91	0.47	0.60	0.60	0.38	0.84
Control Delay	33.6	2.1	32.9	12.3	0.7	36.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	2.1	32.9	12.3	0.7	36.7
Queue Length 50th (ft)	321	1	60	188	0	218
Queue Length 95th (ft)	#482	14	119	303	0	#325
Internal Link Dist (ft)	363			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1292	1424	599	2063	1686	915
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	0.89	0.46	0.60	0.60	0.38	0.84

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1063	609	333	1137	0	0	0	592	0	0	705
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1155	662	362	1236	0	0	0	643	0	0	766
RTOR Reduction (vph)	0	0	411	0	0	0	0	0	0	0	0	93
Lane Group Flow (vph)	0	1155	251	362	1236	0	0	0	643	0	0	673
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		37.9	37.9	19.1	61.5				100.0			29.5
Effective Green, g (s)		37.9	37.9	19.1	61.5				100.0			29.5
Actuated g/C Ratio		0.38	0.38	0.19	0.62				1.00			0.29
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1272	1001	600	2063				1686			822
v/s Ratio Prot		c0.34		0.12	c0.37							c0.24
v/s Ratio Perm			0.09						0.38			
v/c Ratio		0.91	0.25	0.60	0.60				0.38			0.82
Uniform Delay, d1		29.4	21.3	37.0	11.7				0.0			32.8
Progression Factor		0.77	0.61	0.76	0.93				1.00			1.00
Incremental Delay, d2		8.8	0.1	4.2	1.1				0.7			8.9
Delay (s)		31.5	13.0	32.4	12.0				0.7			41.7
Level of Service		C	B	C	B				A			D
Approach Delay (s)		24.8			16.7			0.7			41.7	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	645	1087	728	520	423	915
v/c Ratio	0.75	0.32	0.40	0.60	0.26	0.60
Control Delay	24.3	0.2	7.6	12.1	0.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	0.2	7.6	12.1	0.4	1.7
Queue Length 50th (ft)	132	0	142	204	0	0
Queue Length 95th (ft)	m163	m0	m16	m57	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	911	3355	1837	863	1611	1528
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.32	0.40	0.60	0.26	0.60

Intersection Summary

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

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

Intersection Summary			
HCM Average Control Delay	6.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	315	323	440	462	20	478	892	9	41	614	210
v/c Ratio	1.09	0.46	0.25	1.14	0.06	1.10	0.57	0.02	0.35	0.91	0.50
Control Delay	98.7	12.5	0.3	123.2	19.2	108.6	17.2	9.8	51.3	52.1	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.7	12.5	0.3	123.2	19.2	108.6	17.2	9.8	51.3	52.1	17.2
Queue Length 50th (ft)	~149	53	0	~328	4	~333	178	1	19	199	70
Queue Length 95th (ft)	#318	115	0	#517	23	#514	261	m3	m47	#301	m97
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	289	707	1770	406	354	435	1562	579	118	675	420
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.46	0.25	1.14	0.06	1.10	0.57	0.02	0.35	0.91	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

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

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

c Critical Lane Group

Lane Group	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	14	1	1152	82	1511
v/c Ratio	0.17	0.10	0.00	0.26	0.23	0.49
Control Delay	46.4	19.5	2.0	1.1	4.7	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4
Total Delay	46.4	19.5	2.0	1.1	4.7	4.0
Queue Length 50th (ft)	12	0	0	13	7	92
Queue Length 95th (ft)	31	18	m0	44	41	295
Internal Link Dist (ft)	217			650		443
Turn Bay Length (ft)			115		115	
Base Capacity (vph)	278	328	242	4372	352	3077
Starvation Cap Reductn	0	0	0	0	0	928
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.04	0.00	0.26	0.23	0.70

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	0	0	16	1	13	1	1029	31	75	1386	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	4928		1618	3470	
Flt Permitted					0.74	1.00	0.16	1.00		0.23	1.00	
Satd. Flow (perm)					1222	1397	273	4928		398	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	1118	34	82	1507	4
RTOR Reduction (vph)	0	0	0	0	0	13	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	18	1	1	1151	0	82	1511	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	234	4216		340	2968	
v/s Ratio Prot								0.23			c0.44	
v/s Ratio Perm					c0.01	0.00	0.00			0.21		
v/c Ratio					0.22	0.01	0.00	0.27		0.24	0.51	
Uniform Delay, d1					48.7	48.0	1.2	1.5		1.4	2.0	
Progression Factor					1.00	1.00	0.54	0.47		1.00	1.00	
Incremental Delay, d2					1.4	0.0	0.0	0.1		1.7	0.6	
Delay (s)					50.1	48.0	0.6	0.8		3.1	2.7	
Level of Service					D	D	A	A		A	A	
Approach Delay (s)		0.0			49.2			0.8			2.7	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	2.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	49	410	876	28	30
v/c Ratio	0.36	0.25	0.33	0.24	0.22
Control Delay	49.1	1.6	1.2	52.8	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	1.6	1.2	52.8	20.4
Queue Length 50th (ft)	32	30	13	19	0
Queue Length 95th (ft)	m64	52	21	48	30
Internal Link Dist (ft)		561	485	363	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	249	1636	2695	426	404
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.25	0.33	0.07	0.07

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	45	377	672	134	26	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3451		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3451		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	410	730	146	28	30
RTOR Reduction (vph)	0	0	7	0	0	28
Lane Group Flow (vph)	49	410	869	0	28	2
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	7.3	94.8	83.0		6.2	6.2
Effective Green, g (s)	7.3	94.8	83.0		6.2	6.2
Actuated g/C Ratio	0.07	0.86	0.75		0.06	0.06
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	117	1606	2604		100	89
v/s Ratio Prot	c0.03	0.22	c0.25		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.42	0.26	0.33		0.28	0.02
Uniform Delay, d1	49.3	1.3	4.4		49.8	49.0
Progression Factor	0.90	0.85	0.19		1.00	1.00
Incremental Delay, d2	2.2	0.3	0.3		1.5	0.1
Delay (s)	46.5	1.5	1.1		51.3	49.1
Level of Service	D	A	A		D	D
Approach Delay (s)		6.3	1.1		50.2	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	4.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	183	278	65	1101	46	748	353	727	892	53
v/c Ratio	1.09	0.51	0.25	0.09	1.15	0.54	0.67	0.35	1.17	0.70	0.08
Control Delay	188.1	48.1	34.7	26.7	106.8	87.5	51.3	1.8	142.4	39.3	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	188.1	48.1	34.7	26.7	106.8	87.5	51.3	1.8	142.4	39.3	8.0
Queue Length 50th (ft)	~88	64	91	37	~1190	42	226	0	~412	360	1
Queue Length 95th (ft)	#204	94	148	70	#1457	85	275	23	#539	453	31
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	78	1007	1134	686	955	116	1168	1008	620	1283	630
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.18	0.25	0.09	1.15	0.40	0.64	0.35	1.17	0.70	0.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

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

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

Intersection Summary

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

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

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

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

c Critical Lane Group

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

Intersection Summary

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

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

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

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

c Critical Lane Group

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

Intersection Summary

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

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

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

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

Intersection Summary

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

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

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

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

Intersection Summary

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

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

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

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

Intersection Summary

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

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

Lane Group	EBT	EBR	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	327	273	175	190	336	334	3
v/c Ratio	0.42	0.34	0.75	0.18	0.72	0.58	0.04
Control Delay	18.8	1.5	64.4	10.8	36.0	11.5	45.3
Queue Delay	0.5	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	1.6	64.4	10.8	36.0	11.5	45.3
Queue Length 50th (ft)	103	0	118	50	221	117	1
Queue Length 95th (ft)	234	13	#208	117	317	176	11
Internal Link Dist (ft)	328			4916	905		217
Turn Bay Length (ft)		350	75			100	
Base Capacity (vph)	777	799	263	1069	566	577	84
Starvation Cap Reductn	173	102	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.39	0.67	0.18	0.59	0.58	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	301	251	161	174	1	307	2	307	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	9	10	10	11	11	16	12	12	12
Total Lost time (s)		4.6	4.6	4.0	4.6			4.0	4.5		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00			1.00	0.99		0.90	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00			1.00	0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (prot)		1759	1466	1562	1703			1682	1728		1538	
Flt Permitted		1.00	1.00	0.95	1.00			0.95	1.00		0.98	
Satd. Flow (perm)		1759	1466	1562	1703			1682	1728		1538	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	327	273	175	189	1	334	2	334	1	1	1
RTOR Reduction (vph)	0	0	160	0	0	0	0	0	175	0	1	0
Lane Group Flow (vph)	0	327	113	175	190	0	0	336	159	0	2	0
Confl. Peds. (#/hr)	14					14			2	2		5
Confl. Bikes (#/hr)			7			5						
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	1	2	0	0	0	0	0	1	0	2	0
Turn Type	Perm		Perm	Prot			Split		custom	Split		
Protected Phases		2		1	6		4 7	4 7	7	8	8	
Permitted Phases	2		2						4			
Actuated Green, G (s)		45.4	45.4	16.4	65.8			30.6	26.1		1.0	
Effective Green, g (s)		45.4	45.4	16.4	65.8			26.1	26.1		1.0	
Actuated g/C Ratio		0.41	0.41	0.15	0.60			0.24	0.24		0.01	
Clearance Time (s)		4.6	4.6	4.0	4.6				4.5		4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		726	605	233	1019			399	481		14	
v/s Ratio Prot		c0.19		c0.11	0.11			c0.20	0.03		c0.00	
v/s Ratio Perm			0.08						0.06			
v/c Ratio		0.45	0.19	0.75	0.19			0.84	0.33		0.14	
Uniform Delay, d1		23.3	20.5	44.8	10.0			40.0	34.7		54.1	
Progression Factor		0.70	0.10	1.00	1.00			0.80	0.79		1.00	
Incremental Delay, d2		1.9	0.7	12.8	0.4			13.0	0.4		4.7	
Delay (s)		18.3	2.7	57.6	10.4			44.9	27.7		58.8	
Level of Service		B	A	E	B			D	C		E	
Approach Delay (s)		11.2			33.0			36.3			58.8	
Approach LOS		B			C			D			E	

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.6
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	61	140	25	170	249	246	26	387	116	321	808
v/c Ratio	0.35	0.50	0.10	0.58	0.51	0.43	0.22	0.60	0.35	0.74	0.58
Control Delay	51.7	46.3	16.7	46.7	36.0	7.0	54.5	39.8	18.8	43.6	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	46.3	16.7	46.7	36.0	7.0	54.5	39.8	18.8	43.6	21.9
Queue Length 50th (ft)	31	71	0	86	121	0	14	103	18	160	186
Queue Length 95th (ft)	97	175	27	207	260	66	53	206	83	339	313
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	212	574	495	459	862	812	129	1147	521	745	2203
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.24	0.05	0.37	0.29	0.30	0.20	0.34	0.22	0.43	0.37

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	690	76	1623	826	237	543	921	414	248	20
v/c Ratio	0.65	0.74	0.21	2.07	0.67	1.55	0.62	0.68	0.84	0.24	0.04
Control Delay	76.8	46.7	9.9	510.4	24.5	315.2	23.8	19.8	68.0	24.0	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	76.8	46.7	9.9	510.4	24.5	315.2	23.8	19.8	68.0	24.1	8.9
Queue Length 50th (ft)	52	168	0	~959	226	~229	189	302	153	51	1
Queue Length 95th (ft)	#123	213	39	m#1047	m284	#386	240	384	#226	82	m11
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	114	952	363	783	1239	153	878	1359	503	1046	490
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	3	0	0	0	0	0	0	131	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.72	0.21	2.07	0.67	1.55	0.62	0.68	0.82	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.

m Volume for 95th 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	70	1493	575	185	218	500	847	381	228	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3109		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	690	76	1623	625	201	237	543	921	414	248	20
RTOR Reduction (vph)	0	0	61	0	27	0	0	0	0	0	0	14
Lane Group Flow (vph)	74	690	15	1623	799	0	237	543	921	414	248	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)	6.4	20.5	20.5	27.3	41.4		10.0	26.5	53.8	16.7	33.2	33.2
Effective Green, g (s)	6.4	22.0	22.0	27.3	42.9		10.0	28.0	53.8	16.7	34.7	34.7
Actuated g/C Ratio	0.06	0.20	0.20	0.25	0.39		0.09	0.25	0.49	0.15	0.32	0.32
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)	91	931	295	808	1213		153	854	1323	494	1022	465
v/s Ratio Prot	0.05	c0.15		c0.50	0.26		c0.14	0.16	c0.34	c0.13	0.08	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.81	0.74	0.05	2.01	0.66		1.55	0.64	0.70	0.84	0.24	0.01
Uniform Delay, d1	51.2	41.3	35.6	41.4	27.5		50.0	36.5	21.8	45.3	27.9	25.9
Progression Factor	1.00	1.00	1.00	0.88	0.81		1.26	0.57	1.60	1.16	0.85	0.83
Incremental Delay, d2	42.1	3.4	0.1	457.5	1.2		275.3	3.4	1.7	12.0	0.5	0.1
Delay (s)	93.3	44.7	35.7	493.9	23.6		338.5	24.2	36.5	64.7	24.3	21.7
Level of Service	F	D	D	F	C		F	C	D	E	C	C
Approach Delay (s)		48.2			335.3			74.7			48.8	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM Average Control Delay	180.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.9%	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)	237	1730	237	293	981	207	208	128	194
v/c Ratio	0.75	0.85	0.30	1.07	0.53	0.63	0.62	0.30	0.88
Control Delay	57.7	22.9	1.4	117.4	27.8	46.7	46.3	7.0	62.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	22.9	1.4	117.4	27.8	46.7	46.3	7.0	62.3
Queue Length 50th (ft)	133	232	0	~229	191	142	143	0	35
Queue Length 95th (ft)	#287	#627	11	#400	275	189	190	41	#104
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	328	2029	801	275	1867	512	520	590	221
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.85	0.30	1.07	0.53	0.40	0.40	0.22	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)	218	1592	218	270	868	35	334	48	118	35	52	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1620	4655	1531	1678	4623		1539	1561	1514		3016	
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	1531	1678	4623		1539	1561	1514		3016	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	237	1730	237	293	943	38	363	52	128	38	57	99
RTOR Reduction (vph)	0	0	134	0	4	0	0	0	101	0	95	0
Lane Group Flow (vph)	237	1730	103	293	977	0	207	208	27	0	99	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	20.6	46.8	46.8	17.1	43.3		22.9	22.9	22.9		4.0	
Effective Green, g (s)	21.6	47.8	47.8	18.1	44.3		23.5	23.5	23.5		4.6	
Actuated g/C Ratio	0.20	0.43	0.43	0.16	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)	318	2023	665	276	1862		329	333	323		126	
v/s Ratio Prot	0.15	c0.37		c0.17	0.21		c0.13	0.13			c0.03	
v/s Ratio Perm			0.07						0.02			
v/c Ratio	0.75	0.86	0.15	1.06	0.52		0.63	0.62	0.08		0.79	
Uniform Delay, d1	41.6	28.0	18.9	46.0	24.9		39.3	39.2	34.6		52.2	
Progression Factor	1.04	0.57	0.14	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	9.1	4.6	0.5	71.4	1.1		4.2	4.1	0.2		28.2	
Delay (s)	52.6	20.4	3.1	117.3	25.9		43.5	43.4	34.8		80.4	
Level of Service	D	C	A	F	C		D	D	C		F	
Approach Delay (s)		22.0			47.0			41.4			80.4	
Approach LOS		C			D			D			F	

Intersection Summary			
HCM Average Control Delay	34.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	170	1803	130	634	238	158	353	90	549
v/c Ratio	0.71	0.94	0.62	0.50	0.95	0.18	0.57	0.47	0.73
Control Delay	57.9	39.7	48.7	12.7	92.1	28.0	14.2	53.9	38.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	39.7	48.7	12.7	92.1	28.0	14.2	53.9	38.9
Queue Length 50th (ft)	104	~417	68	106	79	41	62	29	161
Queue Length 95th (ft)	#199	#542	m#116	m176	#155	62	138	55	199
Internal Link Dist (ft)		793		1183		1977			633
Turn Bay Length (ft)	140		125		130		130	130	
Base Capacity (vph)	240	1917	210	1273	251	1056	698	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	0.71	0.94	0.62	0.50	0.95	0.15	0.51	0.47	0.56

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	156	1363	295	120	560	23	219	145	325	83	404	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	11	10	10	13	10	10	14	10	10	10
Total Lost time (s)	3.1	4.0		3.1	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95		0.97	0.95	1.00	0.97	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1620	4603		1652	3269		3143	3240	1660	3204	3131	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1620	4603		1652	3269		3143	3240	1660	3204	3131	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	1482	321	130	609	25	238	158	353	90	439	110
RTOR Reduction (vph)	0	32	0	0	2	0	0	0	169	0	24	0
Lane Group Flow (vph)	170	1771	0	130	632	0	238	158	184	90	525	0
Confl. Peds. (#/hr)						3			2			2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	2	2	0	0	0	0	0	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases									8			
Actuated Green, G (s)	14.9	39.4		12.8	37.3		9.0	27.6	27.6	5.6	24.2	
Effective Green, g (s)	14.8	40.4		12.7	38.3		8.0	27.2	27.2	4.6	23.8	
Actuated g/C Ratio	0.15	0.40		0.13	0.38		0.08	0.27	0.27	0.05	0.24	
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)	240	1860		210	1252		251	881	452	147	745	
v/s Ratio Prot	0.10	c0.38		c0.08	0.19		c0.08	0.05		0.03	c0.17	
v/s Ratio Perm									c0.11			
v/c Ratio	0.71	0.95		0.62	0.50		0.95	0.18	0.41	0.61	0.70	
Uniform Delay, d1	40.5	28.9		41.4	23.6		45.8	27.9	29.8	46.8	34.9	
Progression Factor	1.00	1.00		0.90	0.48		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.2	12.3		4.2	1.0		42.6	0.1	0.8	8.4	3.3	
Delay (s)	49.7	41.1		41.5	12.4		88.4	28.0	30.6	55.2	38.1	
Level of Service	D	D		D	B		F	C	C	E	D	
Approach Delay (s)		41.9			17.4			48.4			40.5	
Approach LOS		D			B			D			D	

Intersection Summary			
HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.1
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	89	199	508	2	1004	176	1075	818
v/c Ratio	0.67	0.93	0.58	0.02	1.13	0.33	1.34	0.32
Control Delay	61.5	91.3	6.5	33.0	105.6	11.0	191.8	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.5	91.3	6.5	33.0	105.6	11.0	191.8	11.6
Queue Length 50th (ft)	50	140	0	1	~418	24	~1013	186
Queue Length 95th (ft)	#128	#280	50	m3	#552	m44	#1294	280
Internal Link Dist (ft)	387	336			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	135	218	881	92	885	537	801	2539
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	0.66	0.91	0.58	0.02	1.13	0.33	1.34	0.32

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)	58	2	22	183	0	467	2	924	162	989	711	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.96			1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1693			1770	2787	1678	3355	1583	1770	3438	
Flt Permitted		0.43			0.71	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		750			1331	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)	63	2	24	199	0	508	2	1004	176	1075	773	45
RTOR Reduction (vph)	0	12	0	0	0	426	0	0	120	0	3	0
Lane Group Flow (vph)	0	77	0	0	199	82	2	1004	56	1075	815	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8			2			
Actuated Green, G (s)		17.8			17.8	17.8	1.2	29.0	29.0	49.7	77.5	
Effective Green, g (s)		17.8			17.8	17.8	1.2	29.0	29.0	49.7	77.5	
Actuated g/C Ratio		0.16			0.16	0.16	0.01	0.26	0.26	0.45	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)		121			215	451	18	885	417	800	2422	
v/s Ratio Prot							0.00	c0.30		c0.61	0.24	
v/s Ratio Perm		0.10			c0.15	0.03			0.04			
v/c Ratio		0.64			0.93	0.18	0.11	1.13	0.13	1.34	0.34	
Uniform Delay, d1		43.1			45.4	39.8	53.9	40.5	30.9	30.1	6.3	
Progression Factor		1.00			1.00	1.00	0.66	0.93	1.56	1.19	2.11	
Incremental Delay, d2		10.6			40.9	0.2	1.7	70.0	0.4	161.1	0.3	
Delay (s)		53.7			86.3	40.0	37.4	107.5	48.7	197.0	13.6	
Level of Service		D			F	D	D	F	D	F	B	
Approach Delay (s)		53.7			53.0			98.6			117.7	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM Average Control Delay	98.6	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	104.7%	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)	110	38	123	112	215	50	401	288	625
v/c Ratio	0.29	0.11	0.44	0.27	0.45	0.22	0.52	0.62	0.42
Control Delay	21.1	8.3	25.2	20.7	6.8	29.8	19.9	25.8	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	8.3	25.2	20.7	6.8	29.8	19.9	25.8	12.1
Queue Length 50th (ft)	28	0	32	28	0	14	46	76	68
Queue Length 95th (ft)	83	21	97	83	48	58	126	207	157
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	939	758	689	1024	859	302	1663	826	2506
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.05	0.18	0.11	0.25	0.17	0.24	0.35	0.25

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	262	347	124	93	388	108	127	962	86	757
v/c Ratio	0.87	0.59	0.25	0.62	1.02	0.27	0.66	0.80	0.58	0.71
Control Delay	71.9	37.0	6.5	66.1	106.6	24.0	66.9	34.8	72.2	46.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.9	37.0	6.5	66.1	106.6	24.0	66.9	34.8	72.2	46.9
Queue Length 50th (ft)	180	210	0	70	~302	21	89	280	59	241
Queue Length 95th (ft)	#320	311	43	#129	#496	85	156	#362	m104	m294
Internal Link Dist (ft)		2946			524			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	311	593	504	159	379	403	210	1200	159	1068
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	0.84	0.59	0.25	0.58	1.02	0.27	0.60	0.80	0.54	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)	241	319	114	86	357	99	117	734	151	79	639	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1845	1306	1593	1863	1559	1652	3143		1593	3179	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3143		1593	3179	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	347	124	93	388	108	127	798	164	86	695	62
RTOR Reduction (vph)	0	0	84	0	0	86	0	15	0	0	6	0
Lane Group Flow (vph)	262	347	40	93	388	22	127	947	0	86	751	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	21.7	35.3	35.3	8.8	22.4	22.4	12.7	39.9		8.8	36.0	
Effective Green, g (s)	21.7	35.3	35.3	8.8	22.4	22.4	12.7	39.9		8.8	36.0	
Actuated g/C Ratio	0.20	0.32	0.32	0.08	0.20	0.20	0.12	0.36		0.08	0.33	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	311	592	419	127	379	317	191	1140		127	1040	
v/s Ratio Prot	c0.17	0.19		0.06	c0.21		0.08	c0.30		0.05	c0.24	
v/s Ratio Perm			0.03			0.01						
v/c Ratio	0.84	0.59	0.09	0.73	1.02	0.07	0.66	0.83		0.68	0.72	
Uniform Delay, d1	42.5	31.2	26.2	49.4	43.8	35.4	46.6	32.0		49.2	32.6	
Progression Factor	1.00	1.00	1.00	1.00	1.29	3.10	1.08	0.92		1.21	1.33	
Incremental Delay, d2	18.9	1.8	0.1	20.2	52.0	0.1	9.0	6.9		13.3	4.0	
Delay (s)	61.5	33.0	26.3	69.9	108.4	109.9	59.5	36.3		73.1	47.2	
Level of Service	E	C	C	E	F	F	E	D		E	D	
Approach Delay (s)		42.0			102.6			39.0			49.9	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM Average Control Delay	54.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	596	21	454	74	73	268	86	48
v/c Ratio	0.57	0.20	0.37	0.32	0.25	1.11	0.24	0.37
Control Delay	11.5	52.7	11.4	43.5	41.2	133.8	10.4	51.5
Queue Delay	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	52.7	11.4	43.5	41.2	133.8	10.4	51.5
Queue Length 50th (ft)	92	14	147	46	45	~217	1	29
Queue Length 95th (ft)	133	40	231	92	88	#382	43	66
Internal Link Dist (ft)	522		1458		986		464	
Turn Bay Length (ft)		60		100				
Base Capacity (vph)	1044	104	1242	231	291	241	359	268
Starvation Cap Reductn	114	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	0.64	0.20	0.37	0.32	0.25	1.11	0.24	0.18

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	0	33	502	13	19	371	47	68	2	65	247	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	8	9	14	12	11	12	12	12	12
Total Lost time (s)			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
Frpb, ped/bikes			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
Frt			1.00		1.00	0.98		1.00	0.85		1.00	0.85
Flt Protected			1.00		0.95	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)			1849		1593	1953		1711	1591		1770	1587
Flt Permitted			0.95		0.95	1.00		0.70	1.00		0.71	1.00
Satd. Flow (perm)			1771		1593	1953		1262	1591		1322	1587
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	36	546	14	21	403	51	74	2	71	268	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	69
Lane Group Flow (vph)	0	0	596	0	21	454	0	74	73	0	268	17
Confl. Peds. (#/hr)				2								
Parking (#/hr)												
Turn Type	Prot	Perm			Prot			Perm			Perm	
Protected Phases	5		2		1	6			8			4
Permitted Phases		2						8			4	
Actuated Green, G (s)			61.2		3.4	69.1		20.1	20.1		20.1	20.1
Effective Green, g (s)			61.2		3.4	69.1		20.1	20.1		20.1	20.1
Actuated g/C Ratio			0.56		0.03	0.63		0.18	0.18		0.18	0.18
Clearance Time (s)			4.5		4.5	4.5		4.5	4.5		4.5	4.5
Vehicle Extension (s)			3.0		3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			985		49	1227		231	291		242	290
v/s Ratio Prot					0.01	c0.23			0.05			0.01
v/s Ratio Perm			c0.34					0.06			c0.20	
v/c Ratio			0.60		0.43	0.37		0.32	0.25		1.11	0.06
Uniform Delay, d1			16.3		52.3	9.9		39.0	38.5		44.9	37.1
Progression Factor			0.55		1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			2.5		5.9	0.9		0.8	0.5		89.7	0.1
Delay (s)			11.4		58.3	10.8		39.8	39.0		134.6	37.2
Level of Service			B		E	B		D	D		F	D
Approach Delay (s)			11.4			12.9			39.4			111.0
Approach LOS			B			B			D			F

Intersection Summary			
HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SWR	SWR2
Lane Configurations			
Volume (vph)	78	40	5
Ideal Flow (vphpl)	1900	1900	1900
Lane Width	12	12	12
Total Lost time (s)		4.5	
Lane Util. Factor		1.00	
Frpb, ped/bikes		1.00	
Flpb, ped/bikes		1.00	
Frt		0.86	
Flt Protected		1.00	
Satd. Flow (prot)		1611	
Flt Permitted		1.00	
Satd. Flow (perm)		1611	
Peak-hour factor, PHF	0.92	0.92	0.92
Adj. Flow (vph)	85	43	5
RTOR Reduction (vph)	0	5	0
Lane Group Flow (vph)	0	43	0
Confl. Peds. (#/hr)			
Parking (#/hr)			
Turn Type		custom	
Protected Phases		9	
Permitted Phases		9	
Actuated Green, G (s)		7.3	
Effective Green, g (s)		7.3	
Actuated g/C Ratio		0.07	
Clearance Time (s)		4.5	
Vehicle Extension (s)		3.0	
Lane Grp Cap (vph)		107	
v/s Ratio Prot		c0.03	
v/s Ratio Perm			
v/c Ratio		0.40	
Uniform Delay, d1		49.3	
Progression Factor		1.00	
Incremental Delay, d2		2.5	
Delay (s)		51.8	
Level of Service		D	
Approach Delay (s)			
Approach LOS			

Intersection Summary

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

Intersection Summary

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

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

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

c Critical Lane Group

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

Intersection Summary

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

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

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

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

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1428	1170	328	1626	708	795
v/c Ratio	1.01	0.70	0.53	0.74	0.42	1.03
Control Delay	48.6	4.5	53.5	16.6	0.8	77.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	4.5	53.5	16.6	0.8	77.1
Queue Length 50th (ft)	~562	32	128	388	0	~319
Queue Length 95th (ft)	#700	43	174	462	0	#455
Internal Link Dist (ft)	363			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1418	1677	614	2211	1686	773
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	1.01	0.70	0.53	0.74	0.42	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1314	1076	302	1496	0	0	0	651	0	0	731
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1428	1170	328	1626	0	0	0	708	0	0	795
RTOR Reduction (vph)	0	0	560	0	0	0	0	0	0	0	0	51
Lane Group Flow (vph)	0	1428	610	328	1626	0	0	0	708	0	0	744
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		46.5	46.5	21.5	72.5				110.0			28.5
Effective Green, g (s)		46.5	46.5	21.5	72.5				110.0			28.5
Actuated g/C Ratio		0.42	0.42	0.20	0.66				1.00			0.26
Clearance Time (s)		4.5	4.5	4.5	4.5							4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0							3.0
Lane Grp Cap (vph)		1418	1117	614	2211				1686			722
v/s Ratio Prot		c0.43		0.10	c0.48							c0.27
v/s Ratio Perm			0.23						0.42			
v/c Ratio		1.01	0.55	0.53	0.74				0.42			1.03
Uniform Delay, d1		31.8	23.8	39.8	12.4				0.0			40.8
Progression Factor		0.75	0.59	1.26	1.17				1.00			1.00
Incremental Delay, d2		23.5	0.5	3.1	1.7				0.8			41.5
Delay (s)		47.3	14.5	53.0	16.2				0.8			82.2
Level of Service		D	B	D	B				A			F
Approach Delay (s)		32.5			22.4			0.8			82.2	
Approach LOS		C			C			A			F	

Intersection Summary			
HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	635	1501	825	497	552	1135
v/c Ratio	0.89	0.45	0.40	0.53	0.34	0.74
Control Delay	42.9	0.3	4.1	6.6	0.6	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	0.3	4.1	6.6	0.6	3.3
Queue Length 50th (ft)	208	0	29	6	0	0
Queue Length 95th (ft)	m225	m0	m52	m80	0	0
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	714	3355	2044	942	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	0.89	0.45	0.40	0.53	0.34	0.74

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	584	1381	0	0	759	457	0	0	508	0	0	1044
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	635	1501	0	0	825	497	0	0	552	0	0	1135
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	0	0	0	0
Lane Group Flow (vph)	635	1501	0	0	825	487	0	0	552	0	0	1135
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	12.5	55.0			33.5	33.5			55.0			55.0
Effective Green, g (s)	12.5	55.0			33.5	33.5			55.0			55.0
Actuated g/C Ratio	0.23	1.00			0.61	0.61			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	714	3355			2044	933			1611			1528
v/s Ratio Prot	0.20	0.45			0.25							
v/s Ratio Perm						0.32			0.34			c0.74
v/c Ratio	0.89	0.45			0.40	0.52			0.34			0.74
Uniform Delay, d1	20.6	0.0			5.6	6.2			0.0			0.0
Progression Factor	1.58	1.00			0.63	0.80			1.00			1.00
Incremental Delay, d2	7.8	0.1			0.5	1.8			0.6			3.3
Delay (s)	40.4	0.1			4.0	6.7			0.6			3.3
Level of Service	D	A			A	A			A			A
Approach Delay (s)		12.1			5.0			0.6			3.3	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	485	714	1043	253	20	287	577	26	75	811	172
v/c Ratio	1.29	1.01	0.59	0.90	0.06	0.97	0.40	0.05	0.47	0.84	0.33
Control Delay	163.4	49.7	4.4	72.0	14.8	86.7	23.2	10.8	52.6	42.1	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	163.4	49.7	4.4	72.0	14.8	86.7	23.2	10.8	52.6	42.1	16.0
Queue Length 50th (ft)	~285	~348	70	157	1	183	142	2	46	253	41
Queue Length 95th (ft)	m#376	m#598	m141	#304	20	#347	191	20	92	#336	96
Internal Link Dist (ft)		1183		843			2151			1424	
Turn Bay Length (ft)	130				100	225		80	150		80
Base Capacity (vph)	377	706	1770	282	347	297	1428	538	172	971	517
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.29	1.01	0.59	0.90	0.06	0.97	0.40	0.05	0.44	0.84	0.33

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	446	657	960	9	224	18	264	531	24	69	746	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	16	10	10	11	10	12	8	10	10	12
Total Lost time (s)	4.0	4.0	3.5		4.0	4.0	4.0	4.0	5.0	3.6	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1652	1739	1770		1735	1475	1652	3539	1337	1652	3303	1551
Flt Permitted	0.32	1.00	1.00		0.72	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	549	1739	1770		1248	1475	1652	3539	1337	1652	3303	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	485	714	1043	10	243	20	287	577	26	75	811	172
RTOR Reduction (vph)	0	0	0	0	0	14	0	0	12	0	0	61
Lane Group Flow (vph)	485	714	1043	0	253	6	287	577	14	75	811	111
Confl. Peds. (#/hr)						14			2			5
Confl. Bikes (#/hr)			7			5						
Turn Type	pm+pt		Free	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8		Free	4		4			6			2
Actuated Green, G (s)	40.1	40.1	100.0		22.1	22.1	17.0	38.4	38.4	7.5	28.4	28.4
Effective Green, g (s)	40.6	40.6	100.0		22.6	22.6	18.0	39.4	38.4	8.4	29.4	29.4
Actuated g/C Ratio	0.41	0.41	1.00		0.23	0.23	0.18	0.39	0.38	0.08	0.29	0.29
Clearance Time (s)	4.5	4.5			4.5	4.5	5.0	5.0	5.0	4.5	5.0	5.0
Vehicle Extension (s)	3.0	4.0			4.0	4.0	3.0	6.0	6.0	3.5	6.0	6.0
Lane Grp Cap (vph)	377	706	1770		282	333	297	1394	513	139	971	456
v/s Ratio Prot	c0.18	0.41					c0.17	0.16		0.05	c0.25	
v/s Ratio Perm	c0.34		0.59		0.20	0.00			0.01			0.07
v/c Ratio	1.29	1.01	0.59		0.90	0.02	0.97	0.41	0.03	0.54	0.84	0.24
Uniform Delay, d1	26.7	29.7	0.0		37.6	30.1	40.7	21.9	19.2	43.9	33.0	26.8
Progression Factor	0.70	0.53	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	142.1	30.7	1.0		29.0	0.0	42.7	0.9	0.1	4.5	8.4	1.3
Delay (s)	160.8	46.6	1.0		66.5	30.1	83.4	22.8	19.3	48.4	41.5	28.1
Level of Service	F	D	A		E	C	F	C	B	D	D	C
Approach Delay (s)		50.1			63.9			42.3			39.8	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	46.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

23: Wells Fargo Drwy & Merced St

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	48	90	1608	141	1937
v/c Ratio	0.41	0.49	0.38	0.70	0.65
Control Delay	55.7	29.1	0.7	20.9	10.8
Queue Delay	0.0	0.0	0.0	0.0	12.4
Total Delay	55.7	29.1	0.7	20.9	23.3
Queue Length 50th (ft)	33	22	19	56	367
Queue Length 95th (ft)	67	68	m21	m20	m50
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	260	337	4217	201	2965
Starvation Cap Reductn	0	0	0	0	1040
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.27	0.38	0.70	1.01

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	44	0	83	0	1445	34	130	1781	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	9	9	10	10	12	16	10	12	16
Total Lost time (s)					4.0	4.0		4.6		4.6	4.6	
Lane Util. Factor					1.00	1.00		0.91		1.00	0.95	
Frpb, ped/bikes					1.00	0.98		1.00		1.00	1.00	
Flpb, ped/bikes					1.00	1.00		1.00		1.00	1.00	
Frt					1.00	0.85		1.00		1.00	1.00	
Flt Protected					0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)					1562	1395		4934		1619	3471	
Flt Permitted					0.76	1.00		1.00		0.14	1.00	
Satd. Flow (perm)					1245	1395		4934		235	3471	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	48	0	90	0	1571	37	141	1936	1
RTOR Reduction (vph)	0	0	0	0	0	52	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	48	38	0	1607	0	141	1937	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					9.2	9.2		92.2		92.2	92.2	
Effective Green, g (s)					9.2	9.2		92.2		92.2	92.2	
Actuated g/C Ratio					0.08	0.08		0.84		0.84	0.84	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					104	117		4136		197	2909	
v/s Ratio Prot								0.33			0.56	
v/s Ratio Perm					c0.04	0.03				c0.60		
v/c Ratio					0.46	0.32		0.39		0.72	0.67	
Uniform Delay, d1					48.0	47.5		2.1		3.6	3.3	
Progression Factor					1.00	1.00		0.23		2.42	2.61	
Incremental Delay, d2					3.2	1.6		0.1		2.0	0.1	
Delay (s)					51.3	49.1		0.6		10.8	8.6	
Level of Service					D	D		A		B	A	
Approach Delay (s)		0.0			49.8			0.6			8.8	
Approach LOS		A			D			A			A	

Intersection Summary			
HCM Average Control Delay	6.8	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	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)	36	626	625	241	99
v/c Ratio	0.29	0.46	0.27	0.73	0.26
Control Delay	62.1	6.8	10.1	54.9	8.6
Queue Delay	0.0	1.1	0.0	0.0	0.0
Total Delay	62.1	7.9	10.1	54.9	8.6
Queue Length 50th (ft)	26	76	130	162	0
Queue Length 95th (ft)	m36	371	185	230	42
Internal Link Dist (ft)		524	522	183	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	386	1365	2310	579	585
Starvation Cap Reductn	0	474	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	0.70	0.27	0.42	0.17

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	33	576	528	47	222	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3496		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3496		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	626	574	51	241	99
RTOR Reduction (vph)	0	0	3	0	0	81
Lane Group Flow (vph)	36	626	622	0	241	18
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	5.3	80.6	70.8		20.4	20.4
Effective Green, g (s)	5.3	80.6	70.8		20.4	20.4
Actuated g/C Ratio	0.05	0.73	0.64		0.19	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)	85	1365	2250		328	294
v/s Ratio Prot	0.02	c0.34	0.18		c0.14	
v/s Ratio Perm						0.01
v/c Ratio	0.42	0.46	0.28		0.73	0.06
Uniform Delay, d1	50.9	5.9	8.5		42.2	36.9
Progression Factor	1.20	0.86	1.04		1.00	1.00
Incremental Delay, d2	2.8	0.9	0.3		8.3	0.1
Delay (s)	63.7	6.0	9.1		50.5	37.0
Level of Service	E	A	A		D	D
Approach Delay (s)		9.1	9.1		46.6	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	222	249	205	884	36	604	190	392	426	54
v/c Ratio	0.76	0.56	0.19	0.26	0.89	0.47	0.65	0.20	0.85	0.42	0.11
Control Delay	103.9	52.7	26.6	22.2	30.8	83.5	50.8	1.3	72.7	37.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.9	52.7	26.6	22.2	30.8	83.5	50.8	1.3	72.7	37.5	8.9
Queue Length 50th (ft)	63	84	65	100	537	31	176	0	171	157	0
Queue Length 95th (ft)	#160	125	121	174	#1014	72	219	18	#287	208	32
Internal Link Dist (ft)		705		1637			209			1240	
Turn Bay Length (ft)	200		300		100	100		175	500		
Base Capacity (vph)	104	1338	1338	849	997	94	1278	1050	461	1177	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.17	0.19	0.24	0.89	0.38	0.47	0.18	0.85	0.36	0.09

Intersection Summary

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

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

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

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

Intersection Summary

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

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

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

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

c Critical Lane Group

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

Intersection Summary

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

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

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

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

c Critical Lane Group

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

Intersection Summary

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

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

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

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

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

Intersection Summary

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

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

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

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

Intersection Summary

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

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

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

Intersection Summary

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

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

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

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	166	408	64	245	386	503	24	382	143	228	463
v/c Ratio	0.65	0.81	0.15	0.75	0.67	0.66	0.25	0.66	0.45	0.77	0.44
Control Delay	60.6	53.1	23.1	61.0	40.5	9.5	66.4	50.8	22.5	65.3	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.6	53.1	23.1	61.0	40.5	9.5	66.4	50.8	22.5	65.3	29.8
Queue Length 50th (ft)	123	295	22	179	252	26	18	147	32	168	140
Queue Length 95th (ft)	218	462	63	#329	414	148	53	216	101	#327	208
Internal Link Dist (ft)		684			1889			1965			1318
Turn Bay Length (ft)	125		80	100			50		75	130	
Base Capacity (vph)	356	664	570	407	731	846	100	876	429	363	1300
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.61	0.11	0.60	0.53	0.59	0.24	0.44	0.33	0.63	0.36

Intersection Summary

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

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	59	558	93	1612	1052	187	286	546	205	337	20
v/c Ratio	0.50	0.58	0.25	1.79	0.77	1.60	0.29	0.33	0.90	0.35	0.04
Control Delay	60.1	37.8	8.2	381.8	24.7	338.0	28.2	10.6	85.7	29.0	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.1	37.8	8.2	381.8	24.7	338.0	28.2	10.6	85.7	29.0	10.8
Queue Length 50th (ft)	37	118	0	~801	268	~171	73	88	68	88	0
Queue Length 95th (ft)	#85	146	38	m#910	m305	#309	109	139	#135	128	18
Internal Link Dist (ft)		238			310		443			309	
Turn Bay Length (ft)	75		200	360		150		275	110		100
Base Capacity (vph)	117	1187	446	902	1368	117	990	1657	228	956	449
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	0.47	0.21	1.79	0.77	1.60	0.29	0.33	0.90	0.35	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)	54	513	86	1483	724	244	172	263	502	189	310	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	10	11	11	10	11	11	11	12	11	10	11
Total Lost time (s)	3.1	4.0	4.0	3.1	4.0		4.0	4.0	3.1	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.95		1.00	0.95	0.88	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1562	4655	1477	3255	3105		1678	3355	2706	3255	3240	1475
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1562	4655	1477	3255	3105		1678	3355	2706	3255	3240	1475
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	558	93	1612	787	265	187	286	546	205	337	20
RTOR Reduction (vph)	0	0	74	0	32	0	0	0	0	0	0	14
Lane Group Flow (vph)	59	558	19	1612	1020	0	187	286	546	205	337	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)	5.3	19.2	19.2	27.6	41.5		7.0	27.2	58.8	7.0	27.2	27.2
Effective Green, g (s)	6.2	20.7	20.7	28.5	43.0		7.0	28.7	59.7	7.0	28.7	28.7
Actuated g/C Ratio	0.06	0.21	0.21	0.28	0.43		0.07	0.29	0.60	0.07	0.29	0.29
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)	97	964	306	928	1335		117	963	1615	228	930	423
v/s Ratio Prot	0.04	c0.12		c0.50	c0.33		c0.11	0.09	0.20	c0.06	c0.10	
v/s Ratio Perm			0.01									0.00
v/c Ratio	0.61	0.58	0.06	1.74	0.76		1.60	0.30	0.34	0.90	0.36	0.01
Uniform Delay, d1	45.7	35.7	31.9	35.8	24.2		46.5	27.8	10.2	46.1	28.4	25.5
Progression Factor	1.00	1.00	1.00	0.92	0.93		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.9	1.0	0.1	334.2	1.6		305.5	0.8	0.2	34.0	1.1	0.1
Delay (s)	57.6	36.7	32.0	367.0	24.1		352.0	28.6	10.3	80.2	29.5	25.6
Level of Service	E	D	C	F	C		F	C	B	F	C	C
Approach Delay (s)		37.8			231.6			78.2			47.8	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM Average Control Delay	151.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	23.1
Intersection Capacity Utilization	94.2%	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)	301	1522	484	193	845	224	227	122	131
v/c Ratio	0.69	0.89	0.56	0.60	0.63	0.62	0.62	0.27	0.66
Control Delay	43.4	33.9	3.9	47.7	34.0	40.5	40.2	6.1	43.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	33.9	3.9	47.7	34.0	40.5	40.2	6.1	43.9
Queue Length 50th (ft)	140	356	22	110	173	137	138	0	24
Queue Length 95th (ft)	#379	#484	68	#273	225	180	181	36	#65
Internal Link Dist (ft)		660			577		351		533
Turn Bay Length (ft)	125		520	180		200			
Base Capacity (vph)	439	1711	869	322	1336	563	573	633	197
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	0.69	0.89	0.56	0.60	0.63	0.40	0.40	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)	277	1400	445	178	750	28	355	60	112	18	48	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	10	12	11	10	10	10	10	12	10	11	11
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.95	0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1620	4655	1531	1678	4626		1539	1564	1515		3061	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1620	4655	1531	1678	4626		1539	1564	1515		3061	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	301	1522	484	193	815	30	386	65	122	20	52	59
RTOR Reduction (vph)	0	0	306	0	4	0	0	0	93	0	56	0
Lane Group Flow (vph)	301	1522	178	193	841	0	224	227	29	0	75	0
Confl. Peds. (#/hr)			2			3			2			
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	2
Turn Type	Prot		Perm	Prot			Split		Perm	Split		
Protected Phases	5	2		1	6		8	8		7	7	
Permitted Phases			2						8			
Actuated Green, G (s)	26.1	35.7	35.7	18.2	27.8		22.9	22.9	22.9		4.0	
Effective Green, g (s)	27.1	36.7	36.7	19.2	28.8		23.5	23.5	23.5		4.6	
Actuated g/C Ratio	0.27	0.37	0.37	0.19	0.29		0.24	0.24	0.24		0.05	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		4.6	4.6	4.6		4.6	
Vehicle Extension (s)	4.0	6.0	6.0	4.0	6.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	439	1708	562	322	1332		362	368	356		141	
v/s Ratio Prot	c0.19	c0.33		0.12	0.18		c0.15	0.15			c0.02	
v/s Ratio Perm			0.12						0.02			
v/c Ratio	0.69	0.89	0.32	0.60	0.63		0.62	0.62	0.08		0.53	
Uniform Delay, d1	32.6	29.8	22.7	36.9	31.0		34.2	34.2	29.8		46.6	
Progression Factor	0.99	0.83	0.55	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	4.6	7.2	1.4	3.5	2.3		3.6	3.5	0.1		4.6	
Delay (s)	36.9	31.9	13.9	40.4	33.3		37.8	37.7	30.0		51.3	
Level of Service	D	C	B	D	C		D	D	C		D	
Approach Delay (s)		28.8			34.6			36.1			51.3	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

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

Intersection Summary

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

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

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

c Critical Lane Group

Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	20	139	316	4	651	666	929	629
v/c Ratio	0.10	0.75	0.48	0.01	0.69	0.92	1.01	0.24
Control Delay	35.2	69.1	7.1	10.0	33.8	30.9	54.2	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	69.1	7.1	10.0	33.8	30.9	54.2	4.7
Queue Length 50th (ft)	10	94	0	1	232	267	~618	54
Queue Length 95th (ft)	32	#171	42	m2	213	#224	#880	113
Internal Link Dist (ft)	387	325			727			650
Turn Bay Length (ft)			250	155			400	
Base Capacity (vph)	226	218	720	297	946	723	924	2603
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	0.09	0.64	0.44	0.01	0.69	0.92	1.01	0.24

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	4	126	2	291	4	599	613	855	533	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	16	12	16	12	12	12	11	11	12	12	12	16
Total Lost time (s)		4.5			4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor		1.00			1.00	0.88	1.00	0.95	1.00	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)		1703			1775	2787	1676	3355	1583	1770	3423	
Flt Permitted		0.77			0.71	1.00	0.41	1.00	1.00	0.19	1.00	
Satd. Flow (perm)		1363			1331	2787	729	3355	1583	359	3423	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	0	4	137	2	316	4	651	666	929	579	50
RTOR Reduction (vph)	0	3	0	0	0	272	0	0	277	0	5	0
Lane Group Flow (vph)	0	17	0	0	139	44	4	651	389	929	624	0
Confl. Peds. (#/hr)							2					2
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	4%	2%	4%	2%	2%	2%	4%	4%	2%	2%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	4
Parking (#/hr)	0		0									
Turn Type	Perm			Perm		Perm	pm+pt		Perm	pm+pt		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)		15.3			15.3	15.3	32.2	31.0	31.0	85.7	80.0	
Effective Green, g (s)		15.3			15.3	15.3	32.2	31.0	31.0	85.7	80.0	
Actuated g/C Ratio		0.14			0.14	0.14	0.29	0.28	0.28	0.78	0.73	
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)		190			185	388	224	946	446	924	2489	
v/s Ratio Prot							0.00	0.19		c0.46	0.18	
v/s Ratio Perm		0.01			c0.10	0.02	0.01		0.25	c0.32		
v/c Ratio		0.09			0.75	0.11	0.02	0.69	0.87	1.01	0.25	
Uniform Delay, d1		41.3			45.5	41.4	27.7	35.2	37.6	22.7	5.0	
Progression Factor		1.00			1.00	1.00	0.76	0.84	0.75	1.00	1.00	
Incremental Delay, d2		0.2			15.7	0.1	0.0	3.7	18.7	30.9	0.2	
Delay (s)		41.5			61.2	41.5	21.1	33.4	47.1	53.6	5.2	
Level of Service		D			E	D	C	C	D	D	A	
Approach Delay (s)		41.5			47.6			40.3			34.1	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	38.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	101.6%	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)	218	67	100	126	174	60	387	127	297
v/c Ratio	0.48	0.15	0.32	0.23	0.33	0.21	0.45	0.37	0.27
Control Delay	19.2	5.5	17.8	15.4	4.9	24.4	17.1	23.5	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	5.5	17.8	15.4	4.9	24.4	17.1	23.5	12.9
Queue Length 50th (ft)	49	0	21	26	0	15	41	30	28
Queue Length 95th (ft)	127	23	66	73	36	56	106	95	75
Internal Link Dist (ft)	315			2946			238		1965
Turn Bay Length (ft)		100	75		75	100		100	
Base Capacity (vph)	1111	978	776	1326	1040	525	1969	727	2266
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.07	0.13	0.10	0.17	0.11	0.20	0.17	0.13

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	141	157	70	70	200	354	92	747	71	652
v/c Ratio	0.65	0.38	0.20	0.46	0.66	0.66	0.51	0.50	0.48	0.45
Control Delay	58.5	38.7	9.1	60.0	47.2	11.8	55.7	23.7	53.4	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.5	38.7	9.1	60.0	47.2	11.8	55.7	23.7	53.4	22.8
Queue Length 50th (ft)	95	97	0	35	135	76	62	195	48	187
Queue Length 95th (ft)	159	149	35	83	203	187	113	287	m69	272
Internal Link Dist (ft)		2946			525			956		727
Turn Bay Length (ft)	240		200	230			200		150	
Base Capacity (vph)	259	493	400	176	396	598	225	1494	165	1448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.32	0.17	0.40	0.51	0.59	0.41	0.50	0.43	0.45

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	144	64	64	184	326	85	585	102	65	509	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	9	12	8	9	12	12	10	10	10	9	10	10
Total Lost time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1845	1306	1593	1863	1559	1652	3156		1593	3150	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1845	1306	1593	1863	1559	1652	3156		1593	3150	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	157	70	70	200	354	92	636	111	71	553	99
RTOR Reduction (vph)	0	0	54	0	0	281	0	11	0	0	11	0
Lane Group Flow (vph)	141	157	16	70	200	73	92	736	0	71	641	0
Confl. Peds. (#/hr)			2			2			9			
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	4%	2%	2%	4%	2%
Bus Blockages (#/hr)	0	0	6	0	0	0	0	0	6	0	4	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases			8			4						
Actuated Green, G (s)	15.2	24.7	24.7	9.1	18.6	18.6	10.4	50.1		8.9	48.6	
Effective Green, g (s)	15.2	24.7	24.7	9.1	18.6	18.6	10.4	50.1		8.9	48.6	
Actuated g/C Ratio	0.14	0.22	0.22	0.08	0.17	0.17	0.09	0.46		0.08	0.44	
Clearance Time (s)	4.0	4.6	4.6	4.0	4.6	4.6	4.0	4.6		4.0	4.6	
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	218	414	293	132	315	264	156	1437		129	1392	
v/s Ratio Prot	c0.09	0.09		0.04	c0.11		c0.06	c0.23		0.04	0.20	
v/s Ratio Perm			0.01			0.05						
v/c Ratio	0.65	0.38	0.05	0.53	0.63	0.28	0.59	0.51		0.55	0.46	
Uniform Delay, d1	44.9	36.2	33.5	48.4	42.5	39.8	47.8	21.3		48.6	21.5	
Progression Factor	1.00	1.00	1.00	1.07	0.85	1.06	1.00	1.00		0.92	0.95	
Incremental Delay, d2	7.2	0.8	0.1	5.1	4.6	0.8	6.6	1.3		5.9	1.1	
Delay (s)	52.0	36.9	33.6	57.1	40.9	42.9	54.4	22.6		50.5	21.5	
Level of Service	D	D	C	E	D	D	D	C		D	C	
Approach Delay (s)		42.1			43.9			26.1			24.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	32.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SWR
Lane Group Flow (vph)	271	30	677	10	11	26	32	11
v/c Ratio	0.19	0.27	0.41	0.11	0.10	0.27	0.23	0.11
Control Delay	5.0	53.8	4.0	49.3	48.7	54.5	21.4	51.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.0	53.8	4.0	49.3	48.7	54.5	21.4	51.2
Queue Length 50th (ft)	49	20	75	7	7	18	1	8
Queue Length 95th (ft)	111	51	256	24	25	46	32	26
Internal Link Dist (ft)	522		1458		986		413	
Turn Bay Length (ft)		60		100				
Base Capacity (vph)	1398	167	1671	235	281	248	308	271
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	0.19	0.18	0.41	0.04	0.04	0.10	0.10	0.04

Intersection Summary

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	0	11	225	13	28	564	59	9	0	10	24	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	8	9	14	12	11	12	12	12	12
Total Lost time (s)			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
Frpb, ped/bikes			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
Frt			0.99		1.00	0.99		1.00	0.85		1.00	0.86
Flt Protected			1.00		0.95	1.00		0.95	1.00		0.95	1.00
Satd. Flow (prot)			1842		1593	1959		1711	1583		1770	1601
Flt Permitted			0.97		0.95	1.00		0.74	1.00		0.75	1.00
Satd. Flow (perm)			1790		1593	1959		1326	1583		1398	1601
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	12	245	14	30	613	64	10	0	11	26	2
RTOR Reduction (vph)	0	0	1	0	0	0	0	0	0	0	0	28
Lane Group Flow (vph)	0	0	270	0	30	677	0	10	11	0	26	4
Confl. Peds. (#/hr)				2								
Parking (#/hr)												
Turn Type	Prot	Perm			Prot			Perm			Perm	
Protected Phases	5		2		1	6			8			4
Permitted Phases		2						8			4	
Actuated Green, G (s)			78.7		5.2	88.4		6.5	6.5		6.5	6.5
Effective Green, g (s)			78.7		5.2	88.4		6.5	6.5		6.5	6.5
Actuated g/C Ratio			0.72		0.05	0.80		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
Vehicle Extension (s)			3.0		3.0	3.0		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)			1281		75	1574		78	94		83	95
v/s Ratio Prot					0.02	c0.35			0.01			0.00
v/s Ratio Perm			0.15					0.01			c0.02	
v/c Ratio			0.21		0.40	0.43		0.13	0.12		0.31	0.04
Uniform Delay, d1			5.2		50.9	3.2		49.1	49.0		49.6	48.8
Progression Factor			0.81		1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2			0.4		3.5	0.9		0.7	0.6		2.2	0.2
Delay (s)			4.6		54.4	4.1		49.8	49.6		51.8	49.0
Level of Service			A		D	A		D	D		D	D
Approach Delay (s)			4.6			6.2			49.7			50.2
Approach LOS			A			A			D			D

Intersection Summary			
HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SWR
Lane Configurations		
Volume (vph)	28	10
Ideal Flow (vphpl)	1900	1900
Lane Width	12	12
Total Lost time (s)		4.5
Lane Util. Factor		1.00
Frpb, ped/bikes		1.00
Flpb, ped/bikes		1.00
Frt		0.86
Flt Protected		1.00
Satd. Flow (prot)		1611
Flt Permitted		1.00
Satd. Flow (perm)		1611
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	30	11
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	11
Confl. Peds. (#/hr)		
Parking (#/hr)		
Turn Type		custom
Protected Phases		9
Permitted Phases		
Actuated Green, G (s)		1.6
Effective Green, g (s)		1.6
Actuated g/C Ratio		0.01
Clearance Time (s)		4.5
Vehicle Extension (s)		3.0
Lane Grp Cap (vph)		23
v/s Ratio Prot		c0.01
v/s Ratio Perm		
v/c Ratio		0.48
Uniform Delay, d1		53.8
Progression Factor		1.00
Incremental Delay, d2		14.8
Delay (s)		68.6
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)	55	297	7	527	41	59	7	36	374
v/c Ratio	0.23	0.31	0.04	0.74	0.24	0.11	0.02	0.10	0.63
Control Delay	30.4	9.6	30.7	24.2	21.0	16.6	9.7	17.0	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	9.6	30.7	24.2	21.0	16.6	9.7	17.0	18.9
Queue Length 50th (ft)	20	40	3	159	12	17	0	10	94
Queue Length 95th (ft)	57	138	15	#381	36	40	8	29	174
Internal Link Dist (ft)		1458		1442		1316			1561
Turn Bay Length (ft)	125		150		150		95	60	
Base Capacity (vph)	245	1240	175	925	340	1088	777	726	1057
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.24	0.04	0.57	0.12	0.05	0.01	0.05	0.35

Intersection Summary

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

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

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

c Critical Lane Group

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

Intersection Summary

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

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

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

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

Intersection Summary

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

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

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBR	SBR
Lane Group Flow (vph)	1137	1046	490	1859	686	965
v/c Ratio	1.08	0.69	0.64	0.92	0.41	1.11
Control Delay	80.3	4.0	42.4	22.9	0.7	98.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.3	4.0	42.4	22.9	0.7	98.0
Queue Length 50th (ft)	~434	13	172	566	0	~395
Queue Length 95th (ft)	m#562	m30	223	m578	0	#534
Internal Link Dist (ft)	364			920		
Turn Bay Length (ft)			420			
Base Capacity (vph)	1057	1525	770	2030	1686	870
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	1.08	0.69	0.64	0.92	0.41	1.11

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)	0	1046	962	451	1710	0	0	0	631	0	0	888
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	11	10	11	12	12	12	14	12	12	12
Total Lost time (s)		4.5	4.5	4.5	4.5				4.0			4.5
Lane Util. Factor		0.95	0.88	0.97	0.95				1.00			0.88
Frpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00				1.00			1.00
Frt		1.00	0.85	1.00	1.00				0.86			0.85
Flt Protected		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (prot)		3355	2642	3143	3355				1686			2787
Flt Permitted		1.00	1.00	0.95	1.00				1.00			1.00
Satd. Flow (perm)		3355	2642	3143	3355				1686			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1137	1046	490	1859	0	0	0	686	0	0	965
RTOR Reduction (vph)	0	0	693	0	0	0	0	0	0	0	0	20
Lane Group Flow (vph)	0	1137	353	490	1859	0	0	0	686	0	0	945
Confl. Peds. (#/hr)				4								
Heavy Vehicles (%)	2%	4%	4%	4%	4%	2%	2%	2%	4%	2%	2%	2%
Turn Type			Perm	Prot					Free			custom
Protected Phases		2		1	6							4
Permitted Phases			2						Free			4
Actuated Green, G (s)		31.5	31.5	24.5	60.5				100.0			30.5
Effective Green, g (s)		31.5	31.5	24.5	60.5				100.0			30.5
Actuated g/C Ratio		0.32	0.32	0.24	0.60				1.00			0.30
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)		1057	832	770	2030				1686			850
v/s Ratio Prot		c0.34		0.16	c0.55							c0.34
v/s Ratio Perm			0.13						0.41			
v/c Ratio		1.08	0.42	0.64	0.92				0.41			1.11
Uniform Delay, d1		34.2	27.1	33.8	17.5				0.0			34.8
Progression Factor		0.86	0.66	1.14	1.05				1.00			1.00
Incremental Delay, d2		50.1	1.5	3.6	3.6				0.7			66.2
Delay (s)		79.7	19.4	42.0	22.1				0.7			101.0
Level of Service		E	B	D	C				A			F
Approach Delay (s)		50.8			26.2			0.7			101.0	
Approach LOS		D			C			A			F	

Intersection Summary			
HCM Average Control Delay	43.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Group Flow (vph)	705	1117	861	521	775	1542
v/c Ratio	0.88	0.33	0.45	0.59	0.48	1.01
Control Delay	34.4	0.1	3.5	7.8	1.0	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.4	0.1	3.5	7.8	1.0	30.2
Queue Length 50th (ft)	204	0	28	30	0	~9
Queue Length 95th (ft)	m214	m0	77	208	0	#226
Internal Link Dist (ft)		920	660			
Turn Bay Length (ft)	390					
Base Capacity (vph)	798	3355	1899	877	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	0.88	0.33	0.45	0.59	0.48	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	649	1028	0	0	792	479	0	0	713	0	0	1419
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	12	12	11
Total Lost time (s)	4.5	4.5			4.5	4.5			4.0			4.0
Lane Util. Factor	0.97	0.95			0.95	1.00			1.00			1.00
Frt	1.00	1.00			1.00	0.85			0.86			0.86
Flt Protected	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (prot)	3143	3355			3355	1531			1611			1528
Flt Permitted	0.95	1.00			1.00	1.00			1.00			1.00
Satd. Flow (perm)	3143	3355			3355	1531			1611			1528
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	705	1117	0	0	861	521	0	0	775	0	0	1542
RTOR Reduction (vph)	0	0	0	0	0	11	0	0	0	0	0	0
Lane Group Flow (vph)	705	1117	0	0	861	510	0	0	775	0	0	1542
Heavy Vehicles (%)	4%	4%	2%	2%	4%	2%	2%	2%	2%	2%	2%	4%
Turn Type	Prot					Perm			Free			Free
Protected Phases	5	2			6							
Permitted Phases						6			Free			Free
Actuated Green, G (s)	12.7	50.0			28.3	28.3			50.0			50.0
Effective Green, g (s)	12.7	50.0			28.3	28.3			50.0			50.0
Actuated g/C Ratio	0.25	1.00			0.57	0.57			1.00			1.00
Clearance Time (s)	4.5	4.5			4.5	4.5						
Vehicle Extension (s)	3.0	3.0			3.0	3.0						
Lane Grp Cap (vph)	798	3355			1899	867			1611			1528
v/s Ratio Prot	0.22	0.33			0.26							
v/s Ratio Perm						0.33			0.48			c1.01
v/c Ratio	0.88	0.33			0.45	0.59			0.48			1.01
Uniform Delay, d1	17.9	0.0			6.3	7.1			0.0			25.0
Progression Factor	1.41	1.00			0.44	0.76			1.00			1.00
Incremental Delay, d2	6.6	0.1			0.7	2.5			1.0			25.3
Delay (s)	32.0	0.1			3.4	7.9			1.0			50.3
Level of Service	C	A			A	A			A			D
Approach Delay (s)		12.5			5.1			1.0			50.3	
Approach LOS		B			A			A			D	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

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

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

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

c Critical Lane Group

23: Wells Fargo Drwy & Merced St

Lane Group	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	28	90	913	160	1543
v/c Ratio	0.11	0.26	0.24	0.40	0.57
Control Delay	17.1	6.5	3.7	11.1	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	6.5	3.7	11.1	7.0
Queue Length 50th (ft)	7	0	26	15	95
Queue Length 95th (ft)	21	25	79	#115	#305
Internal Link Dist (ft)	217		650		443
Turn Bay Length (ft)				115	
Base Capacity (vph)	558	677	3703	385	2613
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.05	0.13	0.25	0.42	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)	0	0	0	26	0	83	0	799	41	147	1418	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	1400		4912		1619	3470	
Flt Permitted					0.76	1.00		1.00		0.30	1.00	
Satd. Flow (perm)					1245	1400		4912		512	3470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	28	0	90	0	868	45	160	1541	2
RTOR Reduction (vph)	0	0	0	0	0	79	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	28	11	0	907	0	160	1543	0
Confl. Peds. (#/hr)						3	2		2	2		2
Confl. Bikes (#/hr)									3			4
Heavy Vehicles (%)	2%	2%	2%	4%	2%	4%	2%	4%	4%	4%	4%	2%
Bus Blockages (#/hr)	0	0	0	0	0	5	0	5	0	0	0	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4		4	6			2		
Actuated Green, G (s)					5.3	5.3		31.5		31.5	31.5	
Effective Green, g (s)					5.3	5.3		31.5		31.5	31.5	
Actuated g/C Ratio					0.12	0.12		0.69		0.69	0.69	
Clearance Time (s)					4.0	4.0		4.6		4.6	4.6	
Vehicle Extension (s)					3.0	3.0		2.0		2.0	2.0	
Lane Grp Cap (vph)					145	163		3408		355	2408	
v/s Ratio Prot								0.18			c0.44	
v/s Ratio Perm					c0.02	0.01				0.31		
v/c Ratio					0.19	0.06		0.27		0.45	0.64	
Uniform Delay, d1					18.1	17.8		2.6		3.1	3.8	
Progression Factor					1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2					0.7	0.2		0.0		0.3	0.4	
Delay (s)					18.8	18.0		2.6		3.4	4.3	
Level of Service					B	B		A		A	A	
Approach Delay (s)		0.0			18.2			2.6			4.2	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	45.4	Sum of lost time (s)	8.6
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	12	278	724	38	30
v/c Ratio	0.11	0.17	0.24	0.30	0.21
Control Delay	46.9	1.6	3.9	53.7	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	1.6	3.9	53.7	19.6
Queue Length 50th (ft)	9	9	83	26	0
Queue Length 95th (ft)	m21	49	146	59	29
Internal Link Dist (ft)		525	522	196	
Turn Bay Length (ft)	240			65	
Base Capacity (vph)	378	1627	2974	410	390
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	0.03	0.17	0.24	0.09	0.08

Intersection Summary

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	11	256	607	59	35	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	1.00	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1863	3492		1770	1583
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1863	3492		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	278	660	64	38	30
RTOR Reduction (vph)	0	0	2	0	0	28
Lane Group Flow (vph)	12	278	722	0	38	2
Turn Type	Prot					Perm
Protected Phases	5	2	6		4	
Permitted Phases						4
Actuated Green, G (s)	1.5	94.2	88.2		6.8	6.8
Effective Green, g (s)	1.5	94.2	88.2		6.8	6.8
Actuated g/C Ratio	0.01	0.86	0.80		0.06	0.06
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	24	1595	2800		109	98
v/s Ratio Prot	c0.01	0.15	c0.21		c0.02	
v/s Ratio Perm						0.00
v/c Ratio	0.50	0.17	0.26		0.35	0.02
Uniform Delay, d1	53.9	1.3	2.7		49.5	48.5
Progression Factor	0.92	0.88	1.48		1.00	1.00
Incremental Delay, d2	14.5	0.2	0.2		1.9	0.1
Delay (s)	64.0	1.4	4.3		51.4	48.5
Level of Service	E	A	A		D	D
Approach Delay (s)		4.0	4.3		50.1	
Approach LOS		A	A		D	

Intersection Summary			
HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			