2014 No Build Conditions
(without CALP)
Friday Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	913	26	14	752	93	42	14	46	108	11	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	13	12	12	15	12
Total Lost time (s)		5.7			5.6			5.5			5.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			0.98			0.94			0.95	
Flt Protected		1.00			1.00			0.98			0.97	
Satd. Flow (prot)		3515			3468			1755			1868	
Flt Permitted		0.87			0.93			0.79			0.78	
Satd. Flow (perm)		3072			3220			1415			1501	
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	48	1062	30	16	864	107	56	19	61	144	15	109
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1140	0	0	987	0	0	136	0	0	268	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		25.2			25.3			12.4			12.4	
Effective Green, g (s)		25.2			25.3			12.4			12.4	
Actuated g/C Ratio		0.52			0.52			0.25			0.25	
Clearance Time (s)		5.7			5.6			5.5			5.5	
Vehicle Extension (s)		2.5			2.5			2.5			2.5	
Lane Grp Cap (vph)		1586			1669			360			381	
v/s Ratio Prot												
v/s Ratio Perm		c0.37			0.31			0.10			c0.18	
v/c Ratio		0.72			0.59			0.38			0.70	
Uniform Delay, d1		9.1			8.2			15.0			16.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.5			0.5			0.5			5.4	
Delay (s)		10.6			8.6			15.5			21.9	
Level of Service		B			A			B			C	
Approach Delay (s)		10.6			8.6			15.5			21.9	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	48.8	Sum of lost time (s)	11.2
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	1140	987	136	268
v/c Ratio	0.72	0.59	0.38	0.71
Control Delay	12.6	10.2	19.9	29.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	12.6	10.2	19.9	29.8
Queue Length 50th (ft)	127	99	33	72
Queue Length 95th (ft)	181	144	63	117
Internal Link Dist (ft)	880	2120	328	12725
Turn Bay Length (ft)				
Base Capacity (vph)	1921	2022	442	470
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.49	0.31	0.57

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	490	619	40	28	585	307	27	19	14	321	37	434
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	10	12	11	12	13	12	12	11	15
Total Lost time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.97		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1768	1965		1650	3539	1481		1867	1534		1707	1724
Flt Permitted	0.25	1.00		0.26	1.00	1.00		0.66	1.00		0.71	1.00
Satd. Flow (perm)	471	1965		453	3539	1481		1277	1534		1271	1724
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	538	680	44	30	622	327	29	21	15	345	40	467
RTOR Reduction (vph)	0	3	0	0	0	153	0	0	11	0	0	74
Lane Group Flow (vph)	538	721	0	30	622	174	0	50	4	0	385	393
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	pm+pt			pm+pt		Perm	Perm		Perm	Perm		pm+ov
Protected Phases	5	2		1	6			4			8	5
Permitted Phases	2			6		6	4		4	8		8
Actuated Green, G (s)	42.3	35.2		25.9	23.0	23.0		20.2	20.2		20.2	35.3
Effective Green, g (s)	42.3	35.2		25.9	23.0	23.0		20.2	20.2		20.2	35.3
Actuated g/C Ratio	0.60	0.50		0.37	0.32	0.32		0.28	0.28		0.28	0.50
Clearance Time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	557	976		214	1148	480		364	437		362	960
v/s Ratio Prot	c0.21	0.37		0.01	0.18							0.09
v/s Ratio Perm	c0.37			0.05		0.12		0.04	0.00		c0.30	0.14
v/c Ratio	0.97	0.74		0.14	0.54	0.36		0.14	0.01		1.06	0.41
Uniform Delay, d1	12.7	14.2		15.0	19.6	18.3		18.9	18.2		25.4	11.2
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	29.4	2.8		0.2	0.4	0.3		0.1	0.0		65.1	0.2
Delay (s)	42.1	17.0		15.2	20.0	18.7		19.0	18.2		90.5	11.4
Level of Service	D	B		B	C	B		B	B		F	B
Approach Delay (s)		27.7			19.4			18.8			47.2	
Approach LOS		C			B			B			D	

Intersection Summary			
HCM Average Control Delay	30.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	70.9	Sum of lost time (s)	8.4
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	538	724	30	622	327	50	15	385	467
v/c Ratio	0.96	0.71	0.09	0.59	0.55	0.13	0.03	1.03	0.48
Control Delay	44.5	19.1	7.2	22.5	9.9	21.2	10.9	83.0	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	19.1	7.2	22.5	9.9	21.2	10.9	83.0	8.4
Queue Length 50th (ft)	136	177	5	114	31	15	0	~156	57
Queue Length 95th (ft)	#343	#432	14	161	94	44	13	#377	155
Internal Link Dist (ft)		2120		980		249		1452	
Turn Bay Length (ft)			50		50				110
Base Capacity (vph)	561	1036	501	1832	875	378	464	375	963
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.70	0.06	0.34	0.37	0.13	0.03	1.03	0.48

Intersection Summary

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

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	296	1147	0	0	796
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	14	11	11	12	12
Total Lost time (s)		5.7	4.9			4.9
Lane Util. Factor		0.88	0.95			1.00
Frpb, ped/bikes		0.97	1.00			1.00
Flpb, ped/bikes		1.00	1.00			1.00
Frt		0.85	1.00			1.00
Flt Protected		1.00	1.00			1.00
Satd. Flow (prot)		2887	3421			1863
Flt Permitted		1.00	1.00			1.00
Satd. Flow (perm)		2887	3421			1863
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	336	1247	0	0	865
RTOR Reduction (vph)	0	73	0	0	0	0
Lane Group Flow (vph)	0	263	1247	0	0	865
Confl. Peds. (#/hr)	10	10		10	10	
Turn Type		custom				
Protected Phases			2			6
Permitted Phases		3				
Actuated Green, G (s)		10.5	30.4			51.5
Effective Green, g (s)		10.5	30.4			51.5
Actuated g/C Ratio		0.20	0.59			1.00
Clearance Time (s)		5.7	4.9			4.9
Vehicle Extension (s)		2.5	4.0			4.0
Lane Grp Cap (vph)		589	2019			1863
v/s Ratio Prot			c0.36			c0.46
v/s Ratio Perm		0.09				
v/c Ratio		0.45	0.62			0.46
Uniform Delay, d1		18.0	6.8			0.0
Progression Factor		1.00	1.00			1.00
Incremental Delay, d2		0.4	0.7			0.3
Delay (s)		18.3	7.5			0.3
Level of Service		B	A			A
Approach Delay (s)	18.3		7.5			0.3
Approach LOS	B		A			A

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	51.5	Sum of lost time (s)	4.9
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBR	NBT	SBT
Lane Group Flow (vph)	336	1247	865
v/c Ratio	0.51	0.63	0.46
Control Delay	17.8	8.5	0.8
Queue Delay	0.0	0.0	0.0
Total Delay	17.8	8.5	0.8
Queue Length 50th (ft)	35	103	0
Queue Length 95th (ft)	90	187	0
Internal Link Dist (ft)		626	13
Turn Bay Length (ft)			
Base Capacity (vph)	1500	2960	1863
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.22	0.42	0.46

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	166	8	297	35	5	23	628	781	33	13	834	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	14	12	11	12	12	12	10	11	13	11
Total Lost time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1751	1801	1652	1752	1546		3433	3512		1711	3592	
Flt Permitted	0.73	1.00	1.00	0.75	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1353	1801	1652	1387	1546		3433	3512		1711	3592	
Peak-hour factor, PHF	0.91	0.91	0.91	0.77	0.77	0.77	0.98	0.98	0.98	0.95	0.95	0.95
Adj. Flow (vph)	182	9	326	45	6	30	641	797	34	14	878	101
RTOR Reduction (vph)	0	0	230	0	27	0	0	2	0	0	6	0
Lane Group Flow (vph)	182	9	96	45	9	0	641	829	0	14	973	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			7		1	2		5	6	
Permitted Phases	4		4	7	7							
Actuated Green, G (s)	35.1	35.1	35.1	10.1	10.1		26.0	66.7		2.9	43.6	
Effective Green, g (s)	35.1	35.1	35.1	10.1	10.1		26.0	66.7		2.9	43.6	
Actuated g/C Ratio	0.30	0.30	0.30	0.09	0.09		0.22	0.56		0.02	0.37	
Clearance Time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	400	533	489	118	132		752	1973		42	1319	
v/s Ratio Prot		0.00			0.01		c0.19	0.24		0.01	c0.27	
v/s Ratio Perm	c0.13		0.06	0.03								
v/c Ratio	0.46	0.02	0.20	0.38	0.06		0.85	0.42		0.33	0.74	
Uniform Delay, d1	34.0	29.6	31.3	51.3	50.0		44.5	14.9		56.9	32.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.0	0.1	1.5	0.2		9.1	0.2		3.4	2.3	
Delay (s)	34.6	29.6	31.4	52.8	50.1		53.6	15.1		60.3	34.9	
Level of Service	C	C	C	D	D		D	B		E	C	
Approach Delay (s)		32.5			51.6			31.9			35.3	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	33.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	118.7	Sum of lost time (s)	14.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	182	9	326	45	36	641	831	14	979
v/c Ratio	0.44	0.02	0.45	0.39	0.23	0.83	0.41	0.12	0.78
Control Delay	39.1	33.0	5.8	63.9	25.6	53.8	14.9	58.6	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	33.0	5.8	63.9	25.6	53.8	14.9	58.6	38.4
Queue Length 50th (ft)	113	5	0	33	4	234	146	10	338
Queue Length 95th (ft)	204	20	70	66	30	343	264	35	450
Internal Link Dist (ft)		970			507		497		1026
Turn Bay Length (ft)	100		60			300		160	
Base Capacity (vph)	534	711	848	243	296	903	2116	225	1581
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	0.01	0.38	0.19	0.12	0.71	0.39	0.06	0.62

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	2	4	426	9	130	4	707	88	53	464	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	10	11	12	11	11	14	13	10	14
Total Lost time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.98		1.00	0.93		1.00	0.98		1.00	1.00	
Flt Protected		0.96		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1978		1569	1534		1711	3352		1829	3285	
Flt Permitted		0.68		0.83	0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1395		1370	1427		1711	3352		1829	3285	
Peak-hour factor, PHF	0.83	0.83	0.83	0.79	0.79	0.79	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	34	2	5	539	11	165	4	744	93	58	510	15
RTOR Reduction (vph)	0	4	0	0	19	0	0	7	0	0	1	0
Lane Group Flow (vph)	0	37	0	367	329	0	4	830	0	58	524	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			3		1	2		5	6	
Permitted Phases	4			3								
Actuated Green, G (s)		5.4		37.0	37.0		1.3	36.2		7.1	42.0	
Effective Green, g (s)		5.4		37.0	37.0		1.3	36.2		7.1	42.0	
Actuated g/C Ratio		0.05		0.36	0.36		0.01	0.35		0.07	0.40	
Clearance Time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)		73		488	508		21	1168		125	1328	
v/s Ratio Prot							0.00	c0.25		c0.03	0.16	
v/s Ratio Perm		c0.03		c0.27	0.23							
v/c Ratio		0.51		0.75	0.65		0.19	0.71		0.46	0.39	
Uniform Delay, d1		48.0		29.4	28.0		50.8	29.3		46.6	21.9	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.0		6.1	2.5		3.2	2.2		2.0	0.3	
Delay (s)		52.0		35.6	30.5		54.0	31.5		48.5	22.2	
Level of Service		D		D	C		D	C		D	C	
Approach Delay (s)		52.0			33.1			31.6			24.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	103.9	Sum of lost time (s)	18.2
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	41	367	348	4	837	58	525
v/c Ratio	0.29	0.71	0.63	0.03	0.73	0.33	0.37
Control Delay	49.9	41.5	34.8	51.8	33.5	53.4	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	41.5	34.8	51.8	33.5	53.4	20.5
Queue Length 50th (ft)	24	233	194	3	257	38	115
Queue Length 95th (ft)	59	#400	314	15	364	88	203
Internal Link Dist (ft)	165		514		1026		153
Turn Bay Length (ft)						100	
Base Capacity (vph)	228	515	555	552	1625	590	1683
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	0.18	0.71	0.63	0.01	0.52	0.10	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)	29	12	9	61	18	17	118	672	70	15	522	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	13	12	12	10	12	12	13	12	12	14	12
Total Lost time (s)		4.5			4.5			4.9			4.9	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.98			0.98			0.99			0.98	
Flt Protected		0.97			0.97			0.99			1.00	
Satd. Flow (prot)		1792			1609			1886			1939	
Flt Permitted		0.81			0.77			0.84			0.98	
Satd. Flow (perm)		1495			1274			1590			1897	
Peak-hour factor, PHF	0.75	0.75	0.75	0.77	0.77	0.77	0.97	0.97	0.97	0.91	0.91	0.91
Adj. Flow (vph)	39	16	12	79	23	22	122	693	72	16	574	96
RTOR Reduction (vph)	0	9	0	0	13	0	0	4	0	0	7	0
Lane Group Flow (vph)	0	58	0	0	111	0	0	883	0	0	679	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			5	
Permitted Phases	3			3			1			5		
Actuated Green, G (s)		12.6			12.6			38.3			38.3	
Effective Green, g (s)		12.6			12.6			38.3			38.3	
Actuated g/C Ratio		0.21			0.21			0.64			0.64	
Clearance Time (s)		4.5			4.5			4.9			4.9	
Vehicle Extension (s)		3.0			3.0			6.0			6.0	
Lane Grp Cap (vph)		312			266			1010			1205	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.09			c0.56			0.36	
v/c Ratio		0.18			0.42			0.87			0.56	
Uniform Delay, d1		19.6			20.7			9.0			6.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			1.1			9.6			1.3	
Delay (s)		19.9			21.7			18.6			7.5	
Level of Service		B			C			B			A	
Approach Delay (s)		19.9			21.7			18.6			7.5	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	9.4
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	67	124	887	686
v/c Ratio	0.16	0.35	0.84	0.54
Control Delay	15.9	19.0	21.8	9.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.9	19.0	21.8	9.4
Queue Length 50th (ft)	15	31	267	139
Queue Length 95th (ft)	34	59	#534	233
Internal Link Dist (ft)	538	2647	287	6088
Turn Bay Length (ft)				
Base Capacity (vph)	515	444	1060	1266
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.28	0.84	0.54

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	13	27	16	14	15	35	578	10	8	503	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	10	12	12	11	12	12	12	12
Total Lost time (s)		5.0			5.0			7.5			5.8	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.97			0.95			1.00			0.98	
Flt Protected		0.97			0.98			1.00			1.00	
Satd. Flow (prot)		1944			1601			1791			1826	
Flt Permitted		0.76			0.87			0.94			0.99	
Satd. Flow (perm)		1534			1424			1688			1810	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.87	0.87	0.87	0.88	0.88	0.88
Adj. Flow (vph)	105	17	36	21	19	20	40	664	11	9	572	75
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	158	0	0	44	0	0	715	0	0	652	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.8			12.8			37.0			38.7	
Effective Green, g (s)		12.8			12.8			37.0			38.7	
Actuated g/C Ratio		0.21			0.21			0.59			0.62	
Clearance Time (s)		5.0			5.0			7.5			5.8	
Vehicle Extension (s)		4.0			4.0			6.0			6.0	
Lane Grp Cap (vph)		315			293			1003			1124	
v/s Ratio Prot												
v/s Ratio Perm		c0.10			0.03			c0.42			0.36	
v/c Ratio		0.50			0.15			0.71			0.58	
Uniform Delay, d1		21.9			20.3			8.9			7.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.7			0.3			3.5			1.5	
Delay (s)		23.6			20.6			12.4			8.4	
Level of Service		C			C			B			A	
Approach Delay (s)		23.6			20.6			12.4			8.4	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	12.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	12.5
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	158	60	715	656
v/c Ratio	0.50	0.19	0.71	0.58
Control Delay	28.3	17.0	14.6	10.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.3	17.0	14.6	10.0
Queue Length 50th (ft)	53	12	165	122
Queue Length 95th (ft)	88	32	321	243
Internal Link Dist (ft)	10998	2302	6088	1957
Turn Bay Length (ft)				
Base Capacity (vph)	741	704	1094	1226
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.21	0.09	0.65	0.54

Intersection Summary

2014 No Build Conditions
(without CALP)
Sunday Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	354	4	10	339	19	30	12	6	37	9	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	13	12	12	15	12
Total Lost time (s)		5.7			5.6			5.5			5.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.98			0.95	
Flt Protected		1.00			1.00			0.97			0.98	
Satd. Flow (prot)		3528			3502			1828			1884	
Flt Permitted		0.94			0.94			1.00			0.97	
Satd. Flow (perm)		3332			3299			1885			1876	
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.88	0.88	0.88	0.75	0.75	0.75
Adj. Flow (vph)	9	407	5	12	413	23	34	14	7	49	12	36
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	421	0	0	448	0	0	55	0	0	97	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		17.6			17.7			3.1			3.1	
Effective Green, g (s)		17.6			17.7			3.1			3.1	
Actuated g/C Ratio		0.55			0.55			0.10			0.10	
Clearance Time (s)		5.7			5.6			5.5			5.5	
Vehicle Extension (s)		2.5			2.5			2.5			2.5	
Lane Grp Cap (vph)		1838			1830			183			182	
v/s Ratio Prot												
v/s Ratio Perm		0.13			c0.14			0.03			c0.05	
v/c Ratio		0.23			0.24			0.30			0.53	
Uniform Delay, d1		3.7			3.7			13.4			13.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.1			0.7			2.3	
Delay (s)		3.7			3.7			14.1			16.0	
Level of Service		A			A			B			B	
Approach Delay (s)		3.7			3.7			14.1			16.0	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	5.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	31.9	Sum of lost time (s)	11.1
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	421	448	55	97
v/c Ratio	0.17	0.18	0.10	0.18
Control Delay	4.5	4.4	8.3	8.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.5	4.4	8.3	8.8
Queue Length 50th (ft)	0	0	3	5
Queue Length 95th (ft)	40	40	20	25
Internal Link Dist (ft)	880	2120	328	12725
Turn Bay Length (ft)				
Base Capacity (vph)	3257	3233	1014	1009
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.05	0.10

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	280	172	17	113	128	6	22	16	14	178	18	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	10	12	11	12	13	12	12	11	15
Total Lost time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.97		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1764	1955		1645	3539	1487		1832	1510		1694	1708
Flt Permitted	0.47	1.00		0.62	1.00	1.00		0.80	1.00		0.71	1.00
Satd. Flow (perm)	881	1955		1070	3539	1487		1505	1510		1261	1708
Peak-hour factor, PHF	0.84	0.84	0.84	0.81	0.81	0.81	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	333	205	20	140	158	7	27	20	17	207	21	312
RTOR Reduction (vph)	0	5	0	0	0	5	0	0	12	0	0	150
Lane Group Flow (vph)	333	220	0	140	158	2	0	47	5	0	228	162
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	pm+pt			pm+pt		Perm	Perm		Perm	Perm		pm+ov
Protected Phases	5	2		1	6			4			8	5
Permitted Phases	2			6		6	4		4	8		8
Actuated Green, G (s)	27.2	16.4		17.8	11.2	11.2		14.0	14.0		14.0	25.8
Effective Green, g (s)	27.2	16.4		17.8	11.2	11.2		14.0	14.0		14.0	25.8
Actuated g/C Ratio	0.55	0.33		0.36	0.23	0.23		0.28	0.28		0.28	0.52
Clearance Time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	693	646		461	799	336		425	426		356	1033
v/s Ratio Prot	c0.11	0.11		0.04	0.04							0.04
v/s Ratio Perm	c0.15			0.07		0.00		0.03	0.00		c0.18	0.06
v/c Ratio	0.48	0.34		0.30	0.20	0.00		0.11	0.01		0.64	0.16
Uniform Delay, d1	6.5	12.5		11.1	15.6	14.9		13.2	12.8		15.6	6.2
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.2		0.3	0.1	0.0		0.1	0.0		3.5	0.1
Delay (s)	6.9	12.8		11.4	15.6	14.9		13.3	12.8		19.1	6.3
Level of Service	A	B		B	B	B		B	B		B	A
Approach Delay (s)		9.2			13.7			13.2			11.7	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	49.6	Sum of lost time (s)	8.4
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	333	225	140	158	7	47	17	228	312
v/c Ratio	0.49	0.34	0.27	0.21	0.02	0.11	0.04	0.63	0.30
Control Delay	10.1	16.7	9.2	19.1	12.7	13.6	7.0	24.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	16.7	9.2	19.1	12.7	13.6	7.0	24.1	1.3
Queue Length 50th (ft)	47	49	18	20	0	10	0	56	0
Queue Length 95th (ft)	102	106	43	42	8	27	9	113	15
Internal Link Dist (ft)		2120		980		249		1452	
Turn Bay Length (ft)			50		50				110
Base Capacity (vph)	749	1428	721	2581	1080	627	636	524	1151
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	0.44	0.16	0.19	0.06	0.01	0.07	0.03	0.44	0.27

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	161	667	0	0	736
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	14	11	11	12	12
Total Lost time (s)		5.7	4.9			4.9
Lane Util. Factor		0.88	0.95			1.00
Frpb, ped/bikes		0.97	1.00			1.00
Flpb, ped/bikes		1.00	1.00			1.00
Frt		0.85	1.00			1.00
Flt Protected		1.00	1.00			1.00
Satd. Flow (prot)		2895	3355			1845
Flt Permitted		1.00	1.00			1.00
Satd. Flow (perm)		2895	3355			1845
Peak-hour factor, PHF	0.81	0.81	0.95	0.95	0.92	0.92
Adj. Flow (vph)	0	199	702	0	0	800
RTOR Reduction (vph)	0	155	0	0	0	0
Lane Group Flow (vph)	0	44	702	0	0	800
Confl. Peds. (#/hr)	10	10		10	10	
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		custom				
Protected Phases			2			6
Permitted Phases		3				
Actuated Green, G (s)		8.1	17.6			36.3
Effective Green, g (s)		8.1	17.6			36.3
Actuated g/C Ratio		0.22	0.48			1.00
Clearance Time (s)		5.7	4.9			4.9
Vehicle Extension (s)		2.5	4.0			4.0
Lane Grp Cap (vph)		646	1627			1845
v/s Ratio Prot			0.21			c0.43
v/s Ratio Perm		0.02				
v/c Ratio		0.07	0.43			0.43
Uniform Delay, d1		11.1	6.1			0.0
Progression Factor		1.00	1.00			1.00
Incremental Delay, d2		0.0	0.3			0.2
Delay (s)		11.2	6.3			0.2
Level of Service		B	A			A
Approach Delay (s)	11.2		6.3			0.2
Approach LOS	B		A			A

Intersection Summary			
HCM Average Control Delay	4.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	36.3	Sum of lost time (s)	0.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBR	NBT	SBT
Lane Group Flow (vph)	199	702	800
v/c Ratio	0.22	0.44	0.43
Control Delay	0.7	7.2	0.7
Queue Delay	0.0	0.0	0.0
Total Delay	0.7	7.2	0.7
Queue Length 50th (ft)	0	41	0
Queue Length 95th (ft)	0	66	0
Internal Link Dist (ft)		626	13
Turn Bay Length (ft)			
Base Capacity (vph)	2112	3355	1845
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.09	0.21	0.43

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	22	330	61	14	16	285	503	40	39	696	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	14	12	11	12	12	12	10	11	13	11
Total Lost time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1754	1801	1655	1755	1641		3367	3424		1694	3562	
Flt Permitted	0.73	1.00	1.00	0.74	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1350	1801	1655	1369	1641		3367	3424		1694	3562	
Peak-hour factor, PHF	0.89	0.89	0.89	0.75	0.75	0.75	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	143	25	371	81	19	21	306	541	43	44	782	83
RTOR Reduction (vph)	0	0	234	0	18	0	0	4	0	0	6	0
Lane Group Flow (vph)	143	25	137	81	22	0	306	580	0	44	859	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			7		1	2		5	6	
Permitted Phases	4		4	7	7							
Actuated Green, G (s)	37.2	37.2	37.2	12.2	12.2		14.5	44.7		5.1	35.3	
Effective Green, g (s)	37.2	37.2	37.2	12.2	12.2		14.5	44.7		5.1	35.3	
Actuated g/C Ratio	0.37	0.37	0.37	0.12	0.12		0.14	0.44		0.05	0.35	
Clearance Time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	497	663	610	165	198		483	1515		86	1245	
v/s Ratio Prot		0.01			0.01		c0.09	0.17		0.03	c0.24	
v/s Ratio Perm	c0.11		0.08	0.06								
v/c Ratio	0.29	0.04	0.22	0.49	0.11		0.63	0.38		0.51	0.69	
Uniform Delay, d1	22.5	20.4	22.0	41.5	39.6		40.7	18.9		46.7	28.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.1	1.7	0.2		2.4	0.2		3.8	1.8	
Delay (s)	22.8	20.5	22.1	43.2	39.7		43.1	19.1		50.5	30.0	
Level of Service	C	C	C	D	D		D	B		D	C	
Approach Delay (s)		22.2			42.0			27.4			31.0	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	101.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	143	25	371	81	40	306	584	44	865
v/c Ratio	0.28	0.04	0.44	0.51	0.19	0.62	0.38	0.29	0.72
Control Delay	26.3	23.9	4.5	55.8	28.2	47.2	19.8	52.4	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	23.9	4.5	55.8	28.2	47.2	19.8	52.4	32.9
Queue Length 50th (ft)	61	10	0	48	11	92	132	26	241
Queue Length 95th (ft)	139	33	62	92	37	164	204	72	361
Internal Link Dist (ft)		970			507		497		1026
Turn Bay Length (ft)	100		60			300		160	
Base Capacity (vph)	625	838	965	282	355	1044	2302	263	1845
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.03	0.38	0.29	0.11	0.29	0.25	0.17	0.47

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	6	9	380	3	79	19	235	111	57	261	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	10	11	12	11	11	14	13	10	14
Total Lost time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.94		1.00	0.95		1.00	0.95		1.00	1.00	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1941		1569	1560		1678	3163		1811	3253	
Flt Permitted		0.95		0.29	0.41		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1875		473	652		1678	3163		1811	3253	
Peak-hour factor, PHF	0.75	0.75	0.75	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	8	8	12	418	3	87	21	261	123	63	290	9
RTOR Reduction (vph)	0	12	0	0	10	0	0	45	0	0	1	0
Lane Group Flow (vph)	0	16	0	259	239	0	21	339	0	63	298	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			3		1	2		5	6	
Permitted Phases	4			3								
Actuated Green, G (s)		2.7		36.3	36.3		2.7	17.1		6.7	21.1	
Effective Green, g (s)		2.7		36.3	36.3		2.7	17.1		6.7	21.1	
Actuated g/C Ratio		0.03		0.45	0.45		0.03	0.21		0.08	0.26	
Clearance Time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)		63		212	292		56	668		150	847	
v/s Ratio Prot							0.01	c0.11		c0.03	c0.09	
v/s Ratio Perm		c0.01		c0.55	0.37							
v/c Ratio		0.26		1.22	0.82		0.38	0.51		0.42	0.35	
Uniform Delay, d1		38.2		22.4	19.5		38.3	28.2		35.3	24.4	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6		134.5	15.8		3.1	0.8		1.4	0.3	
Delay (s)		39.8		156.8	35.3		41.4	29.1		36.7	24.7	
Level of Service		D		F	D		D	C		D	C	
Approach Delay (s)		39.8			97.3			29.7			26.8	
Approach LOS		D			F			C			C	

Intersection Summary			
HCM Average Control Delay	55.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	23.1
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	259	249	21	384	63	299
v/c Ratio	0.13	1.14	0.77	0.11	0.57	0.29	0.33
Control Delay	27.8	129.3	39.7	38.1	28.0	38.7	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	129.3	39.7	38.1	28.0	38.7	24.4
Queue Length 50th (ft)	7	~143	83	9	67	26	45
Queue Length 95th (ft)	28	#381	#309	35	134	74	113
Internal Link Dist (ft)	165		514		1026		153
Turn Bay Length (ft)						100	
Base Capacity (vph)	396	228	324	694	1980	749	2018
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	0.07	1.14	0.77	0.03	0.19	0.08	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically 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	7	1	24	14	1	7	249	52	4	326	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	13	12	12	10	12	12	13	12	12	14	12
Total Lost time (s)		4.5			4.5			4.9			4.9	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		0.98			0.98			1.00			1.00	
Frt		1.00			1.00			0.98			0.99	
Flt Protected		0.96			0.97			1.00			1.00	
Satd. Flow (prot)		1803			1652			1834			1948	
Flt Permitted		0.74			0.80			0.99			1.00	
Satd. Flow (perm)		1397			1366			1820			1942	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.92	0.92	0.92	0.86	0.86	0.86
Adj. Flow (vph)	40	9	1	32	19	1	8	271	57	5	379	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	8	0	0	3	0
Lane Group Flow (vph)	0	49	0	0	51	0	0	328	0	0	405	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			5	
Permitted Phases	3			3			1			5		
Actuated Green, G (s)		9.2			9.2			36.5			36.5	
Effective Green, g (s)		9.2			9.2			36.5			36.5	
Actuated g/C Ratio		0.17			0.17			0.66			0.66	
Clearance Time (s)		4.5			4.5			4.9			4.9	
Vehicle Extension (s)		3.0			3.0			6.0			6.0	
Lane Grp Cap (vph)		233			228			1206			1286	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.04			0.18			c0.21	
v/c Ratio		0.21			0.22			0.27			0.32	
Uniform Delay, d1		19.8			19.9			3.8			4.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.5			0.3			0.4	
Delay (s)		20.3			20.4			4.2			4.4	
Level of Service		C			C			A			A	
Approach Delay (s)		20.3			20.4			4.2			4.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	55.1	Sum of lost time (s)	9.4
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	50	52	336	408
v/c Ratio	0.12	0.12	0.25	0.29
Control Delay	15.1	15.2	5.9	6.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.1	15.2	5.9	6.4
Queue Length 50th (ft)	12	12	51	68
Queue Length 95th (ft)	27	28	92	110
Internal Link Dist (ft)	538	2647	287	6088
Turn Bay Length (ft)				
Base Capacity (vph)	533	519	1422	1515
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.10	0.24	0.27

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	11	4	24	3	35	2	27	256	9	3	269	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	10	12	12	11	12	12	12	12
Total Lost time (s)		5.0			5.0			7.5			5.8	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.92			0.99			1.00			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1868			1710			1748			1830	
Flt Permitted		0.88			0.97			0.95			1.00	
Satd. Flow (perm)		1674			1661			1663			1826	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.90	0.90	0.90	0.87	0.87	0.87
Adj. Flow (vph)	15	5	32	4	47	3	30	284	10	3	309	15
RTOR Reduction (vph)	0	0	0	0	3	0	0	1	0	0	1	0
Lane Group Flow (vph)	0	52	0	0	51	0	0	323	0	0	326	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		3.2			3.2			23.3			25.0	
Effective Green, g (s)		3.2			3.2			23.3			25.0	
Actuated g/C Ratio		0.08			0.08			0.60			0.64	
Clearance Time (s)		5.0			5.0			7.5			5.8	
Vehicle Extension (s)		4.0			4.0			6.0			6.0	
Lane Grp Cap (vph)		137			136			994			1171	
v/s Ratio Prot												
v/s Ratio Perm		c0.03			0.03			c0.19			0.18	
v/c Ratio		0.38			0.38			0.32			0.28	
Uniform Delay, d1		17.0			17.0			3.9			3.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.4			2.4			0.5			0.4	
Delay (s)		19.4			19.3			4.5			3.4	
Level of Service		B			B			A			A	
Approach Delay (s)		19.4			19.3			4.5			3.4	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	6.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	39.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	52	54	324	327
v/c Ratio	0.13	0.14	0.25	0.22
Control Delay	13.2	12.7	5.2	4.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.2	12.7	5.2	4.2
Queue Length 50th (ft)	7	7	0	0
Queue Length 95th (ft)	25	25	88	72
Internal Link Dist (ft)	10998	2302	6088	1957
Turn Bay Length (ft)				
Base Capacity (vph)	1403	1409	1642	1817
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.20	0.18

Intersection Summary

2014 Build Conditions
(without CALP)
Friday Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	983	26	14	807	93	42	14	46	108	11	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	13	12	12	15	12
Total Lost time (s)		5.7			5.6			5.5			5.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			0.98			0.94			0.95	
Flt Protected		1.00			1.00			0.98			0.97	
Satd. Flow (prot)		3516			3472			1755			1868	
Flt Permitted		0.87			0.93			0.79			0.79	
Satd. Flow (perm)		3067			3221			1411			1517	
Peak-hour factor, PHF	0.86	0.86	0.86	0.87	0.87	0.87	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	48	1143	30	16	928	107	56	19	61	144	15	109
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1221	0	0	1051	0	0	136	0	0	268	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		26.6			26.7			12.6			12.6	
Effective Green, g (s)		26.6			26.7			12.6			12.6	
Actuated g/C Ratio		0.53			0.53			0.25			0.25	
Clearance Time (s)		5.7			5.6			5.5			5.5	
Vehicle Extension (s)		2.5			2.5			2.5			2.5	
Lane Grp Cap (vph)		1619			1706			353			379	
v/s Ratio Prot												
v/s Ratio Perm		c0.40			0.33			0.10			c0.18	
v/c Ratio		0.75			0.62			0.39			0.71	
Uniform Delay, d1		9.3			8.3			15.7			17.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			0.6			0.5			5.5	
Delay (s)		11.3			8.8			16.2			22.7	
Level of Service		B			A			B			C	
Approach Delay (s)		11.3			8.8			16.2			22.7	
Approach LOS		B			A			B			C	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	50.4	Sum of lost time (s)	11.2
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	1221	1051	136	268
v/c Ratio	0.76	0.62	0.39	0.71
Control Delay	13.5	10.6	20.4	30.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.5	10.6	20.4	30.4
Queue Length 50th (ft)	146	112	36	79
Queue Length 95th (ft)	202	157	63	117
Internal Link Dist (ft)	880	2120	328	12725
Turn Bay Length (ft)				
Base Capacity (vph)	1857	1956	427	459
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.66	0.54	0.32	0.58

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	679	40	28	632	307	27	19	14	321	37	443
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	10	12	11	12	13	12	12	11	15
Total Lost time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.97		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1768	1967		1651	3539	1481		1867	1534		1707	1724
Flt Permitted	0.23	1.00		0.19	1.00	1.00		0.65	1.00		0.71	1.00
Satd. Flow (perm)	430	1967		330	3539	1481		1257	1534		1271	1724
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	549	746	44	30	672	327	29	21	15	345	40	476
RTOR Reduction (vph)	0	2	0	0	0	140	0	0	11	0	0	64
Lane Group Flow (vph)	549	788	0	30	672	187	0	50	4	0	385	412
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	pm+pt			pm+pt		Perm	Perm		Perm	Perm		pm+ov
Protected Phases	5	2		1	6			4			8	5
Permitted Phases	2			6		6	4		4	8		8
Actuated Green, G (s)	43.2	36.1		26.8	23.9	23.9		20.2	20.2		20.2	35.3
Effective Green, g (s)	43.2	36.1		26.8	23.9	23.9		20.2	20.2		20.2	35.3
Actuated g/C Ratio	0.60	0.50		0.37	0.33	0.33		0.28	0.28		0.28	0.49
Clearance Time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	540	989		177	1178	493		354	432		358	948
v/s Ratio Prot	c0.21	0.40		0.01	0.19							0.09
v/s Ratio Perm	c0.40			0.06		0.13		0.04	0.00		c0.30	0.15
v/c Ratio	1.02	0.80		0.17	0.57	0.38		0.14	0.01		1.08	0.43
Uniform Delay, d1	14.5	14.8		15.3	19.7	18.3		19.3	18.6		25.8	11.8
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	43.0	4.4		0.3	0.6	0.4		0.1	0.0		69.1	0.2
Delay (s)	57.5	19.2		15.7	20.3	18.6		19.4	18.6		94.9	12.0
Level of Service	E	B		B	C	B		B	B		F	B
Approach Delay (s)		34.9			19.6			19.2			49.1	
Approach LOS		C			B			B			D	

Intersection Summary			
HCM Average Control Delay	33.5	HCM Level of Service	C
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	8.4
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	549	790	30	672	327	50	15	385	476
v/c Ratio	1.01	0.77	0.10	0.62	0.55	0.14	0.03	1.04	0.51
Control Delay	57.9	21.3	7.4	22.8	10.6	21.7	11.0	87.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	21.3	7.4	22.8	10.6	21.7	11.0	87.7	9.5
Queue Length 50th (ft)	~157	204	5	126	37	15	0	~178	70
Queue Length 95th (ft)	#377	#538	14	175	102	45	14	#382	173
Internal Link Dist (ft)		2120		980		249		1452	
Turn Bay Length (ft)			50		50				110
Base Capacity (vph)	544	1044	462	1806	857	366	457	370	941
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.76	0.06	0.37	0.38	0.14	0.03	1.04	0.51

Intersection Summary

~ Volume exceeds capacity, queue is theoretically 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	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	316	1177	0	0	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	14	11	11	12	12
Total Lost time (s)		5.7	4.9			4.9
Lane Util. Factor		0.88	0.95			1.00
Frpb, ped/bikes		0.97	1.00			1.00
Flpb, ped/bikes		1.00	1.00			1.00
Frt		0.85	1.00			1.00
Flt Protected		1.00	1.00			1.00
Satd. Flow (prot)		2886	3421			1863
Flt Permitted		1.00	1.00			1.00
Satd. Flow (perm)		2886	3421			1863
Peak-hour factor, PHF	0.88	0.88	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	359	1279	0	0	891
RTOR Reduction (vph)	0	67	0	0	0	0
Lane Group Flow (vph)	0	292	1279	0	0	891
Confl. Peds. (#/hr)	10	10		10	10	
Turn Type		custom				
Protected Phases			2			6
Permitted Phases		3				
Actuated Green, G (s)		11.1	31.6			53.3
Effective Green, g (s)		11.1	31.6			53.3
Actuated g/C Ratio		0.21	0.59			1.00
Clearance Time (s)		5.7	4.9			4.9
Vehicle Extension (s)		2.5	4.0			4.0
Lane Grp Cap (vph)		601	2028			1863
v/s Ratio Prot			c0.37			c0.48
v/s Ratio Perm		0.10				
v/c Ratio		0.49	0.63			0.48
Uniform Delay, d1		18.6	7.1			0.0
Progression Factor		1.00	1.00			1.00
Incremental Delay, d2		0.5	0.7			0.3
Delay (s)		19.0	7.8			0.3
Level of Service		B	A			A
Approach Delay (s)	19.0		7.8			0.3
Approach LOS	B		A			A

Intersection Summary			
HCM Average Control Delay	6.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	4.9
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	WBR	NBT	SBT
Lane Group Flow (vph)	359	1279	891
v/c Ratio	0.54	0.64	0.48
Control Delay	19.1	9.0	0.9
Queue Delay	0.0	0.0	0.0
Total Delay	19.1	9.0	0.9
Queue Length 50th (ft)	42	114	0
Queue Length 95th (ft)	98	205	0
Internal Link Dist (ft)		626	13
Turn Bay Length (ft)			
Base Capacity (vph)	1448	2894	1863
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.25	0.44	0.48

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	166	8	297	35	5	23	628	831	33	13	873	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	14	12	11	12	12	12	10	11	13	11
Total Lost time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1751	1801	1652	1752	1546		3433	3514		1711	3594	
Flt Permitted	0.73	1.00	1.00	0.75	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1352	1801	1652	1386	1546		3433	3514		1711	3594	
Peak-hour factor, PHF	0.91	0.91	0.91	0.77	0.77	0.77	0.98	0.98	0.98	0.95	0.95	0.95
Adj. Flow (vph)	182	9	326	45	6	30	641	848	34	14	919	101
RTOR Reduction (vph)	0	0	231	0	27	0	0	2	0	0	6	0
Lane Group Flow (vph)	182	9	95	45	9	0	641	880	0	14	1014	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			7		1	2		5	6	
Permitted Phases	4		4	7	7							
Actuated Green, G (s)	35.1	35.1	35.1	10.1	10.1		26.3	68.9		2.9	45.5	
Effective Green, g (s)	35.1	35.1	35.1	10.1	10.1		26.3	68.9		2.9	45.5	
Actuated g/C Ratio	0.29	0.29	0.29	0.08	0.08		0.22	0.57		0.02	0.38	
Clearance Time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	393	523	480	116	129		747	2003		41	1353	
v/s Ratio Prot		0.00			0.01		c0.19	0.25		0.01	c0.28	
v/s Ratio Perm	c0.13		0.06	0.03								
v/c Ratio	0.46	0.02	0.20	0.39	0.07		0.86	0.44		0.34	0.75	
Uniform Delay, d1	35.2	30.6	32.3	52.5	51.1		45.5	14.9		58.1	32.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.0	0.1	1.6	0.2		9.5	0.2		3.6	2.5	
Delay (s)	35.8	30.6	32.4	54.0	51.2		55.0	15.1		61.7	35.2	
Level of Service	D	C	C	D	D		E	B		E	D	
Approach Delay (s)		33.6			52.8			31.9			35.6	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.9	Sum of lost time (s)	14.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	182	9	326	45	36	641	882	14	1020
v/c Ratio	0.45	0.02	0.45	0.39	0.23	0.84	0.43	0.12	0.79
Control Delay	40.4	33.6	5.9	65.2	26.0	55.2	15.0	59.5	38.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	33.6	5.9	65.2	26.0	55.2	15.0	59.5	38.8
Queue Length 50th (ft)	118	5	0	34	4	242	158	10	363
Queue Length 95th (ft)	204	20	70	66	30	343	285	35	476
Internal Link Dist (ft)		970			507		497		1026
Turn Bay Length (ft)	100		60			300		160	
Base Capacity (vph)	523	697	838	238	290	885	2128	221	1550
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	0.01	0.39	0.19	0.12	0.72	0.41	0.06	0.66

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	2	4	426	9	130	4	757	88	53	503	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	10	11	12	11	11	14	13	10	14
Total Lost time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.98		1.00	0.93		1.00	0.98		1.00	1.00	
Flt Protected		0.96		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1977		1569	1534		1711	3356		1829	3287	
Flt Permitted		0.54		0.83	0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1119		1370	1427		1711	3356		1829	3287	
Peak-hour factor, PHF	0.83	0.83	0.83	0.79	0.79	0.79	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	34	2	5	539	11	165	4	797	93	58	553	15
RTOR Reduction (vph)	0	4	0	0	20	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	37	0	367	328	0	4	884	0	58	567	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			3		1	2		5	6	
Permitted Phases	4			3								
Actuated Green, G (s)		7.2		36.9	36.9		1.3	38.1		7.0	43.8	
Effective Green, g (s)		7.2		36.9	36.9		1.3	38.1		7.0	43.8	
Actuated g/C Ratio		0.07		0.34	0.34		0.01	0.35		0.07	0.41	
Clearance Time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)		75		471	490		21	1191		119	1341	
v/s Ratio Prot							0.00	c0.26		c0.03	0.17	
v/s Ratio Perm		c0.03		c0.27	0.23							
v/c Ratio		0.50		0.78	0.67		0.19	0.74		0.49	0.42	
Uniform Delay, d1		48.4		31.6	30.1		52.5	30.4		48.5	22.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.7		7.7	3.3		3.2	2.7		2.3	0.3	
Delay (s)		52.1		39.3	33.3		55.7	33.1		50.7	23.0	
Level of Service		D		D	C		E	C		D	C	
Approach Delay (s)		52.1			36.4			33.2			25.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	107.4	Sum of lost time (s)	18.2
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	41	367	348	4	890	58	568
v/c Ratio	0.37	0.75	0.66	0.03	0.77	0.34	0.41
Control Delay	56.0	45.6	37.6	52.5	35.7	55.5	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	45.6	37.6	52.5	35.7	55.5	21.6
Queue Length 50th (ft)	25	243	202	3	281	39	127
Queue Length 95th (ft)	60	#400	314	15	394	88	221
Internal Link Dist (ft)	165		514		1026		153
Turn Bay Length (ft)						100	
Base Capacity (vph)	175	492	531	527	1553	563	1647
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	0.75	0.66	0.01	0.57	0.10	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)	29	12	9	100	18	17	118	672	120	15	522	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	13	12	12	10	12	12	13	12	12	14	12
Total Lost time (s)		4.5			4.5			4.9			4.9	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.98			0.98			0.98			0.98	
Flt Protected		0.97			0.96			0.99			1.00	
Satd. Flow (prot)		1795			1614			1871			1939	
Flt Permitted		0.81			0.74			0.85			0.98	
Satd. Flow (perm)		1504			1235			1593			1894	
Peak-hour factor, PHF	0.75	0.75	0.75	0.77	0.77	0.77	0.97	0.97	0.97	0.91	0.91	0.91
Adj. Flow (vph)	39	16	12	130	23	22	122	693	124	16	574	96
RTOR Reduction (vph)	0	9	0	0	9	0	0	7	0	0	7	0
Lane Group Flow (vph)	0	58	0	0	166	0	0	932	0	0	679	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			5	
Permitted Phases	3			3			1			5		
Actuated Green, G (s)		13.3			13.3			38.4			38.4	
Effective Green, g (s)		13.3			13.3			38.4			38.4	
Actuated g/C Ratio		0.22			0.22			0.63			0.63	
Clearance Time (s)		4.5			4.5			4.9			4.9	
Vehicle Extension (s)		3.0			3.0			6.0			6.0	
Lane Grp Cap (vph)		327			269			1001			1190	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.13			c0.58			0.36	
v/c Ratio		0.18			0.62			0.93			0.57	
Uniform Delay, d1		19.4			21.6			10.2			6.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			4.1			15.5			1.3	
Delay (s)		19.7			25.7			25.7			7.9	
Level of Service		B			C			C			A	
Approach Delay (s)		19.7			25.7			25.7			7.9	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	9.4
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	67	175	939	686
v/c Ratio	0.16	0.49	0.89	0.55
Control Delay	15.4	22.7	27.4	10.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.4	22.7	27.4	10.2
Queue Length 50th (ft)	15	50	~310	140
Queue Length 95th (ft)	33	83	#630	275
Internal Link Dist (ft)	538	2647	287	6088
Turn Bay Length (ft)				
Base Capacity (vph)	512	422	1052	1250
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.13	0.41	0.89	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically 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	23	27	16	22	54	35	578	10	58	503	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	10	12	12	11	12	12	12	12
Total Lost time (s)		5.0			5.0			7.5			5.8	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.97			1.00			1.00	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.97			0.92			1.00			0.99	
Flt Protected		0.97			0.99			1.00			1.00	
Satd. Flow (prot)		1960			1543			1791			1821	
Flt Permitted		0.79			0.93			0.93			0.89	
Satd. Flow (perm)		1588			1450			1679			1627	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.87	0.87	0.87	0.88	0.88	0.88
Adj. Flow (vph)	105	31	36	21	29	72	40	664	11	66	572	75
RTOR Reduction (vph)	0	0	0	0	57	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	172	0	0	65	0	0	715	0	0	709	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.4			13.4			36.5			38.2	
Effective Green, g (s)		13.4			13.4			36.5			38.2	
Actuated g/C Ratio		0.21			0.21			0.58			0.61	
Clearance Time (s)		5.0			5.0			7.5			5.8	
Vehicle Extension (s)		4.0			4.0			6.0			6.0	
Lane Grp Cap (vph)		341			311			982			996	
v/s Ratio Prot												
v/s Ratio Perm		c0.11			0.05			0.43			c0.44	
v/c Ratio		0.50			0.21			0.73			0.71	
Uniform Delay, d1		21.6			20.1			9.4			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.6			0.5			3.8			3.5	
Delay (s)		23.2			20.6			13.2			11.8	
Level of Service		C			C			B			B	
Approach Delay (s)		23.2			20.6			13.2			11.8	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	62.4	Sum of lost time (s)	10.8
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	172	122	715	713
v/c Ratio	0.51	0.33	0.73	0.71
Control Delay	27.8	13.1	15.8	14.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	27.8	13.1	15.8	14.1
Queue Length 50th (ft)	59	16	172	158
Queue Length 95th (ft)	93	41	338	330
Internal Link Dist (ft)	10998	2302	6088	1957
Turn Bay Length (ft)				
Base Capacity (vph)	767	743	1086	1100
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.16	0.66	0.65

Intersection Summary

2014 Build Conditions
(without CALP)
Sunday Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	430	4	10	400	19	30	12	6	37	9	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	13	12	12	15	12
Total Lost time (s)		5.7			5.6			5.5			5.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.98			0.95	
Flt Protected		1.00			1.00			0.97			0.98	
Satd. Flow (prot)		3530			3507			1828			1884	
Flt Permitted		0.94			0.94			1.00			0.97	
Satd. Flow (perm)		3336			3304			1884			1876	
Peak-hour factor, PHF	0.87	0.87	0.87	0.82	0.82	0.82	0.88	0.88	0.88	0.75	0.75	0.75
Adj. Flow (vph)	9	494	5	12	488	23	34	14	7	49	12	36
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	508	0	0	523	0	0	55	0	0	97	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)		18.3			18.4			3.1			3.1	
Effective Green, g (s)		18.3			18.4			3.1			3.1	
Actuated g/C Ratio		0.56			0.56			0.10			0.10	
Clearance Time (s)		5.7			5.6			5.5			5.5	
Vehicle Extension (s)		2.5			2.5			2.5			2.5	
Lane Grp Cap (vph)		1873			1865			179			178	
v/s Ratio Prot												
v/s Ratio Perm		0.15			c0.16			0.03			c0.05	
v/c Ratio		0.27			0.28			0.31			0.54	
Uniform Delay, d1		3.7			3.7			13.7			14.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.1			0.7			2.7	
Delay (s)		3.8			3.7			14.5			16.8	
Level of Service		A			A			B			B	
Approach Delay (s)		3.8			3.7			14.5			16.8	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	32.6	Sum of lost time (s)	11.1
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	508	523	55	97
v/c Ratio	0.20	0.21	0.10	0.18
Control Delay	4.4	4.4	8.9	9.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.4	4.4	8.9	9.4
Queue Length 50th (ft)	0	0	3	5
Queue Length 95th (ft)	50	47	22	28
Internal Link Dist (ft)	880	2120	328	12725
Turn Bay Length (ft)				
Base Capacity (vph)	3214	3189	997	991
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.16	0.16	0.06	0.10

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	291	237	17	113	180	6	22	16	14	178	18	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	10	12	11	12	13	12	12	11	15
Total Lost time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.97		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1765	1963		1646	3539	1486		1832	1510		1694	1708
Flt Permitted	0.45	1.00		0.58	1.00	1.00		0.80	1.00		0.71	1.00
Satd. Flow (perm)	838	1963		998	3539	1486		1505	1510		1261	1708
Peak-hour factor, PHF	0.84	0.84	0.84	0.81	0.81	0.81	0.82	0.82	0.82	0.86	0.86	0.86
Adj. Flow (vph)	346	282	20	140	222	7	27	20	17	207	21	322
RTOR Reduction (vph)	0	3	0	0	0	5	0	0	12	0	0	156
Lane Group Flow (vph)	346	299	0	140	222	2	0	47	5	0	228	166
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	pm+pt			pm+pt		Perm	Perm		Perm	Perm		pm+ov
Protected Phases	5	2		1	6			4			8	5
Permitted Phases	2			6		6	4		4	8		8
Actuated Green, G (s)	27.8	17.0		18.3	11.7	11.7		14.1	14.1		14.1	26.0
Effective Green, g (s)	27.8	17.0		18.3	11.7	11.7		14.1	14.1		14.1	26.0
Actuated g/C Ratio	0.55	0.34		0.36	0.23	0.23		0.28	0.28		0.28	0.52
Clearance Time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	682	663		448	823	346		422	423		353	1025
v/s Ratio Prot	c0.12	0.15		0.04	0.06							0.04
v/s Ratio Perm	c0.16			0.07		0.00		0.03	0.00		c0.18	0.06
v/c Ratio	0.51	0.45		0.31	0.27	0.00		0.11	0.01		0.65	0.16
Uniform Delay, d1	6.5	13.0		11.1	15.8	14.8		13.4	13.1		15.9	6.4
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	0.4		0.3	0.1	0.0		0.1	0.0		3.6	0.1
Delay (s)	6.9	13.4		11.4	15.9	14.8		13.5	13.1		19.5	6.5
Level of Service	A	B		B	B	B		B	B		B	A
Approach Delay (s)		9.9			14.2			13.4			11.9	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	50.3	Sum of lost time (s)	8.4
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	346	302	140	222	7	47	17	228	322
v/c Ratio	0.52	0.45	0.28	0.29	0.02	0.11	0.04	0.64	0.31
Control Delay	10.4	17.8	9.1	19.2	12.2	14.2	7.4	24.9	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	17.8	9.1	19.2	12.2	14.2	7.4	24.9	1.4
Queue Length 50th (ft)	50	70	18	28	0	10	0	56	0
Queue Length 95th (ft)	105	141	43	55	8	28	10	121	18
Internal Link Dist (ft)		2120		980		249		1452	
Turn Bay Length (ft)			50		50				110
Base Capacity (vph)	740	1416	711	2550	1067	619	628	517	1146
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.21	0.20	0.09	0.01	0.08	0.03	0.44	0.28

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	0	183	700	0	0	762
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	14	11	11	12	12
Total Lost time (s)		5.7	4.9			4.9
Lane Util. Factor		0.88	0.95			1.00
Frpb, ped/bikes		0.97	1.00			1.00
Flpb, ped/bikes		1.00	1.00			1.00
Frt		0.85	1.00			1.00
Flt Protected		1.00	1.00			1.00
Satd. Flow (prot)		2895	3355			1845
Flt Permitted		1.00	1.00			1.00
Satd. Flow (perm)		2895	3355			1845
Peak-hour factor, PHF	0.81	0.81	0.95	0.95	0.92	0.92
Adj. Flow (vph)	0	226	737	0	0	828
RTOR Reduction (vph)	0	176	0	0	0	0
Lane Group Flow (vph)	0	50	737	0	0	828
Confl. Peds. (#/hr)	10	10		10	10	
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		custom				
Protected Phases			2			6
Permitted Phases		3				
Actuated Green, G (s)		8.0	17.3			35.9
Effective Green, g (s)		8.0	17.3			35.9
Actuated g/C Ratio		0.22	0.48			1.00
Clearance Time (s)		5.7	4.9			4.9
Vehicle Extension (s)		2.5	4.0			4.0
Lane Grp Cap (vph)		645	1617			1845
v/s Ratio Prot			0.22			c0.45
v/s Ratio Perm		0.02				
v/c Ratio		0.08	0.46			0.45
Uniform Delay, d1		11.0	6.2			0.0
Progression Factor		1.00	1.00			1.00
Incremental Delay, d2		0.0	0.3			0.2
Delay (s)		11.1	6.5			0.2
Level of Service		B	A			A
Approach Delay (s)	11.1		6.5			0.2
Approach LOS	B		A			A

Intersection Summary			
HCM Average Control Delay	4.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	35.9	Sum of lost time (s)	0.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBR	NBT	SBT
Lane Group Flow (vph)	226	737	828
v/c Ratio	0.25	0.46	0.45
Control Delay	1.6	7.3	0.8
Queue Delay	0.0	0.0	0.0
Total Delay	1.6	7.3	0.8
Queue Length 50th (ft)	0	43	0
Queue Length 95th (ft)	4	70	0
Internal Link Dist (ft)		626	13
Turn Bay Length (ft)			
Base Capacity (vph)	2107	3355	1845
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.11	0.22	0.45

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	22	330	61	14	16	285	558	40	39	740	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	14	12	11	12	12	12	10	11	13	11
Total Lost time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1754	1801	1654	1755	1640		3367	3428		1694	3565	
Flt Permitted	0.73	1.00	1.00	0.74	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1349	1801	1654	1369	1640		3367	3428		1694	3565	
Peak-hour factor, PHF	0.89	0.89	0.89	0.75	0.75	0.75	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	143	25	371	81	19	21	306	600	43	44	831	83
RTOR Reduction (vph)	0	0	238	0	19	0	0	4	0	0	5	0
Lane Group Flow (vph)	143	25	133	81	21	0	306	639	0	44	909	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			7		1	2		5	6	
Permitted Phases	4		4	7	7							
Actuated Green, G (s)	37.3	37.3	37.3	12.3	12.3		14.7	47.3		5.2	37.8	
Effective Green, g (s)	37.3	37.3	37.3	12.3	12.3		14.7	47.3		5.2	37.8	
Actuated g/C Ratio	0.36	0.36	0.36	0.12	0.12		0.14	0.46		0.05	0.36	
Clearance Time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	485	647	594	162	194		477	1562		85	1298	
v/s Ratio Prot		0.01			0.01		c0.09	0.19		0.03	c0.25	
v/s Ratio Perm	c0.11		0.08	0.06								
v/c Ratio	0.29	0.04	0.22	0.50	0.11		0.64	0.41		0.52	0.70	
Uniform Delay, d1	23.8	21.6	23.2	42.9	40.9		42.1	18.9		48.1	28.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.1	1.8	0.2		2.6	0.2		3.9	1.9	
Delay (s)	24.1	21.6	23.3	44.6	41.0		44.7	19.1		52.0	30.0	
Level of Service	C	C	C	D	D		D	B		D	C	
Approach Delay (s)		23.4			43.4			27.4			31.0	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	103.8	Sum of lost time (s)	14.0
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	143	25	371	81	40	306	643	44	914
v/c Ratio	0.29	0.04	0.44	0.52	0.19	0.63	0.40	0.30	0.73
Control Delay	27.7	25.1	4.7	57.8	29.1	48.8	19.8	54.1	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.7	25.1	4.7	57.8	29.1	48.8	19.8	54.1	32.9
Queue Length 50th (ft)	63	10	0	49	11	94	148	27	261
Queue Length 95th (ft)	144	34	64	95	37	169	226	74	384
Internal Link Dist (ft)		970			507		497		1026
Turn Bay Length (ft)	100		60			300		160	
Base Capacity (vph)	609	815	949	275	346	1016	2243	255	1796
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.03	0.39	0.29	0.12	0.30	0.29	0.17	0.51

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	6	9	380	3	79	19	290	111	57	305	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	10	11	12	11	11	14	13	10	14
Total Lost time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.94		1.00	0.95		1.00	0.96		1.00	1.00	
Flt Protected		0.99		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1941		1569	1560		1678	3189		1811	3256	
Flt Permitted		0.95		0.29	0.40		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1875		473	648		1678	3189		1811	3256	
Peak-hour factor, PHF	0.75	0.75	0.75	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	8	8	12	418	3	87	21	322	123	63	339	9
RTOR Reduction (vph)	0	12	0	0	10	0	0	32	0	0	1	0
Lane Group Flow (vph)	0	16	0	259	239	0	21	413	0	63	347	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			3		1	2		5	6	
Permitted Phases	4			3								
Actuated Green, G (s)		2.7		36.4	36.4		2.7	19.2		6.8	23.3	
Effective Green, g (s)		2.7		36.4	36.4		2.7	19.2		6.8	23.3	
Actuated g/C Ratio		0.03		0.44	0.44		0.03	0.23		0.08	0.28	
Clearance Time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)		61		207	283		54	735		148	911	
v/s Ratio Prot							0.01	c0.13		c0.03	c0.11	
v/s Ratio Perm		c0.01		c0.55	0.37							
v/c Ratio		0.27		1.25	0.84		0.39	0.56		0.43	0.38	
Uniform Delay, d1		39.3		23.4	20.9		39.5	28.3		36.4	24.2	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7		146.5	19.7		3.4	1.2		1.4	0.4	
Delay (s)		41.1		169.9	40.6		42.8	29.5		37.8	24.5	
Level of Service		D		F	D		D	C		D	C	
Approach Delay (s)		41.1			106.5			30.1			26.6	
Approach LOS		D			F			C			C	

Intersection Summary			
HCM Average Control Delay	56.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	83.3	Sum of lost time (s)	23.1
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	259	249	21	445	63	348
v/c Ratio	0.13	1.17	0.80	0.12	0.61	0.30	0.36
Control Delay	28.9	141.8	43.7	39.5	29.6	40.1	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	141.8	43.7	39.5	29.6	40.1	24.0
Queue Length 50th (ft)	7	~155	92	9	86	28	53
Queue Length 95th (ft)	29	#393	#323	35	163	76	130
Internal Link Dist (ft)	165		514		1026		153
Turn Bay Length (ft)						100	
Base Capacity (vph)	385	222	313	675	1939	729	1965
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	0.07	1.17	0.80	0.03	0.23	0.09	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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	7	1	68	14	1	7	249	107	4	326	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	13	12	12	10	12	12	13	12	12	14	12
Total Lost time (s)		4.5			4.5			4.9			4.9	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			1.00	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		1.00			1.00			0.96			0.99	
Flt Protected		0.96			0.96			1.00			1.00	
Satd. Flow (prot)		1818			1639			1796			1947	
Flt Permitted		0.75			0.73			0.99			1.00	
Satd. Flow (perm)		1413			1246			1784			1941	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.92	0.92	0.92	0.86	0.86	0.86
Adj. Flow (vph)	40	9	1	91	19	1	8	271	116	5	379	24
RTOR Reduction (vph)	0	1	0	0	1	0	0	20	0	0	3	0
Lane Group Flow (vph)	0	49	0	0	110	0	0	375	0	0	405	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			5	
Permitted Phases	3			3			1			5		
Actuated Green, G (s)		12.5			12.5			33.3			33.3	
Effective Green, g (s)		12.5			12.5			33.3			33.3	
Actuated g/C Ratio		0.23			0.23			0.60			0.60	
Clearance Time (s)		4.5			4.5			4.9			4.9	
Vehicle Extension (s)		3.0			3.0			6.0			6.0	
Lane Grp Cap (vph)		320			282			1076			1171	
v/s Ratio Prot												
v/s Ratio Perm		0.03			c0.09			c0.21			0.21	
v/c Ratio		0.15			0.39			0.35			0.35	
Uniform Delay, d1		17.1			18.1			5.5			5.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.9			0.6			0.5	
Delay (s)		17.3			19.0			6.1			6.0	
Level of Service		B			B			A			A	
Approach Delay (s)		17.3			19.0			6.1			6.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	8.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	9.4
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	50	111	395	408
v/c Ratio	0.12	0.30	0.34	0.33
Control Delay	15.3	18.0	7.1	7.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.3	18.0	7.1	7.6
Queue Length 50th (ft)	12	28	57	68
Queue Length 95th (ft)	27	51	107	110
Internal Link Dist (ft)	538	2647	287	6088
Turn Bay Length (ft)				
Base Capacity (vph)	524	463	1272	1371
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.24	0.31	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	11	15	24	3	44	45	27	256	9	58	269	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	10	12	12	11	12	12	12	12
Total Lost time (s)		5.0			5.0			7.5			5.8	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.98			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.94			0.93			1.00			0.99	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1921			1584			1748			1816	
Flt Permitted		0.89			0.99			0.93			0.89	
Satd. Flow (perm)		1738			1567			1642			1636	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.90	0.90	0.90	0.87	0.87	0.87
Adj. Flow (vph)	15	20	32	4	59	60	30	284	10	67	309	15
RTOR Reduction (vph)	0	0	0	0	49	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	67	0	0	74	0	0	323	0	0	389	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		7.2			7.2			19.7			21.4	
Effective Green, g (s)		7.2			7.2			19.7			21.4	
Actuated g/C Ratio		0.18			0.18			0.50			0.54	
Clearance Time (s)		5.0			5.0			7.5			5.8	
Vehicle Extension (s)		4.0			4.0			6.0			6.0	
Lane Grp Cap (vph)		318			286			821			889	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.05			0.20			c0.24	
v/c Ratio		0.21			0.26			0.39			0.44	
Uniform Delay, d1		13.7			13.8			6.1			5.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.7			0.9			1.0	
Delay (s)		14.1			14.5			7.0			6.4	
Level of Service		B			B			A			A	
Approach Delay (s)		14.1			14.5			7.0			6.4	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	39.4	Sum of lost time (s)	10.8
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	67	123	324	391
v/c Ratio	0.16	0.29	0.35	0.40
Control Delay	13.9	10.1	8.6	8.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.9	10.1	8.6	8.0
Queue Length 50th (ft)	11	10	40	45
Queue Length 95th (ft)	31	34	98	106
Internal Link Dist (ft)	10998	2302	6088	1957
Turn Bay Length (ft)				
Base Capacity (vph)	1374	1268	1588	1593
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.05	0.10	0.20	0.25

Intersection Summary

2014 Mitigation Conditions (without CALP) Friday Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	679	40	28	632	307	27	19	14	321	37	443
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	14	12	10	12	11	12	13	12	12	11	15
Total Lost time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Lane Util. Factor	1.00	1.00		1.00	0.95	1.00		1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.97		1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00		0.99	1.00
Frt	1.00	0.99		1.00	1.00	0.85		1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97	1.00		0.96	1.00
Satd. Flow (prot)	1768	1967		1651	3539	1479		1867	1533		1706	1725
Flt Permitted	0.21	1.00		0.22	1.00	1.00		0.66	1.00		0.71	1.00
Satd. Flow (perm)	393	1967		381	3539	1479		1266	1533		1269	1725
Peak-hour factor, PHF	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	549	746	44	30	672	327	29	21	15	345	40	476
RTOR Reduction (vph)	0	2	0	0	0	128	0	0	11	0	0	37
Lane Group Flow (vph)	549	788	0	30	672	199	0	50	4	0	385	439
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	pm+pt			pm+pt		Perm	Perm		Perm	Perm		pm+ov
Protected Phases	5	2		1	6			4			8	5
Permitted Phases	2			6		6	4		4	8		8
Actuated Green, G (s)	47.2	40.0		27.1	24.1	24.1		22.5	22.5		22.5	41.4
Effective Green, g (s)	47.2	40.0		27.1	24.1	24.1		22.5	22.5		22.5	41.4
Actuated g/C Ratio	0.60	0.51		0.35	0.31	0.31		0.29	0.29		0.29	0.53
Clearance Time (s)	4.2	4.2		4.2	4.2	4.2		4.2	4.2		4.2	4.2
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5		2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	570	1007		181	1092	456		365	442		366	1007
v/s Ratio Prot	c0.23	0.40		0.01	0.19							0.11
v/s Ratio Perm	c0.35			0.05		0.13		0.04	0.00		c0.30	0.15
v/c Ratio	0.96	0.78		0.17	0.62	0.44		0.14	0.01		1.05	0.44
Uniform Delay, d1	16.8	15.5		17.6	23.0	21.6		20.6	19.8		27.8	11.2
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	28.5	3.9		0.3	0.9	0.5		0.1	0.0		61.3	0.2
Delay (s)	45.3	19.4		17.9	23.9	22.1		20.7	19.9		89.1	11.4
Level of Service	D	B		B	C	C		C	B		F	B
Approach Delay (s)		30.0			23.2			20.5			46.2	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	31.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	78.1	Sum of lost time (s)	8.4
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	549	790	30	672	327	50	15	385	476
v/c Ratio	0.95	0.76	0.11	0.67	0.59	0.13	0.03	1.02	0.49
Control Delay	45.9	21.5	8.5	27.2	14.4	22.6	11.2	81.9	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	21.5	8.5	27.2	14.4	22.6	11.2	81.9	9.6
Queue Length 50th (ft)	179	226	5	145	52	17	0	~198	89
Queue Length 95th (ft)	#399	#561	14	198	128	47	14	#400	188
Internal Link Dist (ft)		2120		980		249		1452	
Turn Bay Length (ft)			50		50				110
Base Capacity (vph)	576	1044	522	1357	681	378	467	378	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	0.95	0.76	0.06	0.50	0.48	0.13	0.03	1.02	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)	166	8	297	35	5	23	628	831	33	13	873	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	11	14	12	11	12	12	12	10	11	13	11
Total Lost time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.88		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1751	1801	1652	1752	1546		3433	3514		1711	3594	
Flt Permitted	0.73	1.00	1.00	0.75	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1352	1801	1652	1386	1546		3433	3514		1711	3594	
Peak-hour factor, PHF	0.91	0.91	0.91	0.77	0.77	0.77	0.98	0.98	0.98	0.95	0.95	0.95
Adj. Flow (vph)	182	9	326	45	6	30	641	848	34	14	919	101
RTOR Reduction (vph)	0	0	231	0	27	0	0	2	0	0	6	0
Lane Group Flow (vph)	182	9	95	45	9	0	641	880	0	14	1014	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			7		1	2		5	6	
Permitted Phases	4		4	7	7							
Actuated Green, G (s)	35.1	35.1	35.1	10.1	10.1		26.5	68.3		2.9	44.7	
Effective Green, g (s)	35.1	35.1	35.1	10.1	10.1		26.5	68.3		2.9	44.7	
Actuated g/C Ratio	0.29	0.29	0.29	0.08	0.08		0.22	0.57		0.02	0.37	
Clearance Time (s)	4.2	4.2	4.2	29.2	29.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	394	525	482	116	130		756	1995		41	1335	
v/s Ratio Prot		0.00			0.01		c0.19	0.25		0.01	c0.28	
v/s Ratio Perm	c0.13		0.06	0.03								
v/c Ratio	0.46	0.02	0.20	0.39	0.07		0.85	0.44		0.34	0.76	
Uniform Delay, d1	34.9	30.3	32.0	52.2	50.8		45.0	15.0		57.8	33.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.0	0.1	1.6	0.2		8.6	0.2		3.6	2.7	
Delay (s)	35.5	30.3	32.2	53.7	50.9		53.6	15.2		61.4	35.8	
Level of Service	D	C	C	D	D		D	B		E	D	
Approach Delay (s)		33.3			52.5			31.4			36.1	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.3	Sum of lost time (s)	14.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	182	9	326	45	36	641	882	14	1020
v/c Ratio	0.45	0.02	0.45	0.39	0.23	0.82	0.43	0.12	0.80
Control Delay	40.1	33.5	5.9	64.9	25.9	53.7	15.1	59.4	39.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	33.5	5.9	64.9	25.9	53.7	15.1	59.4	39.8
Queue Length 50th (ft)	117	5	0	34	4	243	158	10	359
Queue Length 95th (ft)	204	20	70	66	30	336	285	35	490
Internal Link Dist (ft)		970			507		497		1026
Turn Bay Length (ft)	100		60			300		160	
Base Capacity (vph)	526	701	841	239	292	953	2128	222	1494
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.01	0.39	0.19	0.12	0.67	0.41	0.06	0.68

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	28	2	4	426	9	130	4	757	88	53	503	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	10	11	12	11	11	14	13	10	14
Total Lost time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.98		1.00	0.93		1.00	0.98		1.00	1.00	
Flt Protected		0.96		0.95	0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1977		1569	1534		1711	3356		1829	3287	
Flt Permitted		0.67		0.83	0.91		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1370		1370	1427		1711	3356		1829	3287	
Peak-hour factor, PHF	0.83	0.83	0.83	0.79	0.79	0.79	0.95	0.95	0.95	0.91	0.91	0.91
Adj. Flow (vph)	34	2	5	539	11	165	4	797	93	58	553	15
RTOR Reduction (vph)	0	4	0	0	20	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	37	0	367	328	0	4	885	0	58	567	0
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Perm			Perm			Prot			Prot		
Protected Phases		4			3		1	2		5	6	
Permitted Phases	4			3								
Actuated Green, G (s)		5.5		35.6	35.6		1.4	38.3		7.1	44.0	
Effective Green, g (s)		5.5		35.6	35.6		1.4	38.3		7.1	44.0	
Actuated g/C Ratio		0.05		0.34	0.34		0.01	0.37		0.07	0.42	
Clearance Time (s)		4.2		4.2	4.2		4.9	4.9		4.9	4.9	
Vehicle Extension (s)		2.5		2.5	2.5		2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)		72		466	485		23	1228		124	1381	
v/s Ratio Prot							0.00	c0.26		c0.03	0.17	
v/s Ratio Perm		c0.03		c0.27	0.23							
v/c Ratio		0.52		0.79	0.68		0.17	0.72		0.47	0.41	
Uniform Delay, d1		48.3		31.1	29.6		51.1	28.6		47.0	21.3	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.6		8.3	3.4		2.6	2.3		2.0	0.3	
Delay (s)		52.9		39.4	33.0		53.7	30.9		49.0	21.5	
Level of Service		D		D	C		D	C		D	C	
Approach Delay (s)		52.9			36.3			31.0			24.1	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	104.7	Sum of lost time (s)	18.2
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	41	367	348	4	890	58	568
v/c Ratio	0.31	0.75	0.65	0.03	0.74	0.35	0.39
Control Delay	48.5	41.7	33.9	47.8	34.1	51.7	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	41.7	33.9	47.8	34.1	51.7	21.1
Queue Length 50th (ft)	24	232	193	3	278	38	126
Queue Length 95th (ft)	55	#328	276	14	393	81	223
Internal Link Dist (ft)	165		514		1026		153
Turn Bay Length (ft)						100	
Base Capacity (vph)	214	492	532	528	1207	754	1586
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	0.19	0.75	0.65	0.01	0.74	0.08	0.36

Intersection Summary

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