



WESTSIDE SUBWAY EXTENSION

Traffic Analysis Impact Report Appendix C



August 2010

Appendix C-1:
Existing Level of Service Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑	↗		↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	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			1.00	1.00		0.99	1.00
Satd. Flow (prot)	1583	4485		1583	4540			3153	1417		3145	1417
Flt Permitted	0.12	1.00		0.95	1.00			0.73	1.00		0.65	1.00
Satd. Flow (perm)	195	4485		1583	4540			2311	1417		2068	1417
Volume (vph)	30	1356	142	103	1550	23	56	603	119	110	690	104
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	32	1427	149	108	1632	24	59	635	125	116	726	109
RTOR Reduction (vph)	0	14	0	0	2	0	0	0	78	0	0	11
Lane Group Flow (vph)	32	1562	0	108	1654	0	0	694	47	0	842	98
Turn Type	Perm		Prot		Perm		Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	6		5		2		8		4		4	
Permitted Phases	6						8		4		4	
Actuated Green, G (s)	36.0	36.0		8.0	48.0			33.5	33.5		33.5	33.5
Effective Green, g (s)	36.0	36.0		8.0	48.0			34.0	34.0		34.0	34.0
Actuated g/C Ratio	0.40	0.40		0.09	0.53			0.38	0.38		0.38	0.38
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	78	1794		141	2421			873	535		781	535
v/s Ratio Prot	c0.35		0.07		c0.36							
v/s Ratio Perm	0.16						0.30		0.03		c0.41	
v/c Ratio	0.41	0.87		0.77	0.68			0.79	0.09		1.08	0.18
Uniform Delay, d1	19.4	24.9		40.1	15.4			24.9	18.0		28.0	18.7
Progression Factor	1.52	1.48		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	13.3	5.4		21.6	1.6			7.4	0.3		55.3	0.8
Delay (s)	42.7	42.2		61.7	17.0			32.3	18.3		83.3	19.5
Level of Service	D	D		E	B			C	B		F	B
Approach Delay (s)	42.2		19.7				30.2				76.0	
Approach LOS	D		B				C				E	

Intersection Summary

HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: 6th St & Western Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00
Frbp, ped/bikes		0.99			0.99			0.99			1.00	0.83
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.99			0.99			0.99			1.00	0.85
Flt Protected		1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)		3117			3103			3120			3167	1171
Flt Permitted		1.00			1.00			1.00			1.00	1.00
Satd. Flow (perm)		3117			3103			3120			3167	1171
Volume (vph)	0	830	59	0	899	57	0	907	50	0	1012	101
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	838	60	0	908	58	0	916	51	0	1022	102
RTOR Reduction (vph)	0	6	0	0	5	0	0	4	0	0	0	26
Lane Group Flow (vph)	0	892	0	0	961	0	0	963	0	0	1022	76
Conf. Peds. (#/hr)	76		47	47		76	70		83	83		70
Conf. Bikes (#/hr)			7			7			12			9
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1420			1414			1421			1443	533
v/s Ratio Prot		0.29			c0.31			0.31			c0.32	
v/s Ratio Perm												0.06
v/c Ratio		0.63			0.68			0.68			0.71	0.14
Uniform Delay, d1		18.7			19.3			19.3			19.7	14.3
Progression Factor		1.00			1.00			0.58			1.00	1.00
Incremental Delay, d2		2.1			2.7			1.3			3.0	0.6
Delay (s)		20.8			22.0			12.5			22.7	14.8
Level of Service		C			C			B			C	B
Approach Delay (s)		20.8			22.0			12.5			21.9	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 3: Wilshire Blvd & Western Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗↗		↗	↗↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.96		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	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1578	4496		1578	4462		1579	2997		1577	3065	
Flt Permitted	0.13	1.00		0.16	1.00		0.13	1.00		0.13	1.00	
Satd. Flow (perm)	219	4496		259	4462		223	2997		212	3065	
Volume (vph)	61	937	33	71	1124	42	78	759	96	119	826	84
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	66	1008	35	76	1209	45	84	816	103	128	888	90
RTOR Reduction (vph)	0	4	0	0	4	0	0	11	0	0	8	0
Lane Group Flow (vph)	66	1039	0	76	1250	0	84	908	0	128	970	0
Conf. Peds. (#/hr)	529		124	124		529	153		349	349		153
Conf. Bikes (#/hr)			4			6			8			9
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	34.5	28.9		35.3	29.3		35.0	28.6		38.0	30.1	
Effective Green, g (s)	35.9	30.3		36.7	30.7		36.2	29.8		39.2	31.3	
Actuated g/C Ratio	0.40	0.34		0.41	0.34		0.40	0.33		0.44	0.35	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	172	1514		194	1522		186	992		212	1066	
v/s Ratio Prot	0.02	0.23		c0.03	c0.28		0.03	0.30		c0.05	c0.32	
v/s Ratio Perm	0.13			0.13			0.15			0.21		
v/c Ratio	0.38	0.69		0.39	0.82		0.45	0.92		0.60	0.91	
Uniform Delay, d1	18.6	25.7		17.6	27.1		19.1	28.9		18.4	28.0	
Progression Factor	1.26	0.65		0.45	0.66		1.18	1.33		1.71	1.60	
Incremental Delay, d2	1.1	2.0		1.0	3.9		1.2	10.9		3.4	9.8	
Delay (s)	24.6	18.9		8.8	21.9		23.8	49.3		34.8	54.5	
Level of Service	C	B		A	C		C	D		C	D	
Approach Delay (s)		19.2			21.2			47.1			52.2	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
4: 8th St & Western Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3132		1583	3134		1583	3156		1583	3152	
Flt Permitted	0.40	1.00		0.33	1.00		0.12	1.00		0.15	1.00	
Satd. Flow (perm)	666	3132		555	3134		193	3156		256	3152	
Volume (vph)	49	533	42	64	440	32	33	917	21	58	1006	33
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	55	599	47	72	494	36	37	1030	24	65	1130	37
RTOR Reduction (vph)	0	7	0	0	6	0	0	2	0	0	3	0
Lane Group Flow (vph)	55	639	0	72	524	0	37	1052	0	65	1164	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	8		4		4		6		6		2	
Permitted Phases	8		4		4		6		6		2	
Actuated Green, G (s)	40.4	40.4		40.4	40.4		40.3	40.3		40.3	40.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	303	1427		253	1428		88	1438		117	1436	
v/s Ratio Prot	c0.20				0.17		0.33				c0.37	
v/s Ratio Perm	0.08		0.13				0.19		0.25			
v/c Ratio	0.18	0.45		0.28	0.37		0.42	0.73		0.56	0.81	
Uniform Delay, d1	14.5	16.8		15.3	16.0		16.5	20.0		17.9	21.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.56	0.48	
Incremental Delay, d2	1.3	1.0		2.8	0.7		14.1	3.3		12.7	3.6	
Delay (s)	15.9	17.8		18.1	16.7		30.6	23.3		22.8	13.8	
Level of Service	B		B		B		C		C		B	
Approach Delay (s)	17.6		16.9		23.6		14.3					
Approach LOS	B		B		C		B					

Intersection Summary

HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕	↖	↖	↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4536		1583	4509		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00		0.12	1.00		0.14	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	186	4536		192	4509		231	3167	1417	260	3167	1417
Volume (vph)	63	1560	32	63	1380	87	127	834	56	119	866	158
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	65	1608	33	65	1423	90	131	860	58	123	893	163
RTOR Reduction (vph)	0	2	0	0	7	0	0	0	35	0	0	35
Lane Group Flow (vph)	65	1639	0	65	1506	0	131	860	23	123	893	128
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	42.2	34.9		39.8	33.7		41.1	33.3	39.4	40.9	33.2	40.5
Effective Green, g (s)	43.2	35.9		40.8	34.7		42.1	34.3	40.4	41.9	34.2	41.5
Actuated g/C Ratio	0.43	0.36		0.41	0.35		0.42	0.34	0.40	0.42	0.34	0.42
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	182	1628		163	1565		203	1086	629	211	1083	645
v/s Ratio Prot	c0.03	c0.36		0.02	0.33		c0.05	0.27	0.00	0.04	c0.28	0.01
v/s Ratio Perm	0.13			0.14			0.22		0.01	0.20		0.08
v/c Ratio	0.36	1.01		0.40	0.96		0.65	0.79	0.04	0.58	0.82	0.20
Uniform Delay, d1	20.6	32.0		22.2	32.0		20.8	29.6	18.0	20.4	30.2	18.6
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	1.2	24.0		1.6	15.4		6.9	5.9	0.0	4.1	7.2	0.2
Delay (s)	21.8	56.0		23.8	47.4		27.6	35.6	18.1	24.4	37.3	18.8
Level of Service	C	E		C	D		C	D	B	C	D	B
Approach Delay (s)		54.7			46.4			33.6			33.4	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	43.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4498		1583	4528		1583	3130		1583	3078	
Flt Permitted	0.12	1.00		0.13	1.00		0.11	1.00		0.15	1.00	
Satd. Flow (perm)	203	4498		209	4528		185	3130		247	3078	
Volume (vph)	112	1237	103	116	1310	45	131	861	72	62	979	224
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	118	1302	108	122	1379	47	138	906	76	65	1031	236
RTOR Reduction (vph)	0	11	0	0	4	0	0	7	0	0	17	0
Lane Group Flow (vph)	118	1399	0	122	1422	0	138	975	0	65	1250	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
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)	104	2299		107	2314		74	1252		99	1231	
v/s Ratio Prot		0.31			0.31			0.31			0.41	
v/s Ratio Perm	0.58			c0.58			c0.75			0.26		
v/c Ratio	1.13	0.61		1.14	0.61		1.86	0.78		0.66	1.02	
Uniform Delay, d1	22.0	15.6		22.0	15.7		27.0	23.5		22.0	27.0	
Progression Factor	1.60	1.62		1.47	1.57		1.00	1.00		1.00	1.00	
Incremental Delay, d2	122.1	1.0		116.3	0.9		436.0	4.8		29.2	29.6	
Delay (s)	157.4	26.3		148.6	25.4		463.0	28.4		51.2	56.6	
Level of Service	F	C		F	C		F	C		D	E	
Approach Delay (s)		36.4			35.1			81.9			56.3	
Approach LOS		D			D			F			E	
Intersection Summary												
HCM Average Control Delay			50.1			HCM Level of Service				D		
HCM Volume to Capacity ratio			1.46									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			97.6%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1583	4528		1583	4541			1638	1417		1575	
Flt Permitted	0.07	1.00		0.11	1.00			0.65	1.00		0.97	
Satd. Flow (perm)	109	4528		182	4541			1087	1417		1537	
Volume (vph)	30	1286	42	68	1686	23	65	121	123	13	108	75
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	38	1628	53	86	2134	29	82	153	156	16	137	95
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	18	0	5	0
Lane Group Flow (vph)	38	1678	0	86	2162	0	0	235	138	0	243	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	61.0	61.0		61.0	61.0			20.5	20.5		20.5	
Effective Green, g (s)	61.0	61.0		61.0	61.0			21.0	21.0		21.0	
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.23	0.23		0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	74	3069		123	3078			254	331		359	
v/s Ratio Prot		0.37		c0.48								
v/s Ratio Perm	0.35			0.47				c0.22	0.10		0.16	
v/c Ratio	0.51	0.55		0.70	0.70			0.93	0.42		0.68	
Uniform Delay, d1	7.2	7.4		8.9	8.9			33.7	29.3		31.4	
Progression Factor	1.00	1.00		1.34	1.36			1.00	1.00		1.00	
Incremental Delay, d2	23.2	0.7		23.3	1.1			36.6	0.8		5.0	
Delay (s)	30.4	8.1		35.2	13.3			70.3	30.1		36.4	
Level of Service	C			D	B			E	C		D	
Approach Delay (s)	8.6			14.1				54.3			36.4	
Approach LOS	A			B				D			D	

Intersection Summary

HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.97		1.00	1.00	0.99	0.90
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.96		1.00	1.00	0.99	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4236		1582	4550	3046	1164
Flt Permitted	1.00		0.11	1.00	0.95	1.00
Satd. Flow (perm)	4236		187	4550	3046	1164
Volume (vph)	998	323	361	1345	707	393
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1040	336	376	1401	736	409
RTOR Reduction (vph)	61	0	0	0	3	12
Lane Group Flow (vph)	1315	0	376	1401	765	365
Conf. Peds. (#/hr)		128	128			83
Conf. Bikes (#/hr)						2
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	41.7		53.7	53.7	26.6	34.6
Effective Green, g (s)	42.7		54.7	54.7	27.3	35.3
Actuated g/C Ratio	0.47		0.61	0.61	0.30	0.39
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	2010		238	2765	924	508
v/s Ratio Prot	0.31		c0.14	0.31	c0.25	0.06
v/s Ratio Perm			c0.82			0.25
v/c Ratio	0.65		1.58	0.51	0.83	0.72
Uniform Delay, d1	18.0		19.3	10.0	29.2	23.1
Progression Factor	1.00		1.00	1.00	0.37	0.34
Incremental Delay, d2	1.7		280.1	0.7	5.1	3.5
Delay (s)	19.7		299.4	10.7	15.9	11.3
Level of Service	B		F	B	B	B
Approach Delay (s)	19.7			71.8	14.4	
Approach LOS	B			E	B	
Intersection Summary						
HCM Average Control Delay			39.8		HCM Level of Service	D
HCM Volume to Capacity ratio			1.31			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			91.6%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	2996		1583	1667	1417	1583	3106		1583	3161	
Flt Permitted	0.62	1.00		0.63	1.00	1.00	0.38	1.00		0.19	1.00	
Satd. Flow (perm)	1027	2996		1044	1667	1417	641	3106		320	3161	
Volume (vph)	7	123	69	240	146	105	48	943	139	26	596	7
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	7	128	72	250	152	109	50	982	145	27	621	7
RTOR Reduction (vph)	0	0	0	0	0	76	0	13	0	0	1	0
Lane Group Flow (vph)	7	200	0	250	152	33	50	1114	0	27	627	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)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	308	899		313	500	425	392	1898		196	1932	
v/s Ratio Prot		0.07			0.09			c0.36			0.20	
v/s Ratio Perm	0.01			c0.24		0.02	0.08			0.08		
v/c Ratio	0.02	0.22		0.80	0.30	0.08	0.13	0.59		0.14	0.32	
Uniform Delay, d1	22.2	23.6		29.0	24.3	22.6	7.4	10.6		7.4	8.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.03	1.75		0.14	0.22	
Incremental Delay, d2	0.1	0.6		18.9	1.6	0.4	0.1	0.1		0.1	0.0	
Delay (s)	22.3	24.2		47.9	25.8	22.9	7.6	18.7		1.2	1.9	
Level of Service	C	C		D	C	C	A	B		A	A	
Approach Delay (s)		24.1			36.0			18.3			1.9	
Approach LOS		C			D			B			A	
Intersection Summary												
HCM Average Control Delay			18.1				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			77.8%				ICU Level of Service				D	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4529		1583	4524		1583	3132		1583	3167	1417
Flt Permitted	0.15	1.00		0.95	1.00		0.13	1.00		0.15	1.00	1.00
Satd. Flow (perm)	248	4529		1583	4524		219	3132		252	3167	1417
Volume (vph)	60	1151	37	140	2170	87	149	975	76	55	828	126
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	66	1265	41	154	2385	96	164	1071	84	60	910	138
RTOR Reduction (vph)	0	4	0	0	5	0	0	6	0	0	0	97
Lane Group Flow (vph)	66	1302	0	154	2476	0	164	1149	0	60	910	41
Turn Type	pm+pt		Prot		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2					4				8		8
Actuated Green, G (s)	31.3	26.0		11.1	30.9		39.5	29.5		31.5	25.5	25.5
Effective Green, g (s)	32.6	26.9		10.6	31.8		40.5	30.5		32.5	26.5	26.5
Actuated g/C Ratio	0.36	0.30		0.12	0.35		0.45	0.34		0.36	0.29	0.29
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1354		186	1598		250	1061		180	933	417
v/s Ratio Prot	0.02	0.29		c0.10	c0.55		c0.07	c0.37		0.02	0.29	
v/s Ratio Perm	0.11					0.22				0.10		0.03
v/c Ratio	0.38	0.96		0.83	1.55		0.66	1.08		0.33	0.98	0.10
Uniform Delay, d1	23.1	31.0		38.8	29.1		18.8	29.8		22.0	31.4	23.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.84	0.80	0.74
Incremental Delay, d2	1.4	16.9		25.1	250.5		6.1	53.0		1.0	23.3	0.4
Delay (s)	24.5	48.0		63.9	279.6		24.9	82.7		19.5	48.5	17.4
Level of Service	C			E			C			B		D
Approach Delay (s)	46.8			267.0			75.5			43.0		
Approach LOS	D			F			E			D		

Intersection Summary

HCM Average Control Delay	142.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↖	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			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			0.97	1.00		0.98	1.00
Satd. Flow (prot)	1583	4516		1583	4536			1615	1417		1631	1417
Flt Permitted	0.08	1.00		0.15	1.00			0.97	1.00		0.98	1.00
Satd. Flow (perm)	142	4516		245	4536			1615	1417		1631	1417
Volume (vph)	20	1217	64	10	1820	39	142	81	20	34	44	84
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	1255	66	10	1876	40	146	84	21	35	45	87
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	16	0	0	77
Lane Group Flow (vph)	21	1321	0	10	1914	0	0	230	5	0	80	10
Turn Type	Perm		Perm		Split		Perm		Split		Perm	
Protected Phases	6		2		4		4		3		3	
Permitted Phases	6		2				4				3	
Actuated Green, G (s)	45.2	45.2		45.2	45.2			19.0	19.0		8.9	8.9
Effective Green, g (s)	47.1	47.1		47.1	47.1			20.5	20.5		10.4	10.4
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.23	0.23		0.12	0.12
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	2363		128	2374			368	323		188	164
v/s Ratio Prot		0.29			c0.42			c0.14			c0.05	
v/s Ratio Perm	0.15			0.04				0.00				0.01
v/c Ratio	0.28	0.56		0.08	0.81			0.62	0.01		0.43	0.06
Uniform Delay, d1	12.0	14.5		10.7	17.7			31.3	26.9		37.0	35.5
Progression Factor	0.45	0.48		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	8.1	0.8		1.2	3.0			3.3	0.0		1.6	0.2
Delay (s)	13.6	7.8		11.8	20.7			34.6	26.9		38.6	35.6
Level of Service	B	A		B	C			C	C		D	D
Approach Delay (s)		7.9			20.7			33.9			37.0	
Approach LOS		A			C			C			D	

Intersection Summary

HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.95	1.00
Satd. Flow (prot)	1583	4546		1583	4448			1574			1589	1417
Flt Permitted	0.09	1.00		0.23	1.00			0.99			0.95	1.00
Satd. Flow (perm)	145	4546		386	4448			1574			1589	1417
Volume (vph)	91	972	6	16	1632	288	14	18	14	324	9	289
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	93	992	6	16	1665	294	14	18	14	331	9	295
RTOR Reduction (vph)	0	0	0	0	25	0	0	13	0	0	0	141
Lane Group Flow (vph)	93	998	0	16	1934	0	0	33	0	0	340	154
Turn Type	Perm			Perm			Split			Split		Perm
Protected Phases	6			2			3	3		4	4	
Permitted Phases	6			2								4
Actuated Green, G (s)	44.5	44.5		44.5	44.5			7.3			22.3	22.3
Effective Green, g (s)	46.0	46.0		46.0	46.0			8.7			23.3	23.3
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.10			0.26	0.26
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	74	2324		197	2273			152			411	367
v/s Ratio Prot		0.22			0.43			c0.02			c0.21	
v/s Ratio Perm	c0.64			0.04								0.11
v/c Ratio	1.26	0.43		0.08	0.85			0.22			0.83	0.42
Uniform Delay, d1	22.0	13.8		11.2	19.0			37.5			31.5	27.7
Progression Factor	1.00	1.00		1.43	1.06			1.00			1.00	1.00
Incremental Delay, d2	188.5	0.6		0.5	2.6			0.7			12.8	0.8
Delay (s)	210.5	14.4		16.6	22.9			38.2			44.3	28.5
Level of Service	F	B		B	C			D			D	C
Approach Delay (s)		31.1			22.9			38.2			36.9	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			0.98			0.99	
Flpb, ped/bikes		1.00		0.98	1.00			1.00			1.00	
Frt		1.00		1.00	1.00			0.92			0.95	
Flt Protected		1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)		4271		1460	4260			1403			1474	
Flt Permitted		1.00		0.26	1.00			0.97			0.97	
Satd. Flow (perm)		4271		394	4260			1371			1441	
Volume (vph)	0	963	10	32	1618	37	7	16	36	9	47	30
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1024	11	34	1721	39	7	17	38	10	50	32
RTOR Reduction (vph)	0	1	0	0	2	0	0	32	0	0	14	0
Lane Group Flow (vph)	0	1034	0	34	1758	0	0	30	0	0	78	0
Confl. Peds. (#/hr)	25		36	36		25	8		5	5		8
Confl. Bikes (#/hr)			5			4						
Turn Type				Perm			Perm			Perm		
Protected Phases		6			2			8			4	
Permitted Phases				2			8			4		
Actuated Green, G (s)		67.7		67.7	67.7			14.8			14.8	
Effective Green, g (s)		67.2		67.2	67.2			14.8			14.8	
Actuated g/C Ratio		0.75		0.75	0.75			0.16			0.16	
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		3189		294	3181			225			237	
v/s Ratio Prot		0.24			c0.41							
v/s Ratio Perm				0.09				0.02			c0.05	
v/c Ratio		0.32		0.12	0.55			0.13			0.33	
Uniform Delay, d1		3.8		3.2	4.9			32.1			33.2	
Progression Factor		0.25		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.2		0.8	0.7			0.3			0.8	
Delay (s)		1.1		4.0	5.6			32.4			34.0	
Level of Service		A		A	A			C			C	
Approach Delay (s)		1.1			5.6			32.4			34.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	5.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑	↖	↗	↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00		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)	1490	2980	1333	1490	2973		1490	4242		1490	4205	
Flt Permitted	0.13	1.00	1.00	0.18	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	202	2980	1333	279	2973		216	4242		213	4205	
Volume (vph)	77	770	89	162	1497	25	90	1036	70	112	1624	223
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	81	811	94	171	1576	26	95	1091	74	118	1709	235
RTOR Reduction (vph)	0	0	27	0	1	0	0	8	0	0	19	0
Lane Group Flow (vph)	81	811	67	171	1601	0	95	1157	0	118	1925	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	35.6	30.0	36.5	38.4	31.4		34.5	28.0		35.5	28.5	
Effective Green, g (s)	36.6	31.0	37.5	39.4	32.4		35.5	29.0		36.5	29.5	
Actuated g/C Ratio	0.41	0.34	0.42	0.44	0.36		0.39	0.32		0.41	0.33	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	162	1026	615	216	1070		177	1367		186	1378	
v/s Ratio Prot	0.03	0.27	0.01	c0.06	c0.54		0.04	0.27		c0.05	c0.46	
v/s Ratio Perm	0.17		0.04	0.28			0.17			0.21		
v/c Ratio	0.50	0.79	0.11	0.79	1.50		0.54	0.85		0.63	1.40	
Uniform Delay, d1	41.8	26.6	16.0	18.1	28.8		41.4	28.4		19.1	30.3	
Progression Factor	0.62	0.74	0.73	1.00	1.00		1.48	0.36		1.66	1.45	
Incremental Delay, d2	1.9	4.8	0.1	17.7	228.2		1.8	4.0		5.0	181.7	
Delay (s)	28.0	24.6	11.8	35.8	257.0		63.2	14.2		36.5	225.7	
Level of Service	C	C	B	D	F		E	B		D	F	
Approach Delay (s)		23.7			235.6			17.9			214.8	
Approach LOS		C			F			B			F	

Intersection Summary

HCM Average Control Delay	149.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1490	2980	1333	1490	2964		1490	4251		1490	4236	
Flt Permitted	0.11	1.00	1.00	0.15	1.00		0.10	1.00		0.11	1.00	
Satd. Flow (perm)	179	2980	1333	241	2964		161	4251		168	4236	
Volume (vph)	86	891	95	132	1285	50	101	1294	67	100	1553	121
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	88	909	97	135	1311	51	103	1320	68	102	1585	123
RTOR Reduction (vph)	0	0	21	0	3	0	0	6	0	0	10	0
Lane Group Flow (vph)	88	909	76	135	1359	0	103	1382	0	102	1698	0
Turn Type	Perm		Perm	pm+pt			Perm			Perm		
Protected Phases		8		7	4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	34.0	34.0	34.0	42.0	42.0		38.0	38.0		38.0	38.0	
Effective Green, g (s)	35.0	35.0	35.0	43.0	43.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.39	0.39	0.39	0.48	0.48		0.43	0.43		0.43	0.43	
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	70	1159	518	171	1416		70	1842		73	1836	
v/s Ratio Prot		0.30		0.04	c0.46			0.33			0.40	
v/s Ratio Perm	c0.49		0.06	0.34			c0.64			0.61		
v/c Ratio	1.26	0.78	0.15	0.79	0.96		1.47	0.75		1.40	0.93	
Uniform Delay, d1	27.5	24.2	17.8	18.7	22.7		25.5	21.4		25.5	24.1	
Progression Factor	0.91	0.91	0.72	1.00	1.00		1.00	1.00		1.98	2.02	
Incremental Delay, d2	181.2	4.4	0.5	21.1	16.0		274.2	2.9		186.3	1.1	
Delay (s)	206.3	26.4	13.3	39.7	38.7		299.7	24.3		236.7	49.8	
Level of Service	F	C	B	D	D		F	C		F	D	
Approach Delay (s)		39.7			38.8			43.3			60.4	
Approach LOS		D			D			D			E	

Intersection Summary

HCM Average Control Delay	46.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔↔↔		↔	↔↔↔	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.97			0.99		1.00	1.00		1.00	0.99	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2898			2953		1490	4263		1490	4234	
Flt Permitted		1.00			1.00		0.17	1.00		0.17	1.00	
Satd. Flow (perm)		2898			2953		264	4263		264	4234	
Volume (vph)	0	578	131	0	1045	68	59	1357	42	109	1513	124
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	584	132	0	1056	69	60	1371	42	110	1528	125
RTOR Reduction (vph)	0	1	0	0	2	0	0	5	0	0	14	0
Lane Group Flow (vph)	0	715	0	0	1123	0	60	1408	0	110	1639	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	8		4		4		6		2			
Permitted Phases	8		4		6		6		2			
Actuated Green, G (s)	27.3		27.3		23.1		23.1		23.1		23.1	
Effective Green, g (s)	28.2		28.2		23.8		23.8		23.8		23.8	
Actuated g/C Ratio	0.47		0.47		0.40		0.40		0.40		0.40	
Clearance Time (s)	4.9		4.9		4.7		4.7		4.7		4.7	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	1362		1388		105		1691		105		1679	
v/s Ratio Prot	0.25		c0.38		0.23		0.33		c0.42		0.39	
v/s Ratio Perm					0.23				c0.42			
v/c Ratio	0.52		0.81		0.57		0.83		1.05		0.98	
Uniform Delay, d1	11.2		13.6		14.1		16.3		18.1		17.8	
Progression Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	0.4		3.6		20.6		5.0		101.2		17.0	
Delay (s)	11.6		17.2		34.8		21.3		119.3		34.8	
Level of Service	B		B		C		C		F		C	
Approach Delay (s)	11.6		17.2		21.8				40.1			
Approach LOS	B		B		C				D			

Intersection Summary

HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		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	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1489	4175		1485	4224		1489	4221		1490	4122	
Flt Permitted	0.14	1.00		0.17	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	216	4175		260	4224		202	4221		1490	4122	
Volume (vph)	117	901	83	144	1385	77	134	1186	84	107	1255	211
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	118	910	84	145	1399	78	135	1198	85	108	1268	213
RTOR Reduction (vph)	0	12	0	0	7	0	0	9	0	0	26	0
Lane Group Flow (vph)	118	982	0	145	1470	0	135	1274	0	108	1455	0
Confl. Peds. (#/hr)	86		120	120		86	89		48	48		89
Confl. Bikes (#/hr)			8			5			3			4
Turn Type	pm+pt			pm+pt			pm+pt			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					
Actuated Green, G (s)	36.4	29.0		36.6	29.1		38.4	31.0		7.5	31.1	
Effective Green, g (s)	35.9	29.0		36.1	29.1		37.9	31.0		7.0	31.1	
Actuated g/C Ratio	0.40	0.32		0.40	0.32		0.42	0.34		0.08	0.35	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	184	1345		200	1366		184	1454		116	1424	
v/s Ratio Prot	0.05	0.24		c0.06	c0.35		0.06	0.30		c0.07	c0.35	
v/s Ratio Perm	0.21			0.23			0.25					
v/c Ratio	0.64	0.73		0.72	1.08		0.73	0.88		0.93	1.02	
Uniform Delay, d1	20.8	27.0		19.0	30.4		19.8	27.7		41.3	29.4	
Progression Factor	1.48	0.79		1.31	0.82		1.75	0.71		1.00	1.00	
Incremental Delay, d2	7.3	3.5		10.5	46.0		12.4	6.8		61.4	29.5	
Delay (s)	38.1	24.9		35.4	71.1		47.1	26.5		102.7	58.9	
Level of Service	D	C		D	E		D	C		F	E	
Approach Delay (s)		26.3			67.9			28.5			61.9	
Approach LOS		C			E			C			E	

Intersection Summary

HCM Average Control Delay	48.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑↑↑		↕	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			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		0.95			0.98		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1456			1516		1483	4266		1486	4242	
Flt Permitted		0.89			0.90		0.13	1.00		0.15	1.00	
Satd. Flow (perm)		1318			1381		197	4266		241	4242	
Volume (vph)	40	58	57	49	121	24	91	1327	26	9	1423	77
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	41	60	59	51	125	25	94	1368	27	9	1467	79
RTOR Reduction (vph)	0	10	0	0	7	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	150	0	0	194	0	94	1394	0	9	1542	0
Conf. Peds. (#/hr)	6		10	10		6	21		10	10		5
Conf. Bikes (#/hr)			2			2			2			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		23.0			23.0		57.5	57.5		57.5	57.5	
Effective Green, g (s)		24.0			24.0		58.0	58.0		58.0	58.0	
Actuated g/C Ratio		0.27			0.27		0.64	0.64		0.64	0.64	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		351			368		127	2749		155	2734	
v/s Ratio Prot								0.33			0.36	
v/s Ratio Perm		0.11			c0.14		c0.48			0.04		
v/c Ratio		0.43			0.53		0.74	0.51		0.06	0.56	
Uniform Delay, d1		27.3			28.2		10.9	8.4		5.9	8.9	
Progression Factor		1.00			1.00		1.00	1.00		0.56	0.47	
Incremental Delay, d2		0.8			1.4		31.8	0.7		0.2	0.3	
Delay (s)		28.1			29.5		42.6	9.1		3.5	4.5	
Level of Service		C			C		D	A		A	A	
Approach Delay (s)		28.1			29.5			11.2			4.5	
Approach LOS		C			C			B			A	

Intersection Summary

HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4250		1490	4247		1490	4269		1490	4208	
Flt Permitted	0.12	1.00		0.10	1.00		0.95	1.00		0.13	1.00	
Satd. Flow (perm)	183	4250		164	4247		1490	4269		208	4208	
Volume (vph)	53	1074	56	79	1383	80	117	1319	27	119	1357	179
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	56	1143	60	84	1471	85	124	1403	29	127	1444	190
RTOR Reduction (vph)	0	5	0	0	6	0	0	2	0	0	17	0
Lane Group Flow (vph)	56	1198	0	84	1550	0	124	1430	0	127	1617	0
Turn Type	Perm		pm+pt			Prot		pm+pt				
Protected Phases	8		7		4		5		1			6
Permitted Phases	8		4			2				6		
Actuated Green, G (s)	32.9	32.9		44.4	44.4		12.1	29.5		40.0	28.7	
Effective Green, g (s)	34.3	34.3		45.8	45.8		12.1	30.9		41.4	30.1	
Actuated g/C Ratio	0.34	0.34		0.46	0.46		0.12	0.31		0.41	0.30	
Clearance Time (s)	5.4	5.4		4.0	5.4		4.0	5.4		4.0	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		4.0	3.0	
Lane Grp Cap (vph)	63	1458		175	1945		180	1319		231	1267	
v/s Ratio Prot		0.28		0.04	c0.36		c0.08			0.06	c0.38	
v/s Ratio Perm	c0.31			0.18			0.33			0.17		
v/c Ratio	0.89	0.82		0.48	0.80		0.69	1.08		0.55	1.28	
Uniform Delay, d1	31.0	30.0		18.5	23.1		42.1	34.6		22.0	35.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	84.8	5.3		2.1	3.5		10.5	50.9		3.3	130.6	
Delay (s)	115.8	35.4		20.6	26.6		52.6	85.5		25.3	165.6	
Level of Service	F	D		C	C		D	F		C	F	
Approach Delay (s)		39.0			26.3			82.9			155.5	
Approach LOS		D			C			F			F	

Intersection Summary

HCM Average Control Delay	79.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑			↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	1.00			0.98			1.00	0.96		0.98	
Flpb, ped/bikes	0.97	1.00			1.00			0.99	1.00		0.99	
Frt	1.00	1.00			0.99			1.00	0.85		0.92	
Flt Protected	0.95	1.00			1.00			0.98	1.00		0.99	
Satd. Flow (prot)	1448	4251			4182			1532	1286		1381	
Flt Permitted	0.12	1.00			1.00			0.92	1.00		0.94	
Satd. Flow (perm)	180	4251			4182			1433	1286		1311	
Volume (vph)	51	861	21	0	1567	71	11	22	35	15	9	36
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	53	888	22	0	1615	73	11	23	36	15	9	37
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	30	0	10	0
Lane Group Flow (vph)	53	908	0	0	1685	0	0	34	6	0	51	0
Conf. Peds. (#/hr)	151		56	56		151	25		19	19		25
Conf. Bikes (#/hr)			4			7			1			1
Turn Type	Perm			Perm			Perm		Perm		Perm	
Protected Phases	6			2			8		8		4	
Permitted Phases	6						8		8		4	
Actuated Green, G (s)	68.4	68.4			68.4			14.1	14.1		14.1	
Effective Green, g (s)	67.9	67.9			67.9			14.1	14.1		14.1	
Actuated g/C Ratio	0.75	0.75			0.75			0.16	0.16		0.16	
Clearance Time (s)	3.5	3.5			3.5			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)	136	3207			3155			225	201		205	
v/s Ratio Prot		0.21			c0.40							
v/s Ratio Perm	0.30							0.02	0.00		c0.04	
v/c Ratio	0.39	0.28			0.53			0.15	0.03		0.25	
Uniform Delay, d1	3.8	3.5			4.5			32.8	32.1		33.3	
Progression Factor	1.59	1.34			0.35			1.00	1.00		1.00	
Incremental Delay, d2	6.9	0.2			0.1			0.3	0.1		0.6	
Delay (s)	13.0	4.8			1.6			33.1	32.2		33.9	
Level of Service	B	A			A			C	C		C	
Approach Delay (s)		5.3			1.6			32.6			33.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	4.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

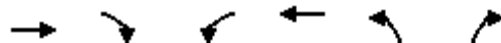


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑	↗		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.93			0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1583	4541		1583	4300	1218		1545			1569	
Flt Permitted	0.10	1.00		0.23	1.00	1.00		0.90			0.73	
Satd. Flow (perm)	164	4541		389	4300	1218		1392			1160	
Volume (vph)	46	888	12	66	1353	131	26	139	174	103	254	212
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	53	1021	14	76	1555	151	30	160	200	118	292	244
RTOR Reduction (vph)	0	2	0	0	0	64	0	42	0	0	19	0
Lane Group Flow (vph)	53	1033	0	76	1555	87	0	348	0	0	635	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	6			2			2	8			4	
Permitted Phases	6			2			2	8			4	
Actuated Green, G (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Effective Green, g (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Actuated g/C Ratio	0.58	0.58		0.58	0.58	0.58		0.33			0.33	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	95	2624		225	2484	704		464			387	
v/s Ratio Prot	0.23			c0.36								
v/s Ratio Perm	0.32			0.20		0.07		0.25			c0.55	
v/c Ratio	0.56	0.39		0.34	0.63	0.12		0.75			1.64	
Uniform Delay, d1	11.8	10.4		10.0	12.6	8.6		26.7			30.0	
Progression Factor	2.04	2.15		0.65	0.76	0.65		1.00			1.00	
Incremental Delay, d2	21.0	0.4		3.6	1.1	0.3		6.7			299.4	
Delay (s)	45.1	22.7		10.0	10.6	5.9		33.4			329.4	
Level of Service	D	C		B	B	A		C			F	
Approach Delay (s)	23.8			10.2				33.4			329.4	
Approach LOS	C			B				C			F	

Intersection Summary

HCM Average Control Delay	69.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	109.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 22: Wilshire Blvd & Spaulding Ave



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.99		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	4523		1583	4550	1506	
Flt Permitted	1.00		0.27	1.00	0.98	
Satd. Flow (perm)	4523		447	4550	1506	
Volume (vph)	862	35	106	1691	23	30
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	907	37	112	1780	24	32
RTOR Reduction (vph)	4	0	0	0	23	0
Lane Group Flow (vph)	940	0	112	1780	33	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2779		275	2796	447	
v/s Ratio Prot	0.21			c0.39	c0.02	
v/s Ratio Perm			0.25			
v/c Ratio	0.34		0.41	0.64	0.07	
Uniform Delay, d1	8.4		8.9	11.0	22.8	
Progression Factor	1.00		1.45	1.56	1.00	
Incremental Delay, d2	0.3		2.9	0.7	0.1	
Delay (s)	8.8		15.9	17.9	22.8	
Level of Service	A		B	B	C	
Approach Delay (s)	8.8			17.7	22.8	
Approach LOS	A			B	C	
Intersection Summary						
HCM Average Control Delay			14.9		HCM Level of Service	B
HCM Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			47.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3123	3123
Flt Permitted	0.12	1.00	1.00	0.17	1.00	1.00	0.14	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	208	3167	1417	285	3167	1417	238	3167	1417	414	3123	3123
Volume (vph)	59	799	103	214	1367	110	76	590	121	117	1062	109
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	60	815	105	218	1395	112	78	602	123	119	1084	111
RTOR Reduction (vph)	0	0	43	0	0	37	0	0	85	0	9	0
Lane Group Flow (vph)	60	815	62	218	1395	75	78	602	38	119	1186	0
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt		
Protected Phases		6		5		2	7		8		7	4
Permitted Phases	6		6	2		2	8		8		4	
Actuated Green, G (s)	31.0	31.0	31.0	43.0	43.0	48.7	28.1	28.1	28.1	37.0	37.0	37.0
Effective Green, g (s)	32.0	32.0	32.0	44.0	44.0	50.0	28.0	28.0	28.0	38.0	38.0	38.0
Actuated g/C Ratio	0.36	0.36	0.36	0.49	0.49	0.56	0.31	0.31	0.31	0.42	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	5.0
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	4.5
Lane Grp Cap (vph)	74	1126	504	255	1548	850	74	985	441	253	1319	1319
v/s Ratio Prot		0.26		0.08	c0.44	0.01		0.19		0.03	c0.38	
v/s Ratio Perm	0.29		0.04	0.34		0.05	c0.33		0.03	0.17		
v/c Ratio	0.81	0.72	0.12	0.85	0.90	0.09	1.05	0.61	0.09	0.47	0.90	0.90
Uniform Delay, d1	26.3	25.2	19.6	16.6	21.0	9.3	31.0	26.4	21.9	17.4	24.2	24.2
Progression Factor	1.00	1.00	1.00	1.79	0.28	0.01	0.54	0.47	0.16	0.35	0.49	0.49
Incremental Delay, d2	60.8	4.1	0.5	2.7	0.9	0.0	95.0	1.7	0.2	0.9	7.0	7.0
Delay (s)	87.1	29.2	20.1	32.3	6.9	0.1	111.5	14.1	3.7	6.9	18.9	18.9
Level of Service	F	C	C	C	A	A	F	B	A	A	B	B
Approach Delay (s)		31.8			9.6			22.0			17.8	
Approach LOS		C			A			C			B	

Intersection Summary

HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗	↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3143		1583	3167	1417	1583	3095		1583	3127	
Flt Permitted	0.11	1.00		0.30	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	190	3143		502	3167	1417	230	3095		202	3127	
Volume (vph)	95	557	29	253	1343	141	58	718	127	154	1063	98
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	106	619	32	281	1492	157	64	798	141	171	1181	109
RTOR Reduction (vph)	0	4	0	0	0	46	0	16	0	0	8	0
Lane Group Flow (vph)	106	647	0	281	1492	111	64	923	0	171	1282	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	38.9	33.1		38.9	33.1	38.9	27.1	27.1		36.1	36.1	
Effective Green, g (s)	40.0	35.0		40.0	35.0	40.0	29.0	29.0		38.0	38.0	
Actuated g/C Ratio	0.44	0.39		0.44	0.39	0.44	0.32	0.32		0.42	0.42	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	162	1222		283	1232	693	74	997		162	1320	
v/s Ratio Prot	0.04	0.21		c0.06	c0.47	0.01		0.30		0.06	c0.41	
v/s Ratio Perm	0.25			0.39		0.07	0.28			c0.39		
v/c Ratio	0.65	0.53		0.99	1.21	0.16	0.86	0.93		1.06	0.97	
Uniform Delay, d1	43.0	21.2		24.2	27.5	15.0	28.7	29.5		23.5	25.5	
Progression Factor	1.00	1.00		0.79	0.87	0.75	1.44	1.47		0.84	0.58	
Incremental Delay, d2	9.1	1.6		39.0	99.7	0.1	70.7	15.2		68.2	13.0	
Delay (s)	52.2	22.8		58.0	123.7	11.2	112.0	58.5		87.9	27.7	
Level of Service	D	C		E	F	B	F	E		F	C	
Approach Delay (s)		26.9			105.0			61.9			34.8	
Approach LOS		C			F			E			C	

Intersection Summary

HCM Average Control Delay	65.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.94	1.00	1.00	0.91	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1545	1654		3072	1667	1337	1583	3167	1287	1532	3106	
Flt Permitted	0.50	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.37	1.00	
Satd. Flow (perm)	819	1654		3072	1667	1337	180	3167	1287	593	3106	
Volume (vph)	17	241	11	173	427	91	8	595	54	31	1179	81
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	18	251	11	180	445	95	8	620	56	32	1228	84
RTOR Reduction (vph)	0	2	0	0	0	58	0	0	0	0	6	0
Lane Group Flow (vph)	18	260	0	180	445	37	8	620	56	32	1306	0
Conf. Peds. (#/hr)	28		6	6		28	43		36	36		43
Conf. Bikes (#/hr)			4			1			5			7
Turn Type	Perm			Prot		Perm	Perm	pm+ov		Perm		
Protected Phases		8		7	4			6	7		2	
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	20.2	20.2		10.0	34.2	34.2	46.2	46.2	56.2	46.2	46.2	
Effective Green, g (s)	21.0	21.0		10.0	35.0	35.0	47.0	47.0	57.0	47.0	47.0	
Actuated g/C Ratio	0.23	0.23		0.11	0.39	0.39	0.52	0.52	0.63	0.52	0.52	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	191	386		341	648	520	94	1654	872	310	1622	
v/s Ratio Prot		0.16		0.06	c0.27			0.20	0.01		c0.42	
v/s Ratio Perm	0.02					0.03	0.04		0.04	0.05		
v/c Ratio	0.09	0.67		0.53	0.69	0.07	0.09	0.37	0.06	0.10	0.81	
Uniform Delay, d1	27.0	31.4		37.8	22.9	17.3	10.8	12.8	6.3	10.9	17.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.31	0.27	0.28	0.38	0.51	
Incremental Delay, d2	1.0	9.1		1.5	5.8	0.3	0.6	0.2	0.0	0.2	1.3	
Delay (s)	28.0	40.5		39.2	28.8	17.5	3.9	3.6	1.8	4.3	10.4	
Level of Service	C	D		D	C	B	A	A	A	A	B	
Approach Delay (s)		39.7			29.9			3.5			10.3	
Approach LOS		D			C			A			B	

Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖↖		↖	↖↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.98		1.00	1.00	0.88
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4451		1566	4447		1583	3063		1583	3167	1252
Flt Permitted	0.14	1.00		0.26	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	226	4451		427	4447		222	3063		1583	3167	1252
Volume (vph)	77	684	47	100	1404	72	251	878	76	143	1319	210
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	82	728	50	106	1494	77	267	934	81	152	1403	223
RTOR Reduction (vph)	0	8	0	0	6	0	0	7	0	0	0	119
Lane Group Flow (vph)	82	770	0	106	1565	0	267	1008	0	152	1403	104
Confl. Peds. (#/hr)	227		147	147		227	96		135	135		96
Confl. Bikes (#/hr)			2			6			8			6
Turn Type	pm+pt			pm+pt			pm+pt			Prot		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					4
Actuated Green, G (s)	33.9	28.5		33.9	28.5		35.8	29.0		10.7	32.9	32.9
Effective Green, g (s)	34.1	29.5		34.1	29.5		36.0	30.0		9.9	33.9	33.9
Actuated g/C Ratio	0.38	0.33		0.38	0.33		0.40	0.33		0.11	0.38	0.38
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	155	1459		220	1458		180	1021		174	1193	472
v/s Ratio Prot	c0.03	0.17		0.02	c0.35		c0.10	0.33		0.10	c0.44	
v/s Ratio Perm	0.17			0.16			c0.50					0.08
v/c Ratio	0.53	0.53		0.48	1.07		1.48	0.99		0.87	1.18	0.22
Uniform Delay, d1	21.8	24.6		19.0	30.3		44.2	29.8		39.4	28.0	19.1
Progression Factor	1.00	1.09		1.00	1.00		1.55	0.83		0.90	1.33	2.76
Incremental Delay, d2	2.9	1.2		1.7	46.0		242.1	23.7		29.4	86.5	0.8
Delay (s)	24.8	28.1		20.7	76.2		310.5	48.6		65.0	123.8	53.4
Level of Service	C	C		C	E		F	D		E	F	D
Approach Delay (s)		27.7			72.7			103.1			109.9	
Approach LOS		C			E			F			F	

Intersection Summary

HCM Average Control Delay	84.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.98	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		0.99	1.00	
Frt			0.86	1.00	0.91	0.85		0.98		1.00	1.00	
Flt Protected			1.00	0.95	0.98	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1412	1502	1330	1303		3065		1570	3167	
Flt Permitted			1.00	0.95	0.98	1.00		1.00		0.20	1.00	
Satd. Flow (perm)			1412	1502	1330	1303		3065		337	3167	
Volume (vph)	0	0	18	179	0	236	0	887	148	66	994	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	19	188	0	248	0	934	156	69	1046	0
RTOR Reduction (vph)	0	0	18	0	56	127	0	13	0	0	0	0
Lane Group Flow (vph)	0	0	1	126	92	35	0	1077	0	69	1046	0
Confl. Peds. (#/hr)	11		1	1		11	8		23	23		8
Confl. Bikes (#/hr)						5			5			1
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			2.2	18.7	18.7	18.7		54.7		54.7	54.7	
Effective Green, g (s)			3.1	19.6	19.6	19.6		55.3		55.3	55.3	
Actuated g/C Ratio			0.03	0.22	0.22	0.22		0.61		0.61	0.61	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			49	327	290	284		1883		207	1946	
v/s Ratio Prot								c0.35			0.33	
v/s Ratio Perm			c0.00	c0.08	0.07	0.03				0.20		
v/c Ratio			0.01	0.39	0.32	0.12		0.57		0.33	0.54	
Uniform Delay, d1			42.0	30.1	29.6	28.3		10.3		8.4	10.0	
Progression Factor			1.00	1.00	1.00	1.00		1.00		0.80	0.70	
Incremental Delay, d2			0.1	0.8	0.6	0.2		1.3		0.4	0.1	
Delay (s)			42.1	30.8	30.2	28.5		11.6		7.1	7.1	
Level of Service			D	C	C	C		B		A	A	
Approach Delay (s)		42.1			29.7			11.6			7.1	
Approach LOS		D			C			B			A	
Intersection Summary												
HCM Average Control Delay			12.9									HCM Level of Service B
HCM Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			66.6%									ICU Level of Service C
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.98			0.96		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4467			4389		1583	5733			5733	
Flt Permitted		1.00			1.00		0.24	1.00			1.00	
Satd. Flow (perm)		4467			4389		395	5733			5733	
Volume (vph)	0	1111	153	0	1610	498	187	1091	0	0	758	0
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1122	155	0	1626	503	189	1102	0	0	766	0
RTOR Reduction (vph)	0	18	0	0	55	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1259	0	0	2074	0	189	1102	0	0	766	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1027			1009		93	1347			1347	
v/s Ratio Prot		0.28			c0.47			0.19			0.13	
v/s Ratio Perm							c0.48					
v/c Ratio		1.23			2.06		2.03	0.82			0.57	
Uniform Delay, d1		38.5			38.5		38.2	36.2			33.8	
Progression Factor		0.68			1.00		1.00	1.00			0.30	
Incremental Delay, d2		102.6			478.2		499.9	5.6			1.5	
Delay (s)		129.0			516.7		538.2	41.9			11.8	
Level of Service		F			F		F	D			B	
Approach Delay (s)		129.0			516.7			114.5			11.8	
Approach LOS		F			F			F			B	
Intersection Summary												
HCM Average Control Delay			260.2				HCM Level of Service				F	
HCM Volume to Capacity ratio			2.05									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			53.5		
Intersection Capacity Utilization			81.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↗		↘	↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3166		1583	3138	
Flt Permitted	0.17	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	284	5733	1417		4550	1417		3166		1583	3138	
Volume (vph)	73	634	40	0	1499	123	0	841	2	80	1033	67
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	75	654	41	0	1545	127	0	867	2	82	1065	69
RTOR Reduction (vph)	0	0	31	0	0	89	0	0	0	0	5	0
Lane Group Flow (vph)	75	654	10	0	1545	38	0	869	0	82	1129	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	67	1347	333		1069	333		1029		79	1020	
v/s Ratio Prot		0.11			c0.34			0.27		c0.05	c0.36	
v/s Ratio Perm	0.26		0.01			0.03						
v/c Ratio	1.12	0.49	0.03		1.45	0.11		0.84		1.04	1.11	
Uniform Delay, d1	38.2	33.0	29.5		38.2	30.1		31.4		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.79	1.17		0.21		1.00	1.00	
Incremental Delay, d2	146.3	1.3	0.2		200.9	0.1		4.9		112.1	62.3	
Delay (s)	184.5	34.3	29.6		231.0	35.4		11.5		159.6	96.1	
Level of Service	F	C	C		F	D		B		F	F	
Approach Delay (s)		48.7			216.1			11.5			100.3	
Approach LOS		D			F			B			F	

Intersection Summary

HCM Average Control Delay	117.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4539		1583	4549		1583	3153			3025	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4539		290	4549		1583	3153			3025	
Volume (vph)	73	1225	21	39	1582	2	55	771	23	0	718	305
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	74	1250	21	40	1614	2	56	787	23	0	733	311
RTOR Reduction (vph)	0	2	0	0	0	0	0	2	0	0	47	0
Lane Group Flow (vph)	74	1269	0	40	1616	0	56	808	0	0	997	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1044		67	1046		79	1025			983	
v/s Ratio Prot		0.28			c0.36		c0.04	0.26			c0.33	
v/s Ratio Perm	0.26			0.14								
v/c Ratio	1.10	1.22		0.60	1.54		0.71	0.79			1.01	
Uniform Delay, d1	38.5	38.5		34.4	38.5		46.8	30.6			33.8	
Progression Factor	1.00	1.00		0.70	0.68		1.00	1.00			0.26	
Incremental Delay, d2	141.4	106.1		3.5	245.7		25.1	6.1			12.4	
Delay (s)	179.9	144.6		27.4	272.0		71.9	36.8			21.1	
Level of Service	F	F		C	F		E	D			C	
Approach Delay (s)		146.5			266.1			39.0			21.1	
Approach LOS		F			F			D			C	

Intersection Summary

HCM Average Control Delay	141.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘	↗	↗	↗↘	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3128		1583	3152		1583	3167	1417	1583	3167	1417
Flt Permitted	0.13	1.00		0.20	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	222	3128		341	3152		1583	3167	1417	1583	3167	1417
Volume (vph)	70	676	60	96	1290	40	148	841	124	43	779	112
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	72	697	62	99	1330	41	153	867	128	44	803	115
RTOR Reduction (vph)	0	7	0	0	3	0	0	0	67	0	0	28
Lane Group Flow (vph)	72	752	0	99	1368	0	153	867	61	44	803	87
Turn Type	Perm			Perm			Prot		Perm	Prot		Perm
Protected Phases	6			2			3	8		7		4
Permitted Phases	6			2					8			4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		10.0	41.6	41.6	5.4	37.0	37.0
Effective Green, g (s)	30.0	30.0		30.0	30.0		10.0	42.6	42.6	5.4	38.0	38.0
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.11	0.47	0.47	0.06	0.42	0.42
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	74	1043		114	1051		176	1499	671	95	1337	598
v/s Ratio Prot		0.24			c0.43		c0.10	c0.27		0.03	0.25	
v/s Ratio Perm	0.32			0.29					0.04			0.06
v/c Ratio	0.97	0.72		0.87	1.30		0.87	0.58	0.09	0.46	0.60	0.14
Uniform Delay, d1	29.6	26.3		28.1	30.0		39.4	17.2	13.0	40.9	20.1	16.0
Progression Factor	0.57	0.53		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	69.7	2.3		54.3	142.9		33.6	1.6	0.3	3.5	2.0	0.5
Delay (s)	86.5	16.4		82.5	172.9		73.0	18.8	13.3	44.4	22.1	16.5
Level of Service	F	B		F	F		E	B	B	D	C	B
Approach Delay (s)		22.5			166.8			25.4			22.5	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM Average Control Delay	71.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 32: Wilshire Blvd & Crescent Heights Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑			↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	1.00			0.96			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4486		1583	4532			3055			3061	
Flt Permitted	0.09	1.00		0.25	1.00			1.00			0.77	
Satd. Flow (perm)	152	4486		415	4532			3055			2359	
Volume (vph)	58	787	81	138	1596	44	0	431	132	89	649	175
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	62	846	87	148	1716	47	0	463	142	96	698	188
RTOR Reduction (vph)	0	14	0	0	3	0	0	32	0	0	5	0
Lane Group Flow (vph)	62	919	0	148	1760	0	0	573	0	0	977	0
Turn Type	Perm		Perm				Perm					
Protected Phases	6		2				8					
Permitted Phases	6		2				4					
Actuated Green, G (s)	42.3	42.3		42.3	42.3			36.0			36.0	
Effective Green, g (s)	44.0	44.0		44.0	44.0			38.0			38.0	
Actuated g/C Ratio	0.49	0.49		0.49	0.49			0.42			0.42	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	74	2193		203	2216			1290			996	
v/s Ratio Prot		0.20			0.39			0.19				
v/s Ratio Perm	c0.41			0.36							c0.41	
v/c Ratio	0.84	0.42		0.73	0.79			0.44			0.98	
Uniform Delay, d1	19.9	14.8		18.3	19.2			18.5			25.6	
Progression Factor	0.56	0.39		0.44	0.38			1.00			1.00	
Incremental Delay, d2	42.1	0.3		2.1	0.3			0.2			23.8	
Delay (s)	53.3	6.1		10.2	7.6			18.7			49.4	
Level of Service	D	A		B	A			B			D	
Approach Delay (s)		9.0			7.8			18.7			49.4	
Approach LOS		A			A			B			D	

Intersection Summary

HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.98		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4476		1583	4461		1583	4542		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	215	4476		215	4461		1583	4542		1583	4550	1417
Volume (vph)	53	1073	130	6	1322	198	328	1229	15	187	947	186
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	57	1154	140	6	1422	213	353	1322	16	201	1018	200
RTOR Reduction (vph)	0	17	0	0	22	0	0	1	0	0	0	15
Lane Group Flow (vph)	57	1277	0	6	1613	0	353	1337	0	201	1018	185
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	29.0	29.0		29.0	29.0		14.0	32.3		13.7	31.0	31.0
Effective Green, g (s)	31.0	31.0		31.0	31.0		15.0	33.3		13.7	32.0	32.0
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.17	0.37		0.15	0.36	0.36
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1542		74	1537		264	1681		241	1618	504
v/s Ratio Prot		0.29			c0.36			c0.22		0.13	0.22	
v/s Ratio Perm	0.27			0.03				c0.29				0.13
v/c Ratio	0.77	0.83		0.08	1.05		1.34	0.80		0.83	0.63	0.37
Uniform Delay, d1	26.3	27.1		19.9	29.5		37.5	25.3		37.0	24.1	21.5
Progression Factor	1.00	1.00		0.34	0.34		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	53.7	5.3		1.2	31.8		175.1	4.0		20.4	1.9	2.1
Delay (s)	80.0	32.3		8.0	41.9		212.6	29.3		57.5	25.9	23.6
Level of Service	F	C		A	D		F	C		E	C	C
Approach Delay (s)		34.3			41.8			67.6			30.1	
Approach LOS		C			D			E			C	

Intersection Summary

HCM Average Control Delay	44.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕			↕↕			↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.96
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1571	4528		1561	4511			1589			1657	1364
Flt Permitted	0.11	1.00		0.18	1.00			0.94			0.97	1.00
Satd. Flow (perm)	183	4528		300	4511			1499			1614	1364
Volume (vph)	84	1132	21	26	1454	47	27	155	48	17	200	102
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	93	1258	23	29	1616	52	30	172	53	19	222	113
RTOR Reduction (vph)	0	2	0	0	3	0	0	9	0	0	0	28
Lane Group Flow (vph)	93	1279	0	29	1665	0	0	246	0	0	241	85
Confl. Peds. (#/hr)	47		44	44		47	18		31	31		18
Confl. Bikes (#/hr)			3			2			4			1
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	124	3079		204	3067			360			387	327
v/s Ratio Prot		0.28			0.37							
v/s Ratio Perm	c0.51			0.10				c0.16			0.15	0.06
v/c Ratio	0.75	0.42		0.14	0.54			0.68			0.62	0.26
Uniform Delay, d1	10.4	7.1		5.7	8.1			34.5			34.0	30.8
Progression Factor	0.72	0.43		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	21.6	0.2		1.5	0.7			10.1			7.4	1.9
Delay (s)	29.1	3.3		7.1	8.8			44.6			41.3	32.7
Level of Service	C	A		A	A			D			D	C
Approach Delay (s)		5.1			8.8			44.6			38.6	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

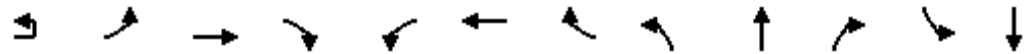


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑↑↗		↘↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.91	1.00	0.99		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	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	0.99		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)	1583	3167	1294	1566	3107		3072	4430		3072	4376	
Flt Permitted	0.13	1.00	1.00	0.36	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	213	3167	1294	591	3107		3072	4430		3072	4376	
Volume (vph)	80	352	39	264	1072	85	176	1021	84	61	1312	240
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	383	42	287	1165	92	191	1110	91	66	1426	261
RTOR Reduction (vph)	0	0	31	0	5	0	0	7	0	0	21	0
Lane Group Flow (vph)	87	383	11	287	1252	0	191	1194	0	66	1666	0
Confl. Peds. (#/hr)	63		49	49		63	51		51	51		51
Confl. Bikes (#/hr)			3			3			6			3
Turn Type	pm+pt		Perm	pm+pt		Prot			Prot			
Protected Phases	1	6		5	2	3	8		7	4		
Permitted Phases	6		6	2								
Actuated Green, G (s)	40.1	29.9	29.9	47.8	34.6	12.8	51.1		6.7	45.0		
Effective Green, g (s)	40.5	31.3	31.3	49.2	36.0	12.8	52.1		6.7	46.0		
Actuated g/C Ratio	0.34	0.26	0.26	0.41	0.30	0.11	0.43		0.06	0.38		
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4	4.0	5.0		4.0	5.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	177	826	338	355	932	328	1923		172	1677		
v/s Ratio Prot	0.04	0.12		c0.09	c0.40	0.06	c0.27		0.02	c0.38		
v/s Ratio Perm	0.13		0.01	0.24								
v/c Ratio	0.49	0.46	0.03	0.81	1.34	0.58	0.62		0.38	0.99		
Uniform Delay, d1	54.1	37.3	33.1	27.7	42.0	51.1	26.3		54.7	36.9		
Progression Factor	1.75	0.76	0.50	1.00	1.00	0.82	0.67		1.29	0.39		
Incremental Delay, d2	2.0	0.4	0.0	12.7	161.8	2.4	1.4		0.5	11.6		
Delay (s)	96.6	28.6	16.4	40.4	203.8	44.4	19.0		70.8	25.9		
Level of Service	F	C	B	D	F	D	B		E	C		
Approach Delay (s)		39.1			173.4		22.5				27.6	
Approach LOS		D			F		C				C	

Intersection Summary

HCM Average Control Delay	70.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97	
Frt	1.00		0.99		1.00	1.00	0.85	1.00		0.85	1.00	
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1583		4522		1583	4300	1218	1583		1417	3072	
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (perm)	1583		4522		1583	4300	1218	1583		1417	3072	
Volume (vph)	1	0	534	23	6	1297	607	13	0	13	481	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1	0	574	25	6	1395	653	14	0	14	517	0
RTOR Reduction (vph)	0	0	2	0	0	0	266	0	0	13	0	0
Lane Group Flow (vph)	1	0	597	0	6	1395	387	14	0	1	517	0
Turn Type	Prot				Prot		Perm	Prot			custom	custom
Protected Phases	5		2		1		6			7		
Permitted Phases							6				7	8
Actuated Green, G (s)	3.2		71.4		1.4		68.7			4.4		21.0
Effective Green, g (s)	5.1		72.4		3.3		70.6			5.4		22.9
Actuated g/C Ratio	0.04		0.60		0.03		0.59			0.05		0.19
Clearance Time (s)	5.9		5.0		5.9		5.9			5.0		5.9
Vehicle Extension (s)	3.0		3.0		3.0		3.0			3.0		3.0
Lane Grp Cap (vph)	67		2728		44		2530			717		71
v/s Ratio Prot	0.00		c0.13		0.00		c0.32			c0.01		
v/s Ratio Perm							0.32					0.00
v/c Ratio	0.01		0.22		0.14		0.55			0.54		0.20
Uniform Delay, d1	55.0		10.9		57.0		15.1			14.9		55.2
Progression Factor	1.08		1.47		1.14		0.90			7.04		1.00
Incremental Delay, d2	0.1		0.1		0.7		0.4			1.4		1.4
Delay (s)	59.5		16.1		65.4		14.0			106.3		56.6
Level of Service	E		B		E		B			F		E
Approach Delay (s)			16.2				43.5			55.7		96.4
Approach LOS			B				D			E		F

Intersection Summary			
HCM Average Control Delay	49.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	181
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	195
RTOR Reduction (vph)	158
Lane Group Flow (vph)	37
Turn Type	custom
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	21.0
Effective Green, g (s)	22.9
Actuated g/C Ratio	0.19
Clearance Time (s)	5.9
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	270
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.14
Uniform Delay, d1	40.3
Progression Factor	4.18
Incremental Delay, d2	0.9
Delay (s)	169.7
Level of Service	F
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4548			4482	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4548			4482	
Volume (vph)	0	810	219	0	1431	263	285	1076	4	0	1407	156
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	827	223	0	1460	268	291	1098	4	0	1436	159
RTOR Reduction (vph)	0	0	9	0	0	61	0	0	0	0	3	0
Lane Group Flow (vph)	0	827	214	0	1460	207	291	1102	0	0	1592	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		39.0	49.0		39.0	39.0	10.0	69.0			53.5	
Effective Green, g (s)		41.0	52.5		41.0	41.0	11.5	71.0			55.5	
Actuated g/C Ratio		0.34	0.44		0.34	0.34	0.10	0.59			0.46	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1959	667		1959	484	152	2691			2073	
v/s Ratio Prot		0.14	0.03		c0.25		c0.18	0.24			c0.36	
v/s Ratio Perm			0.12			0.15						
v/c Ratio		0.42	0.32		0.75	0.43	1.91	0.41			0.77	
Uniform Delay, d1		30.4	22.1		34.9	30.4	54.2	13.2			26.9	
Progression Factor		1.20	1.75		1.00	1.00	1.05	0.62			0.24	
Incremental Delay, d2		0.6	0.2		2.6	2.7	433.1	0.4			1.1	
Delay (s)		37.2	39.0		37.5	33.2	489.8	8.6			7.5	
Level of Service		D	D		D	C	F	A			A	
Approach Delay (s)		37.6			36.8			109.1			7.5	
Approach LOS		D			D			F			A	

Intersection Summary

HCM Average Control Delay	46.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.95			0.99		1.00	1.00		1.00	0.98	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1566			1630		1583	4532		1583	4471	
Flt Permitted		0.85			0.91		0.14	1.00		0.17	1.00	
Satd. Flow (perm)		1351			1505		226	4532		276	4471	
Volume (vph)	54	60	59	32	103	12	68	1255	33	73	1271	167
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	63	62	34	108	13	72	1321	35	77	1338	176
RTOR Reduction (vph)	0	15	0	0	3	0	0	2	0	0	14	0
Lane Group Flow (vph)	0	167	0	0	152	0	72	1354	0	77	1500	0
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		4		8		8		2		2		6
Permitted Phases		4		8		2		2		6		6
Actuated Green, G (s)		30.0		30.0		83.4		83.4		83.4		83.4
Effective Green, g (s)		29.0		29.0		83.0		83.0		83.0		83.0
Actuated g/C Ratio		0.24		0.24		0.69		0.69		0.69		0.69
Clearance Time (s)		3.0		3.0		3.6		3.6		3.6		3.6
Vehicle Extension (s)		3.0		3.0		5.0		5.0		5.0		5.0
Lane Grp Cap (vph)		326		364		156		3135		191		3092
v/s Ratio Prot								0.30				c0.34
v/s Ratio Perm		c0.12		0.10		0.32				0.28		
v/c Ratio		0.51		0.42		0.46		0.43		0.40		0.49
Uniform Delay, d1		39.4		38.4		8.4		8.1		7.9		8.6
Progression Factor		1.00		1.00		1.00		1.00		0.95		1.34
Incremental Delay, d2		5.6		3.5		9.5		0.4		4.3		0.4
Delay (s)		45.0		41.9		17.9		8.6		11.9		11.8
Level of Service		D		D		B		A		B		B
Approach Delay (s)		45.0		41.9				9.0				11.8
Approach LOS		D		D				A				B

Intersection Summary

HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 39: Wilshire Blvd & La Cienega Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4393		1582	4500		1583	4398		1583	4309	
Flt Permitted	0.11	1.00		0.11	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	189	4393		191	4500		183	4398		193	4309	
Volume (vph)	114	1019	137	131	1543	61	264	1290	219	86	1094	250
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	120	1073	144	138	1624	64	278	1358	231	91	1152	263
RTOR Reduction (vph)	0	17	0	0	4	0	0	23	0	0	37	0
Lane Group Flow (vph)	120	1200	0	138	1684	0	278	1566	0	91	1378	0
Conf. Peds. (#/hr)	90		93	93		90	90		48	48		90
Conf. Bikes (#/hr)			4			7			3			1
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.2	35.7		43.6	35.4		44.5	36.5		40.7	34.6	
Effective Green, g (s)	42.7	35.2		42.1	34.9		43.5	36.5		39.7	34.6	
Actuated g/C Ratio	0.43	0.35		0.42	0.35		0.44	0.36		0.40	0.35	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	185	1546		181	1571		178	1605		148	1491	
v/s Ratio Prot	0.05	0.27		c0.06	c0.37		c0.11	0.36		0.03	0.32	
v/s Ratio Perm	0.23			0.27			c0.57			0.21		
v/c Ratio	0.65	0.78		0.76	1.07		1.56	0.98		0.61	0.92	
Uniform Delay, d1	22.8	28.9		20.7	32.6		22.8	31.3		22.8	31.4	
Progression Factor	1.08	1.22		1.61	1.02		1.94	0.70		1.00	1.00	
Incremental Delay, d2	5.4	3.6		13.8	43.5		270.7	13.6		5.2	11.1	
Delay (s)	30.0	38.9		47.0	76.6		314.9	35.7		28.0	42.6	
Level of Service	C	D		D	E		F	D		C	D	
Approach Delay (s)		38.1			74.4			77.2			41.7	
Approach LOS		D			E			E			D	

Intersection Summary

HCM Average Control Delay	60.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑↑↑		↕	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.96			0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			0.98		0.97	1.00		1.00	1.00	
Frt		0.95			0.99		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1499			1573		1536	4433		1579	4456	
Flt Permitted		0.86			0.52		0.17	1.00		0.07	1.00	
Satd. Flow (perm)		1305			831		271	4433		112	4456	
Volume (vph)	58	150	128	181	182	35	125	1677	194	20	1191	65
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	158	135	191	192	37	132	1765	204	21	1254	68
RTOR Reduction (vph)	0	22	0	0	4	0	0	14	0	0	6	0
Lane Group Flow (vph)	0	332	0	0	416	0	132	1955	0	21	1316	0
Conf. Peds. (#/hr)	39		76	76		39	104		34	34		104
Conf. Bikes (#/hr)			2			2			6			4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		365			233		173	2837		72	2852	
v/s Ratio Prot								0.44			0.30	
v/s Ratio Perm		0.25			c0.50		c0.49			0.19		
v/c Ratio		0.91			1.79		0.76	0.69		0.29	0.46	
Uniform Delay, d1		34.8			36.0		12.7	11.6		8.0	9.2	
Progression Factor		1.00			1.00		1.00	1.00		1.37	1.21	
Incremental Delay, d2		28.8			371.0		26.8	1.4		4.1	0.2	
Delay (s)		63.6			407.0		39.4	13.0		15.0	11.3	
Level of Service		E			F		D	B		B	B	
Approach Delay (s)		63.6			407.0			14.6			11.4	
Approach LOS		E			F			B			B	

Intersection Summary

HCM Average Control Delay	56.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	1.00		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4474		1583	4527		1583	4521		1583	4442	
Flt Permitted	0.15	1.00		0.13	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	256	4474		222	4527		188	4521		196	4442	
Volume (vph)	78	1226	153	140	2006	69	179	1766	78	57	1200	226
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	80	1264	158	144	2068	71	185	1821	80	59	1237	233
RTOR Reduction (vph)	0	17	0	0	4	0	0	5	0	0	17	0
Lane Group Flow (vph)	80	1405	0	144	2135	0	185	1896	0	59	1453	0
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	6		5		2		3		8		7	4
Permitted Phases	6		2				8				4	
Actuated Green, G (s)	25.0	25.0	36.0		36.0	41.5		34.5	38.5		33.0	
Effective Green, g (s)	26.0	26.0	37.0		37.0	42.5		35.5	39.5		34.0	
Actuated g/C Ratio	0.29	0.29	0.41		0.41	0.47		0.39	0.44		0.38	
Clearance Time (s)	5.0	5.0	3.5		5.0	4.0		5.0	4.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	74	1292	197		1861	197		1783	171		1678	
v/s Ratio Prot	0.31		0.06		c0.47	c0.07		c0.42	0.02		0.33	
v/s Ratio Perm	0.31		0.24			0.37			0.13			
v/c Ratio	1.08	1.09	0.73		1.15	0.94		1.06	0.35		0.87	
Uniform Delay, d1	32.0	32.0	21.3		26.5	18.4		27.3	19.6		25.9	
Progression Factor	0.53	0.53	1.00		1.00	1.78		0.26	1.00		1.00	
Incremental Delay, d2	112.1	49.3	13.0		73.1	20.1		32.7	1.2		6.3	
Delay (s)	129.1	66.3	34.3		99.6	52.8		39.6	20.8		32.2	
Level of Service	F	E	C		F	D		D	C		C	
Approach Delay (s)	69.6				95.4	40.8			31.7			
Approach LOS	E				F	D			C			

Intersection Summary

HCM Average Control Delay	61.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	110.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.97		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3076		1583	3148		1583	4514		1583	4491	
Flt Permitted	0.15	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	251	3076		218	3148		202	4514		230	4491	
Volume (vph)	61	628	147	130	1266	51	256	1944	107	41	1354	129
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	63	647	152	134	1305	53	264	2004	110	42	1396	133
RTOR Reduction (vph)	0	23	0	0	2	0	0	7	0	0	12	0
Lane Group Flow (vph)	63	776	0	134	1356	0	264	2107	0	42	1517	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4		6		2					
Actuated Green, G (s)	25.6	25.6	38.0	38.0	42.0	42.0	28.0	28.0				
Effective Green, g (s)	26.6	26.6	39.0	39.0	43.0	43.0	29.0	29.0				
Actuated g/C Ratio	0.30	0.30	0.43	0.43	0.48	0.48	0.32	0.32				
Clearance Time (s)	5.0	5.0	3.0	5.0	4.0	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	74	909	222	1364	250	2157	74	1447				
v/s Ratio Prot	0.25		0.06		c0.43		0.12		c0.47		0.34	
v/s Ratio Perm	0.25		0.21		c0.39		0.18					
v/c Ratio	0.85	0.85	0.60	0.99	1.06	0.98	0.57	1.05				
Uniform Delay, d1	29.8	29.9	18.5	25.4	23.8	23.0	25.3	30.5				
Progression Factor	1.00	1.00	0.71	0.94	1.00	1.00	0.95	0.82				
Incremental Delay, d2	68.7	10.1	0.4	6.1	72.4	14.7	14.4	30.9				
Delay (s)	98.6	39.9	13.5	30.0	96.2	37.7	38.4	56.0				
Level of Service	F	D	B	C	F	D	D	E				
Approach Delay (s)	44.2		28.6		44.2		55.6					
Approach LOS	D		C		D		E					

Intersection Summary

HCM Average Control Delay	43.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.97	1.00		0.98	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3066		1548	3091		1541	3162		1554	2969	
Flt Permitted	0.06	1.00		0.39	1.00		0.24	1.00		0.27	1.00	
Satd. Flow (perm)	107	3066		637	3091		382	3162		439	2969	
Volume (vph)	80	436	76	53	1253	129	119	601	4	59	506	152
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	90	490	85	60	1408	145	134	675	4	66	569	171
RTOR Reduction (vph)	0	12	0	0	7	0	0	1	0	0	17	0
Lane Group Flow (vph)	90	563	0	60	1546	0	134	678	0	66	723	0
Confl. Peds. (#/hr)	50		50	50		50	50		50	50		50
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	64.6	64.6		64.6	64.6		44.1	44.1		44.1	44.1	
Effective Green, g (s)	66.5	66.5		66.5	66.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.38	0.38		0.38	0.38	
Clearance Time (s)	5.9	5.9		5.9	5.9		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	59	1699		353	1713		145	1199		166	1126	
v/s Ratio Prot		0.18			0.50			0.21			0.24	
v/s Ratio Perm	c0.84		0.09		0.35		c0.35		0.15		0.15	
v/c Ratio	1.53	0.33		0.17	0.90		0.92	0.57		0.40	0.64	
Uniform Delay, d1	26.8	14.6		13.2	23.9		35.6	29.4		27.2	30.6	
Progression Factor	1.00	1.00		0.48	0.83		1.38	1.43		1.00	1.00	
Incremental Delay, d2	305.1	0.5		0.1	0.9		52.0	1.7		7.0	2.8	
Delay (s)	331.8	15.1		6.4	20.7		101.2	43.6		34.2	33.4	
Level of Service	F	B		A	C		F	D		C	C	
Approach Delay (s)		58.0			20.1			53.1			33.5	
Approach LOS		E			C			D			C	

Intersection Summary

HCM Average Control Delay	36.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1583	4523		1583	4538			1602			1592	
Flt Permitted	0.07	1.00		0.19	1.00			0.82			0.94	
Satd. Flow (perm)	124	4523		321	4538			1336			1504	
Volume (vph)	21	1136	46	44	1836	32	78	149	52	22	98	48
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	1183	48	46	1912	33	81	155	54	23	102	50
RTOR Reduction (vph)	0	4	0	0	2	0	0	8	0	0	14	0
Lane Group Flow (vph)	22	1227	0	46	1943	0	0	282	0	0	161	0
Turn Type	Perm		Perm		Perm			Perm			Perm	
Protected Phases	2		6		6			8			4	
Permitted Phases	2		6		8			4				
Actuated Green, G (s)	68.0	68.0		68.0	68.0			26.0			26.0	
Effective Green, g (s)	67.0	67.0		67.0	67.0			25.0			25.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	83	3030		215	3040			334			376	
v/s Ratio Prot		0.27			c0.43							
v/s Ratio Perm	0.18			0.14				c0.21			0.11	
v/c Ratio	0.27	0.40		0.21	0.64			0.84			0.43	
Uniform Delay, d1	6.6	7.5		6.4	9.5			35.6			31.5	
Progression Factor	0.52	0.25		0.32	0.47			1.00			1.00	
Incremental Delay, d2	6.0	0.3		0.2	0.1			22.1			3.5	
Delay (s)	9.4	2.2		2.2	4.6			57.8			35.0	
Level of Service	A	A		A	A			E			D	
Approach Delay (s)		2.3			4.6			57.8			35.0	
Approach LOS		A			A			E			D	

Intersection Summary

HCM Average Control Delay	9.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑↑	↗	↘	↑	↗	↘	↗	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	4550	1417	1583	1667	1417	1583	1639	1639
Flt Permitted	0.23	1.00	1.00	0.28	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	388	3167	1417	475	4550	1417	1583	1667	1417	1583	1639	1639
Volume (vph)	86	576	100	108	1197	56	88	514	35	40	569	72
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	92	619	108	116	1287	60	95	553	38	43	612	77
RTOR Reduction (vph)	0	0	77	0	0	43	0	0	21	0	8	0
Lane Group Flow (vph)	92	619	31	116	1287	17	95	553	17	43	681	0
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			4		1	2			1	6
Permitted Phases	4		4	4		4			2			
Actuated Green, G (s)	16.2	16.2	16.2	16.2	16.2	16.2	4.2	25.8	25.8	4.2	25.8	25.8
Effective Green, g (s)	17.2	17.2	17.2	17.2	17.2	17.2	4.2	26.6	26.6	4.2	26.6	26.6
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.29	0.07	0.44	0.44	0.07	0.44	0.44
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.8	4.8	4.0	4.8	4.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	111	908	406	136	1304	406	111	739	628	111	727	727
v/s Ratio Prot		0.20			c0.28		c0.06	0.33		0.03	c0.42	
v/s Ratio Perm	0.24		0.02	0.24		0.01			0.01			
v/c Ratio	0.83	0.68	0.08	0.85	0.99	0.04	0.86	0.75	0.03	0.39	0.94	0.94
Uniform Delay, d1	20.0	19.0	15.6	20.2	21.3	15.5	27.6	13.9	9.4	26.7	15.9	15.9
Progression Factor	1.00	1.00	1.00	1.10	1.19	1.46	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	48.3	4.1	0.4	41.6	20.5	0.2	43.7	6.8	0.1	2.2	21.1	21.1
Delay (s)	68.3	23.1	16.0	63.9	45.9	22.8	71.3	20.7	9.5	28.9	37.0	37.0
Level of Service	E	C	B	E	D	C	E	C	A	C	D	D
Approach Delay (s)		27.2			46.4			27.1			36.5	
Approach LOS		C			D			C			D	

Intersection Summary

HCM Average Control Delay	36.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4477		1583	4519		1583	3099		1583	3087	
Flt Permitted	0.09	1.00		0.14	1.00		0.14	1.00		0.17	1.00	
Satd. Flow (perm)	155	4477		233	4519		234	3099		280	3087	
Volume (vph)	80	1022	122	92	1639	78	163	641	107	53	592	119
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	86	1099	131	99	1762	84	175	689	115	57	637	128
RTOR Reduction (vph)	0	14	0	0	5	0	0	13	0	0	16	0
Lane Group Flow (vph)	86	1216	0	99	1841	0	175	791	0	57	749	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	50.3	44.0		50.5	44.1		40.0	32.0		35.2	29.6	
Effective Green, g (s)	48.3	43.0		48.5	43.1		38.0	31.0		33.2	28.6	
Actuated g/C Ratio	0.48	0.43		0.48	0.43		0.38	0.31		0.33	0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	151	1925		186	1948		183	961		153	883	
v/s Ratio Prot	c0.03	0.27		0.03	c0.41		c0.07	0.26		0.02	0.24	
v/s Ratio Perm	0.25			0.23			c0.30			0.11		
v/c Ratio	0.57	0.63		0.53	0.95		0.96	0.82		0.37	0.85	
Uniform Delay, d1	19.6	22.3		15.7	27.3		25.7	32.0		24.4	33.6	
Progression Factor	2.43	2.12		1.88	1.69		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.5	1.4		1.1	8.9		53.0	7.9		0.6	9.9	
Delay (s)	50.0	48.6		30.7	55.0		78.7	39.9		24.9	43.6	
Level of Service	D	D		C	D		E	D		C	D	
Approach Delay (s)		48.7			53.7			46.8			42.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	49.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4480		1583	4534		1583	3118		1583	3086	
Flt Permitted	0.11	1.00		0.11	1.00		0.15	1.00		0.17	1.00	
Satd. Flow (perm)	180	4480		180	4534		256	3118		282	3086	
Volume (vph)	115	1162	133	132	1961	48	160	840	97	55	639	132
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	122	1236	141	140	2086	51	170	894	103	59	680	140
RTOR Reduction (vph)	0	15	0	0	3	0	0	9	0	0	19	0
Lane Group Flow (vph)	122	1362	0	140	2134	0	170	988	0	59	801	0
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	45.4	38.1		45.4	38.1		35.0	27.0		30.2	24.6	
Effective Green, g (s)	43.4	37.1		43.4	37.1		33.0	26.0		28.2	23.6	
Actuated g/C Ratio	0.48	0.41		0.48	0.41		0.37	0.29		0.31	0.26	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	185	1847		185	1869		197	901		155	809	
v/s Ratio Prot	0.05	0.30		c0.05	c0.47		c0.07	c0.32		0.02	0.26	
v/s Ratio Perm	0.27			0.31			0.25			0.10		
v/c Ratio	0.66	0.74		0.76	1.14		0.86	1.10		0.38	0.99	
Uniform Delay, d1	20.6	22.3		15.9	26.4		22.7	32.0		24.3	33.1	
Progression Factor	1.00	1.00		1.76	0.40		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.3	2.7		1.5	64.5		29.2	59.8		0.6	29.3	
Delay (s)	26.9	25.0		29.5	75.2		51.9	91.8		24.9	62.4	
Level of Service	C	C		C	E		D	F		C	E	
Approach Delay (s)		25.2			72.4			86.0			59.9	
Approach LOS		C			E			F			E	

























Intersection Summary			
HCM Average Control Delay	61.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↑	↗	↖	↗↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4505		1583	4536		1583	1667	1417	1583	3065	
Flt Permitted	0.09	1.00		0.15	1.00		0.24	1.00	1.00	0.28	1.00	
Satd. Flow (perm)	155	4505		248	4536		398	1667	1417	472	3065	
Volume (vph)	85	1060	75	69	1813	37	131	383	94	62	475	130
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	1116	79	73	1908	39	138	403	99	65	500	137
RTOR Reduction (vph)	0	8	0	0	2	0	0	0	67	0	25	0
Lane Group Flow (vph)	89	1187	0	73	1945	0	138	403	32	65	612	0
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8	8	7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	49.5	43.9		49.5	43.9		40.0	33.1	33.1	37.0	31.6	
Effective Green, g (s)	47.5	42.9		47.5	42.9		38.0	32.1	32.1	35.0	30.6	
Actuated g/C Ratio	0.48	0.43		0.48	0.43		0.38	0.32	0.32	0.35	0.31	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	139	1933		179	1946		221	535	455	214	938	
v/s Ratio Prot	c0.03	0.26		0.02	c0.43		c0.04	c0.24		0.01	0.20	
v/s Ratio Perm	0.27			0.17			0.20		0.02	0.09		
v/c Ratio	0.64	0.61		0.41	1.00		0.62	0.75	0.07	0.30	0.65	
Uniform Delay, d1	21.0	22.1		15.7	28.5		22.2	30.4	23.6	23.1	30.1	
Progression Factor	1.29	1.40		2.03	1.75		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.9	1.4		0.2	12.4		3.9	9.5	0.3	0.3	3.5	
Delay (s)	34.0	32.4		32.1	62.2		26.1	39.9	23.9	23.4	33.6	
Level of Service	C	C		C	E		C	D	C	C	C	
Approach Delay (s)		32.5			61.1			34.4			32.7	
Approach LOS		C			E			C			C	

Intersection Summary

HCM Average Control Delay	45.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 			 		
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95		
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	1.00		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1118	2221		1118	2230		1118	2177		1118	2229		
Flt Permitted	0.11	1.00		0.14	1.00		0.40	1.00		0.66	1.00		
Satd. Flow (perm)	128	2221		164	2230		472	2177		781	2229		
Volume (vph)	27	1310	57	53	1490	22	20	112	23	114	371	7	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	28	1351	59	55	1536	23	21	115	24	118	382	7	
RTOR Reduction (vph)	0	4	0	0	1	0	0	18	0	0	2	0	
Lane Group Flow (vph)	28	1406	0	55	1558	0	21	121	0	118	387	0	
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm		
Protected Phases	2		6		6		8		8		4		
Permitted Phases	2		6		6		8		8		4		
Actuated Green, G (s)	60.5	60.5		60.5	60.5		20.8	20.8		20.8	20.8		
Effective Green, g (s)	61.0	61.0		61.0	61.0		21.0	21.0		21.0	21.0		
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.23	0.23		0.23	0.23		
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2		
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	87	1505		111	1511		110	508		182	520		
v/s Ratio Prot		0.63			c0.70			0.06			c0.17		
v/s Ratio Perm	0.22			0.34			0.04			0.15			
v/c Ratio	0.32	0.93		0.50	1.03		0.19	0.24		0.65	0.75		
Uniform Delay, d1	6.0	12.7		7.0	14.5		27.7	28.0		31.2	32.0		
Progression Factor	0.38	0.27		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	2.7	4.2		14.9	31.5		3.8	1.1		16.5	9.4		
Delay (s)	5.0	7.6		22.0	46.0		31.5	29.1		47.7	41.4		
Level of Service	A	A		C	D		C	C		D	D		
Approach Delay (s)		7.6			45.2			29.4			42.8		
Approach LOS		A			D			C			D		
Intersection Summary													
HCM Average Control Delay			29.6			HCM Level of Service				C			
HCM Volume to Capacity ratio			0.96										
Actuated Cycle Length (s)			90.0			Sum of lost time (s)				8.0			
Intersection Capacity Utilization			100.5%			ICU Level of Service				G			
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.99						0.97			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3055						3067			3130	
Flt Permitted		0.99						1.00			0.87	
Satd. Flow (perm)		3055						3067			2752	
Volume (vph)	59	155	17	0	0	0	0	115	26	38	144	0
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	77	201	22	0	0	0	0	149	34	49	187	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	0	295	0	0	0	0	0	158	0	0	236	0
Conf. Peds. (#/hr)	28		18	18			28	6		7	7	6
Conf. Bikes (#/hr)			1							1		1
Turn Type	Perm						Perm					
Protected Phases		2						8			4	
Permitted Phases	2								4			
Actuated Green, G (s)		37.0						17.0			17.0	
Effective Green, g (s)		36.0						16.0			16.0	
Actuated g/C Ratio		0.60						0.27			0.27	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1833						818			734	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.10									c0.09	
v/c Ratio		0.16						0.19			0.32	
Uniform Delay, d1		5.3						17.0			17.6	
Progression Factor		0.96						1.00			1.00	
Incremental Delay, d2		0.2						0.5			1.2	
Delay (s)		5.3						17.5			18.8	
Level of Service		A						B			B	
Approach Delay (s)		5.3			0.0			17.5			18.8	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM Average Control Delay		12.8			HCM Level of Service				B			
HCM Volume to Capacity ratio		0.21										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)				8.0			
Intersection Capacity Utilization		50.0%			ICU Level of Service				A			
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑				↗		↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00				0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00		0.98	1.00				1.00		0.98	1.00
Frt	1.00	1.00		1.00	0.99				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (prot)	1583	4524		1558	4495				1396		1563	1371
Flt Permitted	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (perm)	1583	4524		1558	4495				1396		1563	1371
Volume (vph)	69	1181	26	7	1737	106	0	0	16	103	6	166
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	72	1230	27	7	1809	110	0	0	17	107	6	173
RTOR Reduction (vph)	0	2	0	0	6	0	0	0	13	0	0	133
Lane Group Flow (vph)	72	1255	0	7	1913	0	0	0	4	0	113	40
Confl. Peds. (#/hr)	18		42	42		18	15		14	14		15
Confl. Bikes (#/hr)			2			1			1			
Turn Type	Prot			Prot				custom	Perm		Perm	Perm
Protected Phases	5	2		1	6						4	
Permitted Phases								8	4			4
Actuated Green, G (s)	7.8	65.8		1.2	59.2			24.0			24.0	24.0
Effective Green, g (s)	6.8	64.8		0.2	58.2			23.0			23.0	23.0
Actuated g/C Ratio	0.07	0.65		0.00	0.58			0.23			0.23	0.23
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	2.0	5.0		2.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	108	2932		3	2616			321			359	315
v/s Ratio Prot	c0.05	0.28		0.00	c0.43							
v/s Ratio Perm								0.00			0.07	0.03
v/c Ratio	0.67	0.43		2.33	0.73			0.01			0.31	0.13
Uniform Delay, d1	45.5	8.6		49.9	15.2			29.7			32.0	30.5
Progression Factor	1.00	1.00		0.59	1.73			1.00			1.00	1.00
Incremental Delay, d2	11.4	0.5		861.2	0.7			0.1			2.3	0.8
Delay (s)	56.9	9.0		890.8	27.0			29.8			34.2	31.4
Level of Service	E	A		F	C			C			C	C
Approach Delay (s)		11.6			30.2			29.8			32.5	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM Average Control Delay			23.4			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			72.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2230		1118	2232		1118	2167		1118	2195	
Flt Permitted	0.09	1.00		0.13	1.00		0.21	1.00		0.40	1.00	
Satd. Flow (perm)	105	2230		147	2232		244	2167		476	2195	
Volume (vph)	32	1348	22	69	1527	15	15	332	85	26	594	81
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	1376	22	70	1558	15	15	339	87	27	606	83
RTOR Reduction (vph)	0	1	0	0	1	0	0	26	0	0	12	0
Lane Group Flow (vph)	33	1397	0	70	1572	0	15	400	0	27	677	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8		25.8	25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	65	1388		91	1389		70	626		138	634	
v/s Ratio Prot		0.63			c0.70			0.18			c0.31	
v/s Ratio Perm	0.31			0.47			0.06			0.06		
v/c Ratio	0.51	1.01		0.77	1.13		0.21	0.64		0.20	1.07	
Uniform Delay, d1	9.4	17.0		12.3	17.0		24.3	27.9		24.1	32.0	
Progression Factor	1.00	1.00		0.63	0.55		0.31	0.21		1.00	1.00	
Incremental Delay, d2	25.6	25.7		16.3	62.4		5.1	3.7		3.1	55.2	
Delay (s)	35.0	42.7		24.1	71.7		12.6	9.5		27.3	87.2	
Level of Service	C	D		C	E		B	A		C	F	
Approach Delay (s)		42.5			69.7			9.6			84.9	
Approach LOS		D			E			A			F	

Intersection Summary

HCM Average Control Delay	56.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	120.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↷		↶	↶↷		↶	↶↷	↶		↶↷	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00		0.95	
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1118	2191		1118	2229		1118	2235	1000		2192	
Flt Permitted	0.11	1.00		0.36	1.00		0.18	1.00	1.00		1.00	
Satd. Flow (perm)	130	2191		427	2229		210	2235	1000		2192	
Volume (vph)	23	529	80	123	1296	24	65	385	96	0	576	86
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	26	588	89	137	1440	27	72	428	107	0	640	96
RTOR Reduction (vph)	0	13	0	0	2	0	0	0	76	0	14	0
Lane Group Flow (vph)	26	664	0	137	1465	0	72	428	31	0	722	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8	25.8		25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0	26.0		26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29	0.29		0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2	4.2		4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	81	1363		266	1387		61	646	289		633	
v/s Ratio Prot		0.30			c0.66			0.19			0.33	
v/s Ratio Perm	0.20			0.32			c0.34		0.03			
v/c Ratio	0.32	0.49		0.52	1.06		1.18	0.66	0.11		1.14	
Uniform Delay, d1	8.0	9.2		9.5	17.0		32.0	28.1	23.5		32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.45	
Incremental Delay, d2	10.2	1.2		7.0	40.6		172.2	5.3	0.7		69.1	
Delay (s)	18.2	10.5		16.4	57.6		204.2	33.4	24.2		83.5	
Level of Service	B	B		B	E		F	C	C		F	
Approach Delay (s)		10.7			54.1			52.1			83.5	
Approach LOS		B			D			D			F	

Intersection Summary			
HCM Average Control Delay	51.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕↕						↕↕			↕↕		
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)		4.0						4.0			4.0		
Lane Util. Factor		0.95						0.95			0.95		
Frbp, ped/bikes		1.00						0.98			1.00		
Flpb, ped/bikes		0.97						1.00			1.00		
Frt		1.00						0.98			1.00		
Flt Protected		0.99						1.00			0.99		
Satd. Flow (prot)		3038						3042			3134		
Flt Permitted		0.99						1.00			0.71		
Satd. Flow (perm)		3038						3042			2250		
Volume (vph)	35	96	0	0	0	0	0	655	121	86	530	0	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	38	105	0	0	0	0	0	720	133	95	582	0	
RTOR Reduction (vph)	0	0	0	0	0	0	0	26	0	0	0	0	
Lane Group Flow (vph)	0	143	0	0	0	0	0	828	0	0	677	0	
Confl. Peds. (#/hr)	123		3	3			123	1		108	108	1	
Confl. Bikes (#/hr)							6			4		2	
Turn Type	Perm						Perm						
Protected Phases		4						2			6		
Permitted Phases	4									6			
Actuated Green, G (s)		27.0						27.0			27.0		
Effective Green, g (s)		26.0						26.0			26.0		
Actuated g/C Ratio		0.43						0.43			0.43		
Clearance Time (s)		3.0						3.0			3.0		
Vehicle Extension (s)		3.0						3.0			3.0		
Lane Grp Cap (vph)		1316						1318			975		
v/s Ratio Prot								0.27					
v/s Ratio Perm		0.05									c0.30		
v/c Ratio		0.11						0.63			0.69		
Uniform Delay, d1		10.1						13.2			13.8		
Progression Factor		0.34						1.00			1.00		
Incremental Delay, d2		0.2						2.3			4.1		
Delay (s)		3.6						15.5			17.9		
Level of Service		A						B			B		
Approach Delay (s)		3.6			0.0			15.5			17.9		
Approach LOS		A			A			B			B		
Intersection Summary													
HCM Average Control Delay			15.4									HCM Level of Service	B
HCM Volume to Capacity ratio			0.40										
Actuated Cycle Length (s)			60.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			72.2%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕	↖		↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00		0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.86		1.00	0.86
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1583	4415		1582	4461		1583	3167	1219		3167	1220
Flt Permitted	0.09	1.00		0.13	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	151	4415		219	4461		1583	3167	1219		3167	1220
Volume (vph)	61	1066	133	220	1541	91	144	654	122	0	522	109
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	1110	139	229	1605	95	150	681	127	0	544	114
RTOR Reduction (vph)	0	16	0	0	6	0	0	0	83	0	0	88
Lane Group Flow (vph)	64	1233	0	229	1694	0	150	681	44	0	544	26
Conf. Peds. (#/hr)	144		81	81		144	96		97	97		96
Conf. Bikes (#/hr)						3			1			1
Turn Type	pm+pt			pm+pt			Prot		Perm			Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6				8				4
Actuated Green, G (s)	50.4	45.0		57.0	48.6		8.9	34.9	34.9		22.9	22.9
Effective Green, g (s)	48.4	44.0		55.6	47.6		8.0	34.0	34.0		22.0	22.0
Actuated g/C Ratio	0.49	0.45		0.57	0.49		0.08	0.35	0.35		0.22	0.22
Clearance Time (s)	3.0	3.0		3.0	3.0		3.1	3.1	3.1		3.1	3.1
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	139	1982		236	2167		129	1099	423		711	274
v/s Ratio Prot	0.02	0.28		c0.08	0.38		c0.09	0.22			c0.17	
v/s Ratio Perm	0.21			c0.47					0.04			0.02
v/c Ratio	0.46	0.62		0.97	0.78		1.16	0.62	0.10		0.77	0.09
Uniform Delay, d1	15.5	20.6		16.5	20.9		45.0	26.6	21.7		35.6	30.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9	1.5		49.9	2.9		129.6	2.6	0.5		7.7	0.7
Delay (s)	16.4	22.1		66.3	23.8		174.6	29.2	22.2		43.3	30.8
Level of Service	B	C		E	C		F	C	C		D	C
Approach Delay (s)		21.8			28.8			51.1			41.1	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.95			0.97		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2986			3041		1583	3146		1583	3109	
Flt Permitted		0.89			0.84		0.32	1.00		0.27	1.00	
Satd. Flow (perm)		2663			2591		537	3146		457	3109	
Volume (vph)	29	107	69	62	167	55	112	793	36	44	560	78
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	110	71	64	172	57	115	818	37	45	577	80
RTOR Reduction (vph)	0	49	0	0	23	0	0	3	0	0	11	0
Lane Group Flow (vph)	0	162	0	0	270	0	115	852	0	45	646	0
Turn Type	Perm		Perm			pm+pt		pm+pt				
Protected Phases	4		8			5		2		1		6
Permitted Phases	4		8			2		6				
Actuated Green, G (s)	29.0		29.0			54.6		48.3		49.4		45.7
Effective Green, g (s)	28.0		28.0			52.6		47.3		47.4		44.7
Actuated g/C Ratio	0.31		0.31			0.58		0.53		0.53		0.50
Clearance Time (s)	3.0		3.0			3.0		3.0		3.0		3.0
Vehicle Extension (s)	3.0		3.0			2.0		5.0		2.0		5.0
Lane Grp Cap (vph)	828		806			375		1653		274		1544
v/s Ratio Prot						c0.02		c0.27		0.00		0.21
v/s Ratio Perm	0.06		c0.10			0.16		0.08				
v/c Ratio	0.20		0.33			0.31		0.52		0.16		0.42
Uniform Delay, d1	22.7		23.8			9.0		13.9		10.7		14.4
Progression Factor	1.00		1.00			1.00		1.00		1.00		1.00
Incremental Delay, d2	0.5		0.2			0.2		1.2		0.1		0.8
Delay (s)	23.3		24.1			9.1		15.0		10.8		15.2
Level of Service	C		C			A		B		B		B
Approach Delay (s)	23.3		24.1			14.3		14.9				
Approach LOS	C		C			B		B				

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.98			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4520		1583	4550		1583	3102			3028	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1583	4520		1583	4550		1583	3102			3028	
Volume (vph)	36	1468	66	39	2246	0	205	405	63	0	259	107
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	36	1483	67	39	2269	0	207	409	64	0	262	108
RTOR Reduction (vph)	0	5	0	0	0	0	0	14	0	0	50	0
Lane Group Flow (vph)	36	1545	0	39	2269	0	207	459	0	0	320	0
Turn Type	Prot			Prot			Split					
Protected Phases	1!	2!		5!	6!		8	8			7	
Permitted Phases												
Actuated Green, G (s)	5.3	33.7		5.3	32.7		14.0	14.0			22.0	
Effective Green, g (s)	4.8	33.2		5.3	32.7		14.0	14.0			22.0	
Actuated g/C Ratio	0.05	0.37		0.06	0.36		0.16	0.16			0.24	
Clearance Time (s)	3.5	3.5		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			3.0	
Lane Grp Cap (vph)	84	1667		93	1653		246	483			740	
v/s Ratio Prot	0.02	0.34		c0.02	c0.50		0.13	c0.15			c0.11	
v/s Ratio Perm												
v/c Ratio	0.43	0.93		0.42	1.37		0.84	0.95			0.43	
Uniform Delay, d1	41.3	27.2		40.9	28.7		36.9	37.7			28.7	
Progression Factor	1.23	0.93		1.55	0.31		1.00	1.00			1.00	
Incremental Delay, d2	1.2	4.0		0.3	168.1		22.1	28.9			1.8	
Delay (s)	51.8	29.4		63.6	176.9		59.0	66.6			30.6	
Level of Service	D	C		E	F		E	E			C	
Approach Delay (s)		29.9			175.0			64.3			30.6	
Approach LOS		C			F			E			C	

Intersection Summary

HCM Average Control Delay	102.4	HCM Level of Service	F
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		

- ! Phase conflict between lane groups.
- c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑		↑	↑↑		↑	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt		0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4515		1583	4521		1583	3149		1583	3167	
Flt Permitted		1.00		0.95	1.00		0.56	1.00		0.18	1.00	
Satd. Flow (perm)		4515		1583	4521		925	3149		303	3167	
Volume (vph)	0	1441	77	26	2170	97	105	624	24	63	241	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1517	81	27	2284	102	111	657	25	66	254	0
RTOR Reduction (vph)	0	6	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	1592	0	27	2381	0	111	679	0	66	254	0
Turn Type				Prot			Perm			Perm		
Protected Phases		2!		5!	6			7			7	
Permitted Phases							7			7		
Actuated Green, G (s)		33.7		5.3	32.7		22.0	22.0		22.0	22.0	
Effective Green, g (s)		33.2		5.3	32.7		22.0	22.0		22.0	22.0	
Actuated g/C Ratio		0.37		0.06	0.36		0.24	0.24		0.24	0.24	
Clearance Time (s)		3.5		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	3.0	
Lane Grp Cap (vph)		1666		93	1643		226	770		74	774	
v/s Ratio Prot		0.35		c0.02	c0.53			0.22			0.08	
v/s Ratio Perm							0.12			c0.22		
v/c Ratio		0.96		0.29	1.45		0.49	0.88		0.89	0.33	
Uniform Delay, d1		27.7		40.5	28.7		29.2	32.7		32.9	27.9	
Progression Factor		0.32		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		8.0		1.7	205.6		7.4	13.8		77.4	1.1	
Delay (s)		16.7		42.3	234.2		36.6	46.6		110.3	29.1	
Level of Service		B		D	F		D	D		F	C	
Approach Delay (s)		16.7			232.1			45.2			45.8	
Approach LOS		B			F			D			D	

Intersection Summary

HCM Average Control Delay	124.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕		↘	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frbp, ped/bikes		1.00						0.97		1.00	1.00	
Flpb, ped/bikes		0.99						1.00		0.95	1.00	
Frt		0.99						0.94		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		3065						2890		1507	3167	
Flt Permitted		0.99						1.00		0.64	1.00	
Satd. Flow (perm)		3065						2890		1013	3167	
Volume (vph)	16	86	5	0	0	0	0	93	62	59	293	0
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	19	100	6	0	0	0	0	108	72	69	341	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	53	0	0	0	0
Lane Group Flow (vph)	0	121	0	0	0	0	0	127	0	69	341	0
Conf. Peds. (#/hr)	51		52	52			51	5		55	55	
Conf. Bikes (#/hr)								3				5
Turn Type		Perm								Perm		
Protected Phases		2						4			4	
Permitted Phases		2								4		
Actuated Green, G (s)		17.0						17.0		17.0	17.0	
Effective Green, g (s)		16.0						16.0		16.0	16.0	
Actuated g/C Ratio		0.27						0.27		0.27	0.27	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Vehicle Extension (s)		5.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		817						771		270	845	
v/s Ratio Prot								0.04			c0.11	
v/s Ratio Perm		0.04								0.07		
v/c Ratio		0.15						0.16		0.26	0.40	
Uniform Delay, d1		16.8						16.9		17.3	18.1	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		0.4						0.5		2.3	1.4	
Delay (s)		17.2						17.3		19.6	19.5	
Level of Service		B						B		B	B	
Approach Delay (s)		17.2			0.0			17.3			19.5	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM Average Control Delay			18.6					HCM Level of Service		B		
HCM Volume to Capacity ratio			0.28									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		28.0		
Intersection Capacity Utilization			83.0%					ICU Level of Service		E		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗			↗↗↗		↗	↗		↗	↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00			0.99		1.00	0.90		1.00	1.00	0.78
Flpb, ped/bikes	0.99	1.00			1.00		0.81	1.00		1.00	1.00	1.00
Frt	1.00	1.00			1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1560	4520			4492		1287	1420		1583	1667	1102
Flt Permitted	0.08	1.00			1.00		0.70	1.00		0.95	1.00	1.00
Satd. Flow (perm)	130	4520			4492		942	1420		1583	1667	1102
Volume (vph)	39	1052	14	0	1659	47	105	76	42	77	91	110
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	1096	15	0	1728	49	109	79	44	80	95	115
RTOR Reduction (vph)	0	1	0	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	41	1110	0	0	1774	0	109	123	0	80	95	115
Confl. Peds. (#/hr)	244		131	131		244	166		211	211		166
Confl. Bikes (#/hr)			3			5			2			3
Turn Type	Perm			Perm			Prot			custom		
Protected Phases	2			6			8			7		
Permitted Phases	2						8			4 4		
Actuated Green, G (s)	51.7	51.7			51.7		21.0	21.0		8.3	32.3	32.3
Effective Green, g (s)	50.7	50.7			50.7		20.0	20.0		7.3	31.3	31.3
Actuated g/C Ratio	0.56	0.56			0.56		0.22	0.22		0.08	0.35	0.35
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	73	2546			2530		209	316		128	580	383
v/s Ratio Prot		0.25			c0.39			0.09		c0.05		
v/s Ratio Perm	0.32						c0.12				0.06	0.10
v/c Ratio	0.56	0.44			0.70		0.52	0.39		0.62	0.16	0.30
Uniform Delay, d1	12.6	11.4			14.2		30.8	29.8		40.0	20.3	21.4
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	27.7	0.5			1.6		9.0	3.6		9.2	0.6	2.0
Delay (s)	40.3	11.9			15.8		39.8	33.4		49.2	20.9	23.4
Level of Service	D	B			B		D	C		D	C	C
Approach Delay (s)		12.9			15.8			36.4			29.7	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBR2
Lane Configurations		↔	↑↑↑		↔	↑↑↑			↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0
Lane Util. Factor		1.00	0.91		1.00	0.91			1.00
Frbp, ped/bikes		1.00	1.00		1.00	0.95			1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00
Frt		1.00	1.00		1.00	0.97			0.86
Flt Protected		0.95	1.00		0.95	1.00			1.00
Satd. Flow (prot)		1583	4516		1583	4190			1442
Flt Permitted		0.95	1.00		0.95	1.00			1.00
Satd. Flow (perm)		1583	4516		1583	4190			1442
Volume (vph)	343	99	1121	36	42	1354	353	41	32
Peak-hour factor, PHF	0.92	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92
Adj. Flow (vph)	373	103	1168	38	44	1410	368	43	35
RTOR Reduction (vph)	0	0	2	0	0	2	0	0	31
Lane Group Flow (vph)	0	476	1204	0	44	1819	0	0	4
Confl. Peds. (#/hr)	63	81		28	28		63	81	35
Confl. Bikes (#/hr)				5			9	10	1
Turn Type	Prot	Prot			Prot				custom
Protected Phases	1	1	2		8	6			1
Permitted Phases									
Actuated Green, G (s)		13.0	66.4		11.6	81.0			13.0
Effective Green, g (s)		12.0	65.4		10.6	80.0			12.0
Actuated g/C Ratio		0.12	0.65		0.11	0.80			0.12
Clearance Time (s)		3.0	3.0		3.0	3.0			3.0
Vehicle Extension (s)		2.5	5.0		3.0	5.0			2.5
Lane Grp Cap (vph)		190	2953		168	3352			173
v/s Ratio Prot		c0.30	0.27		0.03	c0.43			0.00
v/s Ratio Perm									
v/c Ratio		2.51	0.41		0.26	0.54			0.02
Uniform Delay, d1		44.0	8.2		41.1	3.5			38.8
Progression Factor		1.23	2.07		1.00	1.00			1.00
Incremental Delay, d2		678.8	0.0		0.8	0.6			0.0
Delay (s)		733.0	16.9		41.9	4.2			38.9
Level of Service		F	B		D	A			D
Approach Delay (s)			219.6			5.1			
Approach LOS			F			A			
Intersection Summary									
HCM Average Control Delay			106.1			HCM Level of Service			F
HCM Volume to Capacity ratio			0.80						
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			8.0
Intersection Capacity Utilization			89.8%			ICU Level of Service			E
Analysis Period (min)			15						
c Critical Lane Group									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	0.86	0.86		1.00	0.91			0.95	1.00		0.86	0.86
Frt	1.00	1.00		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	961	3009		1118	3206			2235	1000		3035	860
Flt Permitted	0.95	0.68		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)	961	2064		1118	3206			2235	1000		3035	860
Volume (vph)	634	1363	16	142	1195	14	0	611	33	0	1411	363
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	660	1420	17	148	1245	15	0	636	34	0	1470	378
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	24	0	0	263
Lane Group Flow (vph)	416	1680	0	148	1259	0	0	636	10	0	1470	115
Turn Type	Prot		Prot				Perm				Over	
Protected Phases	7	4		3	8			2			6	7
Permitted Phases									2			
Actuated Green, G (s)	20.9	37.7		19.6	36.4			28.4	28.4		28.4	20.9
Effective Green, g (s)	22.0	38.3		20.7	37.0			29.0	29.0		29.0	22.0
Actuated g/C Ratio	0.22	0.38		0.21	0.37			0.29	0.29		0.29	0.22
Clearance Time (s)	5.1	4.6		5.1	4.6			4.6	4.6		4.6	5.1
Vehicle Extension (s)	3.0	3.0		5.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	211	998		231	1186			648	290		880	189
v/s Ratio Prot	c0.43	0.37		0.13	c0.39			0.28			c0.48	0.13
v/s Ratio Perm		c0.27							0.01			
v/c Ratio	1.97	1.68		0.64	1.06			0.98	0.03		1.67	0.61
Uniform Delay, d1	39.0	30.8		36.3	31.5			35.2	25.5		35.5	35.1
Progression Factor	1.00	1.00		1.04	0.36			1.00	1.00		1.00	1.00
Incremental Delay, d2	453.9	311.8		3.5	36.2			31.1	0.2		306.7	5.5
Delay (s)	492.9	342.6		41.1	47.6			66.3	25.7		342.2	40.6
Level of Service	F	F		D	D			E	C		F	D
Approach Delay (s)		372.4			46.9			64.3			280.5	
Approach LOS		F			D			E			F	

Intersection Summary

HCM Average Control Delay	233.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	141.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔		↔	↔↔↔		↔	↔↔	↔	↔	↔↔	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt		0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.97	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3171		1118	3205		1118	2235	1000	1118	2159	
Flt Permitted		0.71		0.95	1.00		0.14	1.00	1.00	0.35	1.00	
Satd. Flow (perm)		2254		1118	3205		162	2235	1000	411	2159	
Volume (vph)	199	1066	47	173	946	13	39	460	264	27	758	224
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	209	1122	49	182	996	14	41	484	278	28	798	236
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	197	0	28	0
Lane Group Flow (vph)	0	1376	0	182	1009	0	41	484	81	28	1006	0
Turn Type		Prot		Prot			Perm		Perm	Perm		
Protected Phases		7	4	3	8			2				6
Permitted Phases							2		2		6	
Actuated Green, G (s)		37.7		19.6	36.4		28.4	28.4	28.4	28.4	28.4	
Effective Green, g (s)		38.3		20.7	37.0		29.0	29.0	29.0	29.0	29.0	
Actuated g/C Ratio		0.38		0.21	0.37		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)		4.6		5.1	4.6		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		5.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1065		231	1186		47	648	290	119	626	
v/s Ratio Prot		c0.28		0.16	c0.31			0.22			c0.47	
v/s Ratio Perm		c0.21					0.25		0.08	0.07		
v/c Ratio		1.29		0.79	0.85		0.87	0.75	0.28	0.24	1.61	
Uniform Delay, d1		30.8		37.6	29.0		33.7	32.2	27.4	27.1	35.5	
Progression Factor		0.58		0.92	1.41		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		132.2		16.0	6.7		97.2	7.7	2.4	4.6	280.8	
Delay (s)		150.0		50.7	47.5		130.9	39.9	29.8	31.6	316.3	
Level of Service		F		D	D		F	D	C	C	F	
Approach Delay (s)		150.0			48.0			41.0			308.8	
Approach LOS		F			D			D			F	

Intersection Summary

HCM Average Control Delay	140.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	131.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.86	1.00	0.97	0.86	0.97	0.88
Frbp, ped/bikes		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
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)		4047	968	2168	4047	2168	1760
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		4047	968	2168	4047	2168	1760
Volume (vph)	0	1297	558	941	1559	155	239
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1337	575	970	1607	160	246
RTOR Reduction (vph)	0	0	51	0	0	0	176
Lane Group Flow (vph)	0	1337	524	970	1607	160	70
Conf. Peds. (#/hr)			33	33			38
Conf. Bikes (#/hr)			14				1
Turn Type	Prot		pm+ov	Prot			Over
Protected Phases	1	6	4	3	2 3	4	3
Permitted Phases			6				
Actuated Green, G (s)		39.0	69.1	35.0	80.0	30.1	35.0
Effective Green, g (s)		41.0	74.0	34.0	79.0	33.0	34.0
Actuated g/C Ratio		0.34	0.62	0.28	0.66	0.28	0.28
Clearance Time (s)		6.0	6.9	3.0		6.9	3.0
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1383	629	614	2664	596	499
v/s Ratio Prot		c0.33	c0.23	c0.45	0.40	0.07	0.04
v/s Ratio Perm			0.31				
v/c Ratio		0.97	0.83	1.58	0.60	0.27	0.14
Uniform Delay, d1		38.8	18.1	43.0	11.6	34.1	32.1
Progression Factor		0.31	1.80	1.00	1.00	1.00	1.00
Incremental Delay, d2		10.1	4.4	268.7	0.4	0.2	0.1
Delay (s)		21.9	37.0	311.7	12.0	34.3	32.2
Level of Service		C	D	F	B	C	C
Approach Delay (s)		26.5			124.8	33.0	
Approach LOS		C			F	C	

Intersection Summary			
HCM Average Control Delay	78.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↖		↖	↑↑↑		↖	↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88				1.00	0.91			0.95	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1504	1504	2493				1583	4550			3167	1417
Flt Permitted	0.95	0.95	1.00				0.49	1.00			1.00	1.00
Satd. Flow (perm)	1504	1504	2493				816	4550			3167	1417
Volume (vph)	137	0	82	0	0	0	212	847	0	0	352	234
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	156	0	93	0	0	0	241	962	0	0	400	266
RTOR Reduction (vph)	0	0	79	0	0	0	0	0	0	0	0	215
Lane Group Flow (vph)	78	78	14	0	0	0	241	962	0	0	400	51
Turn Type	Split		custom				pm+pt			Perm		Over
Protected Phases	4	4	7 1		3		5	2			6	4
Permitted Phases							2			6		
Actuated Green, G (s)	16.5	16.5	13.3				46.8	41.8			41.8	16.5
Effective Green, g (s)	17.1	17.1	13.9				48.0	43.0			43.0	17.1
Actuated g/C Ratio	0.19	0.19	0.15				0.53	0.48			0.48	0.19
Clearance Time (s)	4.6	4.6					4.0	5.2			5.2	4.6
Vehicle Extension (s)	3.0	3.0					3.0	3.2			3.4	3.0
Lane Grp Cap (vph)	286	286	385				478	2174			1513	269
v/s Ratio Prot	c0.05	0.05	c0.01				c0.03	0.21			0.13	0.04
v/s Ratio Perm							c0.24					
v/c Ratio	0.27	0.27	0.04				0.50	0.44			0.26	0.19
Uniform Delay, d1	31.1	31.1	32.4				12.3	15.6			14.0	30.6
Progression Factor	0.85	0.85	1.16				1.33	1.26			1.00	1.00
Incremental Delay, d2	1.4	1.4	0.0				0.8	0.6			0.4	1.5
Delay (s)	28.0	28.0	37.4				17.3	20.3			14.5	32.2
Level of Service	C	C	D				B	C			B	C
Approach Delay (s)		31.5			0.0			19.7			21.5	
Approach LOS		C			A			B			C	

Intersection Summary			
HCM Average Control Delay		21.7	HCM Level of Service C
HCM Volume to Capacity ratio		0.39	
Actuated Cycle Length (s)		90.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization		40.9%	ICU Level of Service A
Analysis Period (min)		15	
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑	↑↑↑		↑↑	↑↑	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		0.91	1.00		0.86		0.97	0.91		0.97	0.95	0.88
Frt		1.00	0.85		0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		4550	1417		5683		3072	4441		3072	3167	2493
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		4550	1417		5683		3072	4441		3072	3167	2493
Volume (vph)	0	1698	76	0	2483	155	348	350	67	450	481	466
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1733	78	0	2534	158	355	357	68	459	491	476
RTOR Reduction (vph)	0	0	36	0	10	0	0	3	0	0	0	9
Lane Group Flow (vph)	0	1733	42	0	2682	0	355	422	0	459	491	467
Turn Type		pm+ov					Prot			Prot		Perm
Protected Phases		6	3		2		3	8		7	4	
Permitted Phases		6										4
Actuated Green, G (s)		35.5	47.5		35.5		12.0	27.7		12.0	27.7	27.7
Effective Green, g (s)		37.0	49.0		37.0		12.0	29.0		12.0	29.0	29.0
Actuated g/C Ratio		0.41	0.54		0.41		0.13	0.32		0.13	0.32	0.32
Clearance Time (s)		5.5	4.0		5.5		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)		4.9	3.0		5.2		3.0	5.1		3.0	5.1	5.1
Lane Grp Cap (vph)		1871	834		2336		410	1431		410	1020	803
v/s Ratio Prot		0.38	0.01		c0.47		0.12	0.09		c0.15	0.16	
v/s Ratio Perm		0.02										c0.19
v/c Ratio		0.93	0.05		1.15		0.87	0.29		1.12	0.48	0.58
Uniform Delay, d1		25.2	9.6		26.5		38.2	22.8		39.0	24.5	25.4
Progression Factor		1.00	1.00		0.40		1.00	1.00		0.98	0.84	0.84
Incremental Delay, d2		9.4	0.0		67.2		17.1	0.5		81.0	0.8	1.7
Delay (s)		34.6	9.6		77.9		55.3	23.4		119.1	21.3	23.0
Level of Service		C	A		E		E	C		F	C	C
Approach Delay (s)		33.5			77.9		37.9			53.3		
Approach LOS		C			E		D			D		

Intersection Summary

HCM Average Control Delay	56.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↑↑↑	↗	↖↗	↑↑↑	↖↗	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	0.97	0.91	0.94	0.88
Frbp, 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	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1118	4047	1000	2168	3212	3152	1760
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1118	4047	1000	2168	3212	3152	1760
Volume (vph)	6	1551	669	464	1251	181	307
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	6	1567	676	469	1264	183	310
RTOR Reduction (vph)	0	0	463	0	0	0	228
Lane Group Flow (vph)	6	1567	213	469	1264	183	82
Conf. Peds. (#/hr)			55	55		1	111
Conf. Bikes (#/hr)			15				7
Turn Type	Prot		Over	Prot			Over
Protected Phases	1	6	8	5	2	8	5
Permitted Phases							
Actuated Green, G (s)	1.0	40.7	30.1	31.6	70.3	30.1	31.6
Effective Green, g (s)	2.0	43.4	33.0	31.6	73.0	33.0	31.6
Actuated g/C Ratio	0.02	0.36	0.28	0.26	0.61	0.28	0.26
Clearance Time (s)	5.0	6.7	6.9	4.0	6.7	6.9	4.0
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	19	1464	275	571	1954	867	463
v/s Ratio Prot	0.01	c0.39	c0.21	c0.22	0.39	0.06	0.05
v/s Ratio Perm							
v/c Ratio	0.32	1.07	0.78	0.82	0.65	0.21	0.18
Uniform Delay, d1	58.3	38.3	40.1	41.5	15.2	33.5	34.1
Progression Factor	0.51	1.37	5.72	0.79	0.87	1.00	1.00
Incremental Delay, d2	0.9	33.3	1.3	7.8	1.4	0.1	0.2
Delay (s)	30.7	85.8	230.8	40.7	14.6	33.6	34.3
Level of Service	C	F	F	D	B	C	C
Approach Delay (s)		129.3			21.7	34.1	
Approach LOS		F			C	C	

Intersection Summary

HCM Average Control Delay	77.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	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			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↘↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.92	1.00	1.00	0.90	1.00	0.97	
Flpb, ped/bikes	0.97	1.00	1.00	0.97	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	0.94	
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)	1541	3167	1354	1543	3167	1307	3072	4550	1275	3072	4136	
Flt Permitted	0.55	1.00	1.00	0.48	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	889	3167	1354	786	3167	1307	3072	4550	1275	3072	4136	
Volume (vph)	102	416	71	29	130	78	258	848	588	244	283	179
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	115	467	80	33	146	88	290	953	661	274	318	201
RTOR Reduction (vph)	0	0	43	0	0	69	0	0	108	0	103	0
Lane Group Flow (vph)	115	467	37	33	146	19	290	953	553	274	416	0
Confl. Peds. (#/hr)	69		51	51		69	66		76	76		66
Confl. Bikes (#/hr)			2						2			5
Turn Type	pm+pt		pm+ov	Perm		Perm	Prot		Perm	Prot		
Protected Phases	1	6	3		2		3	8		7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	28.4	28.4	39.6	18.1	18.1	18.1	11.2	36.6	36.6	11.0	36.4	
Effective Green, g (s)	29.9	29.9	41.1	19.6	19.6	19.6	11.2	37.1	37.1	11.0	36.9	
Actuated g/C Ratio	0.33	0.33	0.46	0.22	0.22	0.22	0.12	0.41	0.41	0.12	0.41	
Clearance Time (s)	3.5	5.5	4.0	5.5	5.5	5.5	4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	3.0	4.0	2.0	4.0	4.0	4.0	2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	341	1052	679	171	690	285	382	1876	526	375	1696	
v/s Ratio Prot	0.02	c0.15	0.01		0.05		0.09	0.21		c0.09	0.10	
v/s Ratio Perm	0.09		0.02	0.04		0.01			c0.43			
v/c Ratio	0.34	0.44	0.05	0.19	0.21	0.07	0.76	0.51	1.05	0.73	0.25	
Uniform Delay, d1	21.8	23.5	13.6	28.7	28.9	27.9	38.1	19.7	26.4	38.1	17.4	
Progression Factor	1.30	1.28	4.05	1.03	1.02	1.79	1.07	0.67	0.57	1.00	1.00	
Incremental Delay, d2	0.5	0.4	0.0	0.6	0.2	0.1	6.3	0.8	49.8	6.2	0.3	
Delay (s)	28.9	30.4	55.1	30.3	29.5	50.2	46.9	13.9	65.0	44.3	17.8	
Level of Service	C	C	E	C	C	D	D	B	E	D	B	
Approach Delay (s)		33.1			36.4			36.7			26.9	
Approach LOS		C			D			D			C	

Intersection Summary

HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↘	↑↑↑	↗	↘	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor					1.00	1.00	1.00	0.91	1.00	1.00	0.91	
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1583	1417	1583	4550	1417	1583	4550	
Flt Permitted					0.76	1.00	0.47	1.00	1.00	0.11	1.00	
Satd. Flow (perm)					1262	1417	781	4550	1417	190	4550	
Volume (vph)	0	0	0	152	0	249	2	1465	43	15	426	0
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	171	0	280	2	1646	48	17	479	0
RTOR Reduction (vph)	0	0	0	0	0	20	0	0	16	0	0	0
Lane Group Flow (vph)	0	0	0	0	171	260	2	1646	32	17	479	0
Turn Type	Perm			Perm			Perm	Perm	Perm		Perm	
Protected Phases	4			4			4		2		2	
Permitted Phases	4			4			4	2	2		2	
Actuated Green, G (s)				20.3			20.3	59.7	59.7	59.7	59.7	59.7
Effective Green, g (s)				21.3			21.3	60.7	60.7	60.7	60.7	60.7
Actuated g/C Ratio				0.24			0.24	0.67	0.67	0.67	0.67	0.67
Clearance Time (s)				5.0			5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)				3.0			3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				299			335	527	3069	956	128	3069
v/s Ratio Prot								c0.36			0.11	
v/s Ratio Perm				0.14			c0.18	0.00		0.02	0.09	
v/c Ratio				0.57			0.78	0.00	0.54	0.03	0.13	0.16
Uniform Delay, d1				30.3			32.1	4.8	7.5	4.9	5.2	5.3
Progression Factor				1.00			1.00	0.51	0.65	0.35	2.18	1.86
Incremental Delay, d2				2.6			10.8	0.0	0.6	0.1	2.1	0.1
Delay (s)				33.0			42.9	2.4	5.5	1.8	13.6	10.0
Level of Service				C			D	A	A	A	B	B
Approach Delay (s)	0.0			39.1				5.3			10.1	
Approach LOS	A			D				A			B	

Intersection Summary

HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
70: Olympic OnRamp & Ave of the Stars



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕	↗	↖	↕↕↕		↖↖	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	0.95	1.00	0.91		0.97	0.91	
Frt		0.92			0.94	0.85	1.00	1.00		1.00	0.96	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2855			1454	1346	1583	4533		3072	4367	
Flt Permitted		0.88			0.86	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2543			1274	1346	1583	4533		3072	4367	
Volume (vph)	5	2	9	88	36	419	57	1048	26	39	409	150
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	6	2	10	100	41	476	65	1191	30	44	465	170
RTOR Reduction (vph)	0	8	0	0	34	12	0	2	0	0	54	0
Lane Group Flow (vph)	0	10	0	0	209	362	65	1219	0	44	581	0
Turn Type	Perm			Perm		pm+ov	Prot			Prot		
Protected Phases		8			4	5	1	6		5	2	
Permitted Phases	8			4		4						
Actuated Green, G (s)		19.0			19.0	26.5	7.9	49.3		7.5	48.9	
Effective Green, g (s)		20.5			20.5	28.0	7.9	50.0		7.5	49.6	
Actuated g/C Ratio		0.23			0.23	0.31	0.09	0.56		0.08	0.55	
Clearance Time (s)		5.5			5.5	4.0	4.0	4.7		4.0	4.7	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		579			290	479	139	2518		256	2407	
v/s Ratio Prot						c0.06	0.04	c0.27		0.01	0.13	
v/s Ratio Perm		0.00			0.16	0.21						
v/c Ratio		0.02			0.72	0.76	0.47	0.48		0.17	0.24	
Uniform Delay, d1		26.9			32.1	27.9	39.0	12.2		38.4	10.5	
Progression Factor		1.00			1.00	1.00	1.45	0.19		1.02	1.52	
Incremental Delay, d2		0.0			8.5	6.7	2.1	0.6		0.3	0.2	
Delay (s)		27.0			40.6	34.6	58.8	2.9		39.3	16.1	
Level of Service		C			D	C	E	A		D	B	
Approach Delay (s)		27.0			37.0			5.7			17.6	
Approach LOS		C			D			A			B	

Intersection Summary

HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔	↔		↔	↔↔	↔↔↔		↔	↔↔↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	1.00		1.00	0.95	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3072		1417	1583		1417	3072	4530		1583	4328	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3072		1417	1583		1417	3072	4530		1583	4328	
Volume (vph)	14	0	12	23	0	95	210	1047	32	14	336	162
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	17	0	15	28	0	117	259	1293	40	17	415	200
RTOR Reduction (vph)	0	0	12	0	0	85	0	3	0	0	86	0
Lane Group Flow (vph)	17	0	3	28	0	32	259	1330	0	17	529	0
Turn Type	Prot		custom	Prot		custom	Prot			Prot		
Protected Phases	3		3 5	4		1 4	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.2		19.2	14.9		25.3	10.0	42.5		5.5	38.0	
Effective Green, g (s)	10.1		19.3	15.8		24.5	9.2	43.4		4.7	38.9	
Actuated g/C Ratio	0.11		0.21	0.18		0.27	0.10	0.48		0.05	0.43	
Clearance Time (s)	4.9			4.9			3.2	4.9		3.2	4.9	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	345		304	278		386	314	2184		83	1871	
v/s Ratio Prot	c0.01		0.00	c0.02		0.02	c0.08	c0.29		0.01	0.12	
v/s Ratio Perm												
v/c Ratio	0.05		0.01	0.10		0.08	0.82	0.61		0.20	0.28	
Uniform Delay, d1	35.7		27.8	31.1		24.4	39.6	17.1		40.9	16.5	
Progression Factor	1.00		1.00	1.00		1.00	1.50	0.46		1.19	0.62	
Incremental Delay, d2	0.1		0.0	0.2		0.1	1.7	0.1		1.2	0.4	
Delay (s)	35.7		27.8	31.3		24.5	61.2	8.0		49.9	10.7	
Level of Service	D		C	C		C	E	A		D	B	
Approach Delay (s)		32.0			25.8			16.6			11.7	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			16.1				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			43.3%				ICU Level of Service				A	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑↑	↑↑↑		↔↔	↔↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.91	0.91		0.97	0.88
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)	3072	4550	4422		3072	2493
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3072	4550	4422		3072	2493
Volume (vph)	984	1434	1417	328	58	192
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1093	1593	1574	364	64	213
RTOR Reduction (vph)	0	0	38	0	0	154
Lane Group Flow (vph)	1093	1593	1900	0	64	59
Turn Type	Prot					Prot
Protected Phases	5	2 5	6		4	4
Permitted Phases						
Actuated Green, G (s)	12.0	55.5	38.5		24.0	24.0
Effective Green, g (s)	13.0	57.0	40.0		25.0	25.0
Actuated g/C Ratio	0.14	0.63	0.44		0.28	0.28
Clearance Time (s)	5.0		5.5		5.0	5.0
Vehicle Extension (s)	2.0		3.0		3.0	3.0
Lane Grp Cap (vph)	444	2882	1965		853	693
v/s Ratio Prot	c0.36	0.35	c0.43		0.02	c0.02
v/s Ratio Perm						
v/c Ratio	2.46	0.55	0.97		0.08	0.09
Uniform Delay, d1	38.5	9.3	24.4		24.0	24.0
Progression Factor	1.00	1.00	1.00		1.26	2.99
Incremental Delay, d2	664.5	0.8	13.9		0.0	0.1
Delay (s)	703.0	10.1	38.2		30.1	71.8
Level of Service	F	B	D		C	E
Approach Delay (s)		292.1	38.2		62.2	
Approach LOS		F	D		E	

Intersection Summary

HCM Average Control Delay	178.7	HCM Level of Service	F
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 73: Santa Monica Blvd & Century Park West



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	0.91
Frbp, 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	0.94	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.97	1.00
Satd. Flow (prot)	3212	1000	2168	3212	2086	910
Flt Permitted	1.00	1.00	0.95	1.00	0.97	1.00
Satd. Flow (perm)	3212	1000	2168	3212	2086	910
Volume (vph)	2118	294	182	1257	76	106
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2161	300	186	1283	78	108
RTOR Reduction (vph)	0	125	0	0	37	44
Lane Group Flow (vph)	2161	175	186	1283	90	15
Confl. Peds. (#/hr)		59	59		11	
Confl. Bikes (#/hr)		14				
Turn Type		Over	Prot			Perm
Protected Phases	6	4	5	2	4	
Permitted Phases						4
Actuated Green, G (s)	63.2	28.1	13.6	80.8	28.1	28.1
Effective Green, g (s)	64.4	30.0	13.6	82.0	30.0	30.0
Actuated g/C Ratio	0.54	0.25	0.11	0.68	0.25	0.25
Clearance Time (s)	5.2	5.9	4.0	5.2	5.9	5.9
Vehicle Extension (s)	3.7	3.8	1.0	3.5	3.8	3.8
Lane Grp Cap (vph)	1724	250	246	2195	522	228
v/s Ratio Prot	c0.67	c0.17	c0.09	0.40	0.04	
v/s Ratio Perm						0.02
v/c Ratio	1.25	0.70	0.76	0.58	0.17	0.06
Uniform Delay, d1	27.8	40.9	51.6	10.0	35.3	34.3
Progression Factor	1.63	0.32	1.26	0.78	1.00	1.00
Incremental Delay, d2	114.5	1.5	9.5	1.0	0.7	0.5
Delay (s)	159.9	14.7	74.6	8.8	36.0	34.9
Level of Service	F	B	E	A	D	C
Approach Delay (s)	142.2			17.1	35.6	
Approach LOS	F			B	D	

Intersection Summary

HCM Average Control Delay	92.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕	↖	↗	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	0.95	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3072	2493	3167	1417	1583	4550
Flt Permitted	0.95	1.00	1.00	1.00	0.59	1.00
Satd. Flow (perm)	3072	2493	3167	1417	977	4550
Volume (vph)	57	76	184	426	399	145
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	63	84	204	473	443	161
RTOR Reduction (vph)	0	78	0	54	0	0
Lane Group Flow (vph)	63	6	204	419	443	161
Turn Type		Perm		pm+ov	pm+pt	
Protected Phases	4		2	4	1	6
Permitted Phases		4		2	6	
Actuated Green, G (s)	6.4	6.4	60.9	67.3	73.6	73.6
Effective Green, g (s)	6.9	6.9	62.4	69.3	75.1	75.1
Actuated g/C Ratio	0.08	0.08	0.69	0.77	0.83	0.83
Clearance Time (s)	4.5	4.5	5.5	4.5	3.0	5.5
Vehicle Extension (s)	3.0	3.0	5.0	3.0	3.0	5.0
Lane Grp Cap (vph)	236	191	2196	1154	874	3797
v/s Ratio Prot	0.02		0.06	c0.03	c0.05	0.04
v/s Ratio Perm		0.00		0.27	c0.37	
v/c Ratio	0.27	0.03	0.09	0.36	0.51	0.04
Uniform Delay, d1	39.2	38.5	4.5	3.3	1.9	1.3
Progression Factor	0.96	1.59	0.11	5.72	1.00	1.00
Incremental Delay, d2	0.5	0.1	0.0	0.0	0.5	0.0
Delay (s)	38.3	61.2	0.5	18.9	2.3	1.3
Level of Service	D	E	A	B	A	A
Approach Delay (s)	51.4		13.4			2.1
Approach LOS	D		B			A

Intersection Summary

HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
75: Olympic Blvd & Century Park West



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
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)	3072	4550	4550	1417	3072	2493
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3072	4550	4550	1417	3072	2493
Volume (vph)	854	2670	1859	135	86	75
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	880	2753	1916	139	89	77
RTOR Reduction (vph)	0	0	0	81	0	0
Lane Group Flow (vph)	880	2753	1916	58	89	77
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	15.0	55.1	36.1	36.1	25.0	25.0
Effective Green, g (s)	15.0	56.3	37.3	37.3	25.7	25.7
Actuated g/C Ratio	0.17	0.63	0.41	0.41	0.29	0.29
Clearance Time (s)	4.0	5.2	5.2	5.2	4.7	4.7
Vehicle Extension (s)	3.0	4.8	4.6	4.6	3.0	3.0
Lane Grp Cap (vph)	512	2846	1886	587	877	712
v/s Ratio Prot	c0.29	c0.61	0.42		0.03	
v/s Ratio Perm				0.04		c0.03
v/c Ratio	1.72	0.97	1.02	0.10	0.10	0.11
Uniform Delay, d1	37.5	16.0	26.4	16.1	23.7	23.7
Progression Factor	1.49	0.59	1.00	1.00	1.01	1.01
Incremental Delay, d2	324.2	1.5	24.8	0.3	0.1	0.1
Delay (s)	380.1	11.0	51.1	16.4	24.0	24.1
Level of Service	F	B	D	B	C	C
Approach Delay (s)		100.4	48.8		24.0	
Approach LOS		F	D		C	

Intersection Summary

HCM Average Control Delay	80.1	HCM Level of Service	F
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑	↘	↗	↑↑↑		↗	↑↑		↘	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4550	1417	1583	4536		1583	3069		1583	3111	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.13	1.00		0.43	1.00	
Satd. Flow (perm)	1583	4550	1417	1583	4536		216	3069		723	3111	
Volume (vph)	99	1788	376	96	1788	38	106	455	118	80	579	76
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	100	1806	380	97	1806	38	107	460	119	81	585	77
RTOR Reduction (vph)	0	0	177	0	2	0	0	19	0	0	9	0
Lane Group Flow (vph)	100	1806	203	97	1842	0	107	560	0	81	653	0
Turn Type	Prot		Perm	Prot			pm+pt			Perm		
Protected Phases	1	6		5	2		3	8			4	
Permitted Phases			6				8			4		
Actuated Green, G (s)	11.4	55.4	55.4	11.2	55.2		39.4	39.4		25.9	25.9	
Effective Green, g (s)	11.4	56.4	56.4	11.2	56.2		40.4	40.4		26.9	26.9	
Actuated g/C Ratio	0.10	0.47	0.47	0.09	0.47		0.34	0.34		0.22	0.22	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		3.5	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	150	2139	666	148	2124		181	1033		162	697	
v/s Ratio Prot	c0.06	0.40		0.06	c0.41		0.05	c0.18			c0.21	
v/s Ratio Perm			0.14				0.15			0.11		
v/c Ratio	0.67	0.84	0.30	0.66	0.87		0.59	0.54		0.50	0.94	
Uniform Delay, d1	52.5	27.9	19.7	52.5	28.6		30.7	32.3		40.7	45.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.52	1.54		1.00	1.00	
Incremental Delay, d2	8.4	4.3	1.2	7.7	5.1		3.5	0.4		2.4	20.1	
Delay (s)	60.8	32.2	20.9	60.2	33.7		50.1	50.2		43.1	65.8	
Level of Service	E	C	C	E	C		D	D		D	E	
Approach Delay (s)		31.6			35.0			50.2			63.3	
Approach LOS		C			C			D			E	

Intersection Summary

HCM Average Control Delay	39.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Volume (vph)	73	1602	106	99	1121	128	157	615	202	532	1026	100
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	74	1635	108	101	1144	131	160	628	206	543	1047	102
RTOR Reduction (vph)	0	0	59	0	0	67	0	0	125	0	0	58
Lane Group Flow (vph)	74	1635	49	101	1144	64	160	628	81	543	1047	44
Turn Type	Prot		Perm	Prot		pm+ov	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2	7	3	8		7		4
Permitted Phases			6			2			8			4
Actuated Green, G (s)	6.2	28.0	28.0	11.7	33.5	56.4	11.2	37.5	37.5	22.9	49.2	49.2
Effective Green, g (s)	6.2	29.5	29.5	11.7	35.0	57.9	11.2	39.9	39.9	22.9	51.6	51.6
Actuated g/C Ratio	0.05	0.25	0.25	0.10	0.29	0.48	0.09	0.33	0.33	0.19	0.43	0.43
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	4.0	4.0	6.4	6.4	4.0	6.4	6.4
Vehicle Extension (s)	2.0	4.5	4.5	2.0	5.2	2.0	2.0	4.7	4.7	2.0	4.7	4.7
Lane Grp Cap (vph)	112	790	246	211	937	483	202	743	333	414	961	430
v/s Ratio Prot	0.03	c0.51		0.05	c0.36	0.03	0.07	c0.28		c0.25	c0.47	
v/s Ratio Perm			0.05			0.04			0.08			0.04
v/c Ratio	0.66	2.07	0.20	0.48	1.22	0.13	0.79	0.85	0.24	1.31	1.09	0.10
Uniform Delay, d1	55.9	45.2	35.9	51.3	42.5	17.2	53.3	37.2	29.1	48.6	34.2	20.4
Progression Factor	1.17	1.65	3.18	0.84	0.80	0.93	1.00	1.00	1.00	0.81	0.73	0.21
Incremental Delay, d2	1.0	481.7	0.2	0.5	107.6	0.0	17.7	9.5	0.7	155.1	55.2	0.2
Delay (s)	66.5	556.4	114.3	43.7	141.6	15.9	71.0	46.7	29.8	194.7	80.3	4.5
Level of Service	E	F	F	D	F	B	E	D	C	F	F	A
Approach Delay (s)		510.2			122.4			47.1			112.5	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	226.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	118.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	0.86		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		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)	1583	4550	1417	1583	5696		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00	1.00	0.12	1.00		0.40	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	192	4550	1417	196	5696		665	3167	1417	293	3167	1417
Volume (vph)	129	2691	69	9	2145	97	92	691	194	334	658	225
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	130	2718	70	9	2167	98	93	698	196	337	665	227
RTOR Reduction (vph)	0	0	30	0	7	0	0	0	5	0	0	0
Lane Group Flow (vph)	130	2718	40	9	2258	0	93	698	191	337	665	227
Turn Type	pm+pt		Perm	pm+pt		Perm		pm+ov	pm+pt		pm+ov	
Protected Phases	1	6		5	2			8	5	7	4	1
Permitted Phases	6		6	2		8	8	8	4			4
Actuated Green, G (s)	41.2	34.3	34.3	39.6	33.5		24.6	24.6	30.7	35.6	35.6	42.5
Effective Green, g (s)	41.7	34.8	34.8	40.1	34.0		26.1	26.1	32.2	37.1	37.1	44.0
Actuated g/C Ratio	0.46	0.39	0.39	0.45	0.38		0.29	0.29	0.36	0.41	0.41	0.49
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5		5.5	5.5	4.0	4.0	5.5	4.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		5.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	196	1759	548	181	2152		193	918	570	221	1306	756
v/s Ratio Prot	c0.05	c0.60		0.00	0.40			0.22	0.02	c0.12	0.21	0.02
v/s Ratio Perm	0.26		0.03	0.02		0.14		0.11	c0.51			0.14
v/c Ratio	0.66	1.55	0.07	0.05	1.05		0.48	0.76	0.33	1.52	0.51	0.30
Uniform Delay, d1	19.4	27.6	17.4	39.3	28.0		26.4	29.1	21.1	23.2	19.7	13.8
Progression Factor	1.28	0.71	0.18	0.25	0.30		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	245.6	0.0	0.1	28.8		3.9	4.4	0.3	257.9	0.7	0.2
Delay (s)	25.7	265.3	3.2	9.7	37.2		30.3	33.5	21.4	281.1	20.3	14.0
Level of Service	C	F	A	A	D		C	C	C	F	C	B
Approach Delay (s)		248.4			37.0			30.8			90.7	
Approach LOS		F			D			C			F	

Intersection Summary

HCM Average Control Delay	128.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖		↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.98	
Satd. Flow (prot)	1583	3081		1583	3156		1504	1533	1417		1596	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.98	
Satd. Flow (perm)	1583	3081		1583	3156		1504	1533	1417		1596	
Volume (vph)	22	1080	237	451	1025	24	169	36	121	35	46	19
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	24	1200	263	501	1139	27	188	40	134	39	51	21
RTOR Reduction (vph)	0	15	0	0	1	0	0	0	83	0	0	0
Lane Group Flow (vph)	24	1448	0	501	1165	0	111	117	51	0	111	0
Turn Type	Prot		Prot		Split		pm+ov		Split			
Protected Phases	1	6		5	2		3	3	5		4	4
Permitted Phases									3			
Actuated Green, G (s)	3.6	36.1		36.2	68.7		10.0	10.0	46.2		20.0	
Effective Green, g (s)	2.6	36.9		35.2	69.5		10.9	10.9	46.1		21.0	
Actuated g/C Ratio	0.02	0.31		0.29	0.58		0.09	0.09	0.38		0.18	
Clearance Time (s)	3.0	4.8		3.0	4.8		4.9	4.9	3.0		5.0	
Vehicle Extension (s)	3.0	6.0		3.0	6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	34	947		464	1828		137	139	592		279	
v/s Ratio Prot	0.02	c0.47		c0.32	0.37		0.07	c0.08	0.03		c0.07	
v/s Ratio Perm									0.01			
v/c Ratio	0.71	1.53		1.08	0.64		0.81	0.84	0.09		0.40	
Uniform Delay, d1	58.3	41.6		42.4	16.8		53.5	53.7	23.5		43.9	
Progression Factor	0.80	0.97		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	5.9	238.4		64.9	1.7		29.1	34.5	0.1		0.9	
Delay (s)	52.7	278.6		107.3	18.6		82.6	88.2	23.6		44.8	
Level of Service	D	F		F	B		F	F	C		D	
Approach Delay (s)		275.0			45.2			62.6			44.8	
Approach LOS		F			D			E			D	

Intersection Summary

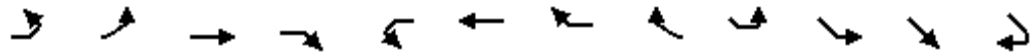
HCM Average Control Delay	141.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	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	0.89		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1504	1504	1417	1583	1487		1583	1656		1583	1667	1417
Flt Permitted	0.71	0.71	1.00	0.95	1.00		0.55	1.00		0.30	1.00	1.00
Satd. Flow (perm)	1128	1128	1417	1583	1487		924	1656		505	1667	1417
Volume (vph)	312	0	36	17	19	48	80	481	21	25	248	295
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	318	0	37	17	19	49	82	491	21	26	253	301
RTOR Reduction (vph)	0	0	32	0	37	0	0	2	0	0	0	165
Lane Group Flow (vph)	159	159	5	17	31	0	82	510	0	26	253	136
Turn Type	Perm		Perm	Split			Perm			Perm		Perm
Protected Phases		4		3	3			2			2	
Permitted Phases	4		4				2			2		2
Actuated Green, G (s)	10.0	10.0	10.0	17.0	17.0		32.6	32.6		32.6	32.6	32.6
Effective Green, g (s)	11.0	11.0	11.0	18.0	18.0		34.0	34.0		34.0	34.0	34.0
Actuated g/C Ratio	0.15	0.15	0.15	0.24	0.24		0.45	0.45		0.45	0.45	0.45
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	165	165	208	380	357		419	751		229	756	642
v/s Ratio Prot				0.01	c0.02			c0.31				0.15
v/s Ratio Perm	c0.14	0.14	0.00				0.09			0.05		0.10
v/c Ratio	0.96	0.96	0.03	0.04	0.09		0.20	0.68		0.11	0.33	0.21
Uniform Delay, d1	31.8	31.8	27.4	21.9	22.1		12.3	16.2		11.8	13.2	12.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	58.9	58.9	0.1	0.2	0.5		1.0	4.9		1.0	1.2	0.8
Delay (s)	90.7	90.7	27.5	22.1	22.6		13.3	21.1		12.8	14.4	13.2
Level of Service	F	F	C	C	C		B	C		B	B	B
Approach Delay (s)		84.1			22.5			20.0			13.7	
Approach LOS		F			C			C			B	

Intersection Summary

HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	SEL2	SEL	SET	SER
Lane Configurations			↕	↗		↕↗				↘	↕↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0		4.0				4.0	4.0	
Lane Util. Factor			1.00	1.00		0.95				1.00	0.95	
Frt			1.00	0.85		0.98				1.00	0.97	
Flt Protected			0.99	1.00		0.98				0.95	1.00	
Satd. Flow (prot)			1163	1000		2146				1583	3074	
Flt Permitted			0.86	1.00		0.73				0.51	1.00	
Satd. Flow (perm)			1016	1000		1597				848	3074	
Volume (vph)	19	36	190	20	134	148	28	16	4	22	96	23
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	20	37	196	21	138	153	29	16	4	23	99	24
RTOR Reduction (vph)	0	0	0	11	0	5	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	253	10	0	331	0	0	0	27	109	0
Turn Type		Perm		Perm	Perm				Perm	Perm		
Protected Phases			6			2					4	
Permitted Phases		6		6	2				4	4		
Actuated Green, G (s)			34.0	34.0		34.0				30.0	30.0	
Effective Green, g (s)			36.0	36.0		36.0				31.0	31.0	
Actuated g/C Ratio			0.48	0.48		0.48				0.41	0.41	
Clearance Time (s)			6.0	6.0		6.0				5.0	5.0	
Vehicle Extension (s)			3.0	3.0		3.0				3.0	3.0	
Lane Grp Cap (vph)			488	480		767				351	1271	
v/s Ratio Prot											0.04	
v/s Ratio Perm			c0.25	0.01		0.21				0.03		
v/c Ratio			0.52	0.02		0.43				0.08	0.09	
Uniform Delay, d1			13.5	10.2		12.8				13.3	13.4	
Progression Factor			0.72	0.99		1.00				1.00	1.00	
Incremental Delay, d2			3.6	0.1		1.8				0.4	0.1	
Delay (s)			13.4	10.2		14.6				13.8	13.5	
Level of Service			B	B		B				B	B	
Approach Delay (s)			13.1			14.6					13.6	
Approach LOS			B			B					B	
Intersection Summary												
HCM Average Control Delay			16.3			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			89.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	NWL	NWT	NWR	NWR2
Lane Configurations	↶	↗	↶	
Ideal Flow (vphpl)	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1583	1667	1417	
Flt Permitted	0.67	1.00	1.00	
Satd. Flow (perm)	1123	1667	1417	
Volume (vph)	60	273	160	308
Peak-hour factor, PHF	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	281	165	318
RTOR Reduction (vph)	0	0	93	0
Lane Group Flow (vph)	62	281	390	0
Turn Type	Perm		Perm	
Protected Phases		8		
Permitted Phases	8		8	
Actuated Green, G (s)	30.0	30.0	30.0	
Effective Green, g (s)	31.0	31.0	31.0	
Actuated g/C Ratio	0.41	0.41	0.41	
Clearance Time (s)	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	
Lane Grp Cap (vph)	464	689	586	
v/s Ratio Prot		0.17		
v/s Ratio Perm	0.06		c0.28	
v/c Ratio	0.13	0.41	0.67	
Uniform Delay, d1	13.7	15.5	17.8	
Progression Factor	1.05	1.00	0.98	
Incremental Delay, d2	0.3	0.9	2.9	
Delay (s)	14.6	16.4	20.4	
Level of Service	B	B	C	
Approach Delay (s)		18.6		
Approach LOS		B		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86			1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	1.00
Satd. Flow (prot)	2168	4005		1118	3963			1153		1118	1176	1000
Flt Permitted	0.95	1.00		0.08	1.00			0.99		0.37	1.00	1.00
Satd. Flow (perm)	2168	4005		98	3963			1143		435	1176	1000
Volume (vph)	265	1842	139	67	2047	328	9	164	26	60	57	112
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	268	1861	140	68	2068	331	9	166	26	61	58	113
RTOR Reduction (vph)	0	7	0	0	13	0	0	4	0	0	0	0
Lane Group Flow (vph)	268	1994	0	68	2386	0	0	197	0	61	58	113
Turn Type	Prot		Perm			Perm		Perm		Perm		pm+ov
Protected Phases	5	2			6			4			4	5
Permitted Phases				6			4			4		4
Actuated Green, G (s)	23.7	112.7		85.0	85.0			28.3		28.3	28.3	52.0
Effective Green, g (s)	23.7	112.7		85.0	85.0			29.3		29.3	29.3	53.0
Actuated g/C Ratio	0.16	0.75		0.57	0.57			0.20		0.20	0.20	0.35
Clearance Time (s)	4.0	4.0		4.0	4.0			5.0		5.0	5.0	4.0
Vehicle Extension (s)	1.5	4.0		4.0	4.0			3.0		3.0	3.0	1.5
Lane Grp Cap (vph)	343	3009		56	2246			223		85	230	380
v/s Ratio Prot	c0.12	0.50			0.60						0.05	0.05
v/s Ratio Perm				c0.69				c0.17		0.14		0.07
v/c Ratio	0.78	0.66		1.21	1.06			0.88		0.72	0.25	0.30
Uniform Delay, d1	60.7	9.2		32.5	32.5			58.7		56.5	51.1	35.0
Progression Factor	1.37	0.11		1.00	1.00			1.00		1.03	1.02	1.13
Incremental Delay, d2	1.0	0.1		189.2	38.1			31.0		24.4	0.6	0.2
Delay (s)	84.1	1.1		221.7	70.6			89.7		82.7	52.5	39.7
Level of Service	F	A		F	E			F		F	D	D
Approach Delay (s)		10.9			74.8			89.7			54.2	
Approach LOS		B			E			F			D	

Intersection Summary

HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00	0.55	1.00	1.00	0.88
Flpb, ped/bikes	0.96	1.00		0.99	1.00		0.92	1.00	1.00	0.81	1.00	1.00
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1524	1619		1573	1581		1454	3167	777	1283	3167	1248
Flt Permitted	0.59	1.00		0.40	1.00		0.62	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)	948	1619		662	1581		955	3167	777	443	3167	1248
Volume (vph)	105	275	46	75	205	64	43	597	124	41	199	62
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	107	281	47	77	209	65	44	609	127	42	203	63
RTOR Reduction (vph)	0	8	0	0	4	0	0	0	72	0	0	40
Lane Group Flow (vph)	107	320	0	77	270	0	44	609	55	42	203	23
Conf. Peds. (#/hr)	66		43	43		66	111		339	339		111
Conf. Bikes (#/hr)			4			6			18			1
Turn Type	Perm			pm+pt			Perm		pm+ov	Perm		Perm
Protected Phases		6		5	2			8	5			4
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	29.0	29.0		37.7	37.7		26.9	26.9	32.1	26.9	26.9	26.9
Effective Green, g (s)	30.4	30.4		39.1	39.1		27.9	27.9	32.6	27.9	27.9	27.9
Actuated g/C Ratio	0.41	0.41		0.52	0.52		0.37	0.37	0.43	0.37	0.37	0.37
Clearance Time (s)	5.4	5.4		3.5	5.4		5.0	5.0	3.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	384	656		402	824		355	1178	379	165	1178	464
v/s Ratio Prot		c0.20		0.01	c0.17			c0.19	0.01		0.06	
v/s Ratio Perm	0.11			0.09			0.05		0.06	0.09		0.02
v/c Ratio	0.28	0.49		0.19	0.33		0.12	0.52	0.15	0.25	0.17	0.05
Uniform Delay, d1	14.9	16.5		9.8	10.4		15.5	18.3	12.8	16.3	15.8	15.1
Progression Factor	0.98	0.98		1.00	1.00		1.85	1.88	5.09	1.00	1.00	1.00
Incremental Delay, d2	1.8	2.5		0.2	1.1		0.6	1.3	0.1	3.7	0.3	0.2
Delay (s)	16.5	18.7		10.0	11.4		29.2	35.7	65.3	20.0	16.1	15.3
Level of Service	B	B		A	B		C	D	E	C	B	B
Approach Delay (s)		18.1			11.1			40.1			16.5	
Approach LOS		B			B			D			B	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
84: Weyburn Ave & Westwood Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↕			↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95			0.95	1.00
Frbp, ped/bikes		1.00	1.00		0.95		1.00	0.95			1.00	0.30
Flpb, ped/bikes		0.94	1.00		0.90		0.58	1.00			0.99	1.00
Frt		1.00	0.85		0.98		1.00	0.99			1.00	0.85
Flt Protected		0.99	1.00		0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1556	1417		1381		917	2992			3144	420
Flt Permitted		0.92	1.00		0.92		0.53	1.00			0.93	1.00
Satd. Flow (perm)		1448	1417		1285		516	2992			2922	420
Volume (vph)	35	127	20	31	91	20	68	718	50	10	313	21
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	38	137	22	33	98	22	73	772	54	11	337	23
RTOR Reduction (vph)	0	0	22	0	1	0	0	3	0	0	0	9
Lane Group Flow (vph)	0	175	0	0	152	0	73	823	0	0	348	14
Confl. Peds. (#/hr)	570		715	715		570	814		795	795		814
Confl. Bikes (#/hr)			9			12			43			28
Turn Type	Perm		NA	Perm			Perm			Perm		Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		2
Actuated Green, G (s)		30.5	0.0		30.5		34.1	34.1			34.1	34.1
Effective Green, g (s)		32.0	0.0		32.0		35.0	35.0			35.0	35.0
Actuated g/C Ratio		0.43	0.00		0.43		0.47	0.47			0.47	0.47
Clearance Time (s)		5.5			5.5		4.9	4.9			4.9	4.9
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		618	0		548		241	1396			1364	196
v/s Ratio Prot								c0.28				
v/s Ratio Perm		c0.12			0.12		0.14				0.12	0.03
v/c Ratio		0.28	0.00		0.28		0.30	0.59			0.26	0.07
Uniform Delay, d1		14.0	37.5		14.0		12.4	14.7			12.1	11.0
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.05
Incremental Delay, d2		1.1	0.0		1.3		3.2	1.8			0.4	0.7
Delay (s)		15.2	37.5		15.2		15.6	16.6			12.6	12.2
Level of Service		B	D		B		B	B			B	B
Approach Delay (s)		17.7			15.2		16.5				12.6	
Approach LOS		B			B		B				B	

Intersection Summary

HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕↕			↕↕			↕↕	↗		↕↕		
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0		
Lane Util. Factor		0.95			0.95			0.95	1.00		0.95		
Frbp, ped/bikes		0.92			0.95			1.00	0.67		0.98		
Flpb, ped/bikes		0.97			0.93			1.00	1.00		1.00		
Frt		0.96			0.98			1.00	0.85		0.99		
Flt Protected		0.99			0.98			1.00	1.00		1.00		
Satd. Flow (prot)		1918			1895			2235	669		2165		
Flt Permitted		0.90			0.78			1.00	1.00		0.93		
Satd. Flow (perm)		1730			1493			2235	669		2016		
Volume (vph)	24	128	51	80	127	33	0	841	214	9	325	20	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	24	131	52	82	130	34	0	858	218	9	332	20	
RTOR Reduction (vph)	0	22	0	0	9	0	0	0	65	0	3	0	
Lane Group Flow (vph)	0	185	0	0	237	0	0	858	153	0	358	0	
Conf. Peds. (#/hr)	138		216	216		138	330		211	211		330	
Conf. Bikes (#/hr)			2			2			16			3	
Turn Type	Perm			Perm			Perm		Perm	Perm			
Protected Phases		4			4			2				2	
Permitted Phases	4			4			2		2	2			
Actuated Green, G (s)		55.5			55.5			84.0	84.0		84.0		
Effective Green, g (s)		57.0			57.0			85.0	85.0		85.0		
Actuated g/C Ratio		0.38			0.38			0.57	0.57		0.57		
Clearance Time (s)		5.5			5.5			5.0	5.0		5.0		
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		657			567			1267	379		1142		
v/s Ratio Prot								c0.38					
v/s Ratio Perm		0.11			c0.16				0.23		0.18		
v/c Ratio		0.28			0.42			0.68	0.40		0.31		
Uniform Delay, d1		32.3			34.3			22.9	18.3		17.1		
Progression Factor		1.02			1.15			1.92	3.70		1.00		
Incremental Delay, d2		1.0			2.2			1.3	1.4		0.7		
Delay (s)		34.1			41.5			45.1	68.9		17.8		
Level of Service		C			D			D	E		B		
Approach Delay (s)		34.1			41.5			49.9			17.8		
Approach LOS		C			D			D			B		
Intersection Summary													
HCM Average Control Delay			41.0									HCM Level of Service	D
HCM Volume to Capacity ratio			0.57										
Actuated Cycle Length (s)			150.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			96.8%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.97	0.86		0.97	0.86		1.00	0.91		1.00	0.86	0.86
Frbp, ped/bikes	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.98	0.85
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.93	1.00		0.89	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	2168	3939		2168	3953		1035	2969		994	2949	730
Flt Permitted	0.95	1.00		0.95	1.00		0.44	1.00		0.36	1.00	1.00
Satd. Flow (perm)	2168	3939		2168	3953		477	2969		377	2949	730
Volume (vph)	365	2155	137	155	1935	104	122	573	113	63	243	158
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	384	2268	144	163	2037	109	128	603	119	66	256	166
RTOR Reduction (vph)	0	6	0	0	5	0	0	21	0	0	5	41
Lane Group Flow (vph)	384	2406	0	163	2141	0	128	701	0	66	268	108
Confl. Peds. (#/hr)	197		162	162		197	210		216	216		210
Confl. Bikes (#/hr)			3			2			13			5
Turn Type	Prot			Prot			pm+pt			Perm		pm+ov
Protected Phases	5	2		1	6		3	8			4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	30.0	80.5		13.0	63.5		41.1	41.1		27.1	27.1	57.1
Effective Green, g (s)	30.0	82.0		13.0	65.0		43.0	43.0		29.0	29.0	59.0
Actuated g/C Ratio	0.20	0.55		0.09	0.43		0.29	0.29		0.19	0.19	0.39
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.9		5.9	5.9	4.0
Vehicle Extension (s)	2.0	4.0		2.0	4.0		3.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	434	2153		188	1713		174	851		73	570	307
v/s Ratio Prot	0.18	c0.61		0.08	c0.54		0.05	c0.24			0.09	0.07
v/s Ratio Perm							0.16			c0.18		0.08
v/c Ratio	0.88	1.12		0.87	1.25		0.74	0.82		0.90	0.47	0.35
Uniform Delay, d1	58.3	34.0		67.6	42.5		46.6	50.0		59.1	53.7	32.1
Progression Factor	1.27	1.04		0.78	0.64		1.00	1.00		1.05	1.04	1.60
Incremental Delay, d2	2.2	53.6		11.2	114.0		14.9	6.2		70.0	0.2	0.2
Delay (s)	76.5	89.0		63.9	141.1		61.5	56.2		132.4	56.1	51.4
Level of Service	E	F		E	F		E	E		F	E	D
Approach Delay (s)		87.3			135.6			57.0			65.0	
Approach LOS		F			F			E			E	

Intersection Summary

HCM Average Control Delay	98.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.95		1.00	0.95	
Frt		0.95			0.97		1.00	0.97		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1109			1114		1118	2164		1118	2216	
Flt Permitted		0.90			0.84		0.53	1.00		0.14	1.00	
Satd. Flow (perm)		1015			958		622	2164		161	2216	
Volume (vph)	33	58	48	82	66	48	42	1020	275	33	343	21
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	34	60	49	85	68	49	43	1052	284	34	354	22
RTOR Reduction (vph)	0	36	0	0	25	0	0	29	0	0	5	0
Lane Group Flow (vph)	0	107	0	0	177	0	43	1307	0	34	371	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		15.5			15.5		35.1	35.1		35.1	35.1	
Effective Green, g (s)		16.5			16.5		35.5	35.5		35.5	35.5	
Actuated g/C Ratio		0.28			0.28		0.59	0.59		0.59	0.59	
Clearance Time (s)		5.0			5.0		4.4	4.4		4.4	4.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		279			263		368	1280		95	1311	
v/s Ratio Prot								c0.60			0.17	
v/s Ratio Perm		0.11			c0.19		0.07			0.21		
v/c Ratio		0.39			0.67		0.12	1.02		0.36	0.28	
Uniform Delay, d1		17.6			19.4		5.4	12.2		6.3	6.0	
Progression Factor		1.00			1.00		0.40	0.45		1.00	1.00	
Incremental Delay, d2		0.9			6.7		0.3	21.4		10.2	0.5	
Delay (s)		18.5			26.0		2.4	26.9		16.5	6.5	
Level of Service		B			C		A	C		B	A	
Approach Delay (s)		18.5			26.0			26.1			7.4	
Approach LOS		B			C			C			A	

Intersection Summary

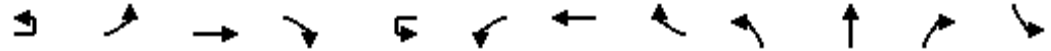
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	1116		1118	1156		1118	2221		1118	2202	
Flt Permitted	0.54	1.00		0.37	1.00		0.41	1.00		0.16	1.00	
Satd. Flow (perm)	634	1116		431	1156		483	2221		183	2202	
Volume (vph)	164	259	136	73	223	30	103	1025	47	22	483	53
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	171	270	142	76	232	31	107	1068	49	23	503	55
RTOR Reduction (vph)	0	33	0	0	9	0	0	5	0	0	13	0
Lane Group Flow (vph)	171	379	0	76	254	0	107	1112	0	23	545	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		4		4		2		2		2	
Permitted Phases	4		4		4		2		2		2	
Actuated Green, G (s)	21.7	21.7		21.7	21.7		28.2	28.2		28.2	28.2	
Effective Green, g (s)	23.3	23.3		23.3	23.3		28.7	28.7		28.7	28.7	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.48	0.48		0.48	0.48	
Clearance Time (s)	5.6	5.6		5.6	5.6		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)	246	433		167	449		231	1062		88	1053	
v/s Ratio Prot	c0.34				0.22		c0.50				0.25	
v/s Ratio Perm	0.27		0.18				0.22		0.13			
v/c Ratio	0.70	0.88		0.46	0.57		0.46	1.05		0.26	0.52	
Uniform Delay, d1	15.4	17.0		13.6	14.4		10.5	15.7		9.3	10.9	
Progression Factor	0.54	0.53		1.00	1.00		2.01	2.67		0.98	1.05	
Incremental Delay, d2	4.4	10.1		2.0	1.6		3.8	34.5		6.8	1.8	
Delay (s)	12.6	19.1		15.6	16.0		24.9	76.3		15.9	13.2	
Level of Service	B		B		B		C		E		B	
Approach Delay (s)	17.2		15.9		71.8		13.3					
Approach LOS	B		B		E		B					

Intersection Summary

HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↑↑↑	↗		↔↔	↑↑↑	↗	↖	↑↑		↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		0.97	0.91	1.00		0.97	0.91	1.00	1.00	0.95		1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		3072	4550	1417		3072	4550	1417	1583	3139		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.36	1.00		0.09
Satd. Flow (perm)		3072	4550	1417		3072	4550	1417	602	3139		142
Volume (vph)	1	126	1782	79	34	203	1342	164	121	995	61	190
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1	130	1837	81	35	209	1384	169	125	1026	63	196
RTOR Reduction (vph)	0	0	0	40	0	0	0	87	0	4	0	0
Lane Group Flow (vph)	0	131	1837	41	0	244	1384	82	125	1085	0	196
Turn Type	Prot	Prot	pm+ov		Prot	Prot		pm+ov	pm+pt			pm+pt
Protected Phases	1	1	6	3	5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		10.4	30.9	41.0		14.7	35.2	47.2	52.3	42.2		56.1
Effective Green, g (s)		10.4	32.4	42.5		14.7	36.7	48.7	55.0	44.9		58.8
Actuated g/C Ratio		0.09	0.27	0.35		0.12	0.31	0.41	0.46	0.37		0.49
Clearance Time (s)		4.0	5.5	4.0		4.0	5.5	4.0	4.0	6.7		4.0
Vehicle Extension (s)		3.0	5.0	3.0		3.0	5.0	3.0	3.0	4.0		3.0
Lane Grp Cap (vph)		266	1229	549		376	1392	622	358	1175		214
v/s Ratio Prot		0.04	c0.40	0.01		c0.08	0.30	0.01	0.03	0.35		c0.09
v/s Ratio Perm				0.02				0.04	0.13			c0.36
v/c Ratio		0.49	1.49	0.07		0.65	0.99	0.13	0.35	0.92		0.92
Uniform Delay, d1		52.3	43.8	25.7		50.2	41.5	22.4	19.5	35.9		32.5
Progression Factor		0.68	1.34	3.50		0.59	0.87	2.21	1.00	1.00		1.14
Incremental Delay, d2		0.8	224.9	0.0		2.0	15.9	0.0	0.6	12.2		35.5
Delay (s)		36.2	283.7	90.1		31.8	52.0	49.6	20.1	48.1		72.6
Level of Service		D	F	F		C	D	D	C	D		E
Approach Delay (s)			260.2				49.0			45.2		
Approach LOS			F				D			D		

Intersection Summary			
HCM Average Control Delay	120.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3167	1417
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3167	1417
Volume (vph)	540	81
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	557	84
RTOR Reduction (vph)	0	51
Lane Group Flow (vph)	557	33
Turn Type		Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	44.1	44.1
Effective Green, g (s)	46.8	46.8
Actuated g/C Ratio	0.39	0.39
Clearance Time (s)	6.7	6.7
Vehicle Extension (s)	4.0	4.0
Lane Grp Cap (vph)	1235	553
v/s Ratio Prot	0.18	
v/s Ratio Perm		0.02
v/c Ratio	0.45	0.06
Uniform Delay, d1	27.1	22.9
Progression Factor	0.97	1.27
Incremental Delay, d2	0.3	0.1
Delay (s)	26.7	29.1
Level of Service	C	C
Approach Delay (s)	37.7	
Approach LOS	D	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4534		1583	5673		1583	3102		1583	3076	
Flt Permitted	0.13	1.00		0.11	1.00		0.43	1.00		0.13	1.00	
Satd. Flow (perm)	210	4534		186	5673		723	3102		215	3076	
Volume (vph)	54	1976	46	71	1994	151	66	856	135	136	440	104
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	57	2102	49	76	2121	161	70	911	144	145	468	111
RTOR Reduction (vph)	0	3	0	0	13	0	0	14	0	0	1	0
Lane Group Flow (vph)	57	2148	0	76	2269	0	70	1041	0	145	578	0
Turn Type	Perm		pm+pt		Perm		pm+pt					
Protected Phases	2		1		6		8		7		4	
Permitted Phases	2		6		8		4					
Actuated Green, G (s)	30.8	30.8		41.4	41.4		25.6	25.6		38.2	38.2	
Effective Green, g (s)	31.8	31.8		42.4	42.4		27.0	27.0		39.6	39.6	
Actuated g/C Ratio	0.35	0.35		0.47	0.47		0.30	0.30		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.5	5.0		5.4	5.4		3.5	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1602		190	2673		217	931		225	1353	
v/s Ratio Prot	c0.47		0.03		c0.40		c0.34		c0.06		0.19	
v/s Ratio Perm	0.27		0.16		0.10		0.22					
v/c Ratio	0.77	1.34		0.40	0.85		0.32	1.12		0.64	0.43	
Uniform Delay, d1	25.9	29.1		40.6	21.0		24.4	31.5		20.2	17.4	
Progression Factor	0.59	0.65		2.14	1.79		0.80	0.87		1.00	1.00	
Incremental Delay, d2	18.8	154.7		0.4	1.1		2.7	63.8		6.2	1.0	
Delay (s)	34.1	173.4		87.1	38.7		22.3	91.3		26.4	18.4	
Level of Service	C		F		D		C		F		B	
Approach Delay (s)	169.9		40.2		87.0		20.0					
Approach LOS	F		D		F		B					

Intersection Summary

HCM Average Control Delay	90.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	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	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4550	1417	1583	3167	1417	1583	3096	3096
Flt Permitted	0.13	1.00	1.00	0.13	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	214	4550	1417	216	4550	1417	1583	3167	1417	1583	3096	3096
Volume (vph)	192	1464	32	64	1444	176	102	756	121	123	396	70
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	196	1494	33	65	1473	180	104	771	123	126	404	71
RTOR Reduction (vph)	0	0	18	0	0	47	0	0	11	0	17	0
Lane Group Flow (vph)	196	1494	15	65	1473	133	104	771	112	126	458	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	Prot		pm+ov		Prot	
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	35.7	29.2	38.9	35.3	29.0	35.5	9.7	29.9	36.2	6.5	26.7	
Effective Green, g (s)	37.1	31.1	40.3	36.7	30.9	36.9	9.2	31.1	36.9	6.0	27.9	
Actuated g/C Ratio	0.41	0.35	0.45	0.41	0.34	0.41	0.10	0.35	0.41	0.07	0.31	
Clearance Time (s)	3.5	5.9	3.5	3.5	5.9	3.5	3.5	5.2	3.5	3.5	5.2	
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	
Lane Grp Cap (vph)	179	1572	635	176	1562	644	162	1094	644	106	960	
v/s Ratio Prot	c0.07	0.33	0.00	0.02	0.32	0.01	0.07	c0.24	0.01	c0.08	0.15	
v/s Ratio Perm	c0.38		0.01	0.13		0.08			0.07			
v/c Ratio	1.09	0.95	0.02	0.37	0.94	0.21	0.64	0.70	0.17	1.19	0.48	
Uniform Delay, d1	22.9	28.7	13.9	19.3	28.7	17.1	38.8	25.5	16.9	42.0	25.1	
Progression Factor	1.94	0.26	0.04	1.00	1.00	1.00	1.00	1.00	1.00	1.41	0.69	
Incremental Delay, d2	51.4	1.8	0.0	1.3	12.7	0.2	8.4	2.6	0.1	141.8	0.7	
Delay (s)	95.8	9.4	0.5	20.6	41.4	17.3	47.2	28.1	17.0	201.2	17.9	
Level of Service	F	A	A	C	D	B	D	C	B	F	B	
Approach Delay (s)		19.1			38.1			28.7			56.4	
Approach LOS		B			D			C			E	

Intersection Summary

HCM Average Control Delay	31.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 92: Le Conte Ave & Gayley Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.84	1.00	0.97		1.00	1.00	
Flpb, ped/bikes	0.86	1.00		0.90	1.00	1.00	0.93	1.00		0.97	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1362	1642		1417	1667	1196	1479	2979		1529	3141	
Flt Permitted	0.74	1.00		0.68	1.00	1.00	0.47	1.00		0.35	1.00	
Satd. Flow (perm)	1055	1642		1014	1667	1196	732	2979		570	3141	
Volume (vph)	26	107	6	116	31	53	10	510	152	89	439	12
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	28	114	6	123	33	56	11	543	162	95	467	13
RTOR Reduction (vph)	0	3	0	0	0	40	0	37	0	0	3	0
Lane Group Flow (vph)	28	117	0	123	33	16	11	668	0	95	477	0
Conf. Peds. (#/hr)	130		66	66		130	66		85	85		66
Conf. Bikes (#/hr)			1			1			5			14
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2			2		
Actuated Green, G (s)	20.2	20.2		20.2	20.2	20.2	45.3	45.3		45.3	45.3	
Effective Green, g (s)	21.0	21.0		21.0	21.0	21.0	46.0	46.0		46.0	46.0	
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.8	4.8		4.8	4.8	4.8	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	460		284	467	335	449	1827		350	1926	
v/s Ratio Prot		0.07			0.02			c0.22			0.15	
v/s Ratio Perm	0.03			c0.12		0.01	0.02			0.17		
v/c Ratio	0.09	0.25		0.43	0.07	0.05	0.02	0.37		0.27	0.25	
Uniform Delay, d1	20.0	20.9		22.1	19.8	19.7	5.7	7.2		6.7	6.6	
Progression Factor	1.00	1.00		1.05	1.13	1.43	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.3		4.7	0.3	0.3	0.1	0.6		1.9	0.3	
Delay (s)	20.6	22.3		27.8	22.7	28.4	5.8	7.8		8.6	6.9	
Level of Service	C	C		C	C	C	A	A		A	A	
Approach Delay (s)		22.0			27.2			7.8			7.2	
Approach LOS		C			C			A			A	

Intersection Summary

HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↙	↘		↙	↕	↘	↙	↕	↘
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor				1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes				1.00	0.89		1.00	1.00	0.81	1.00	1.00	
Flpb, ped/bikes				1.00	1.00		0.98	1.00	1.00	0.94	1.00	
Frt				1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)				1118	901		1095	2235	807	1053	2233	
Flt Permitted				0.95	1.00		0.49	1.00	1.00	0.33	1.00	
Satd. Flow (perm)				1118	901		564	2235	807	370	2233	
Volume (vph)	0	0	0	70	4	69	3	722	164	56	429	2
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	72	4	71	3	744	169	58	442	2
RTOR Reduction (vph)	0	0	0	0	50	0	0	0	68	0	0	0
Lane Group Flow (vph)	0	0	0	72	25	0	3	744	101	58	444	0
Confl. Peds. (#/hr)	55						55	20		161	161	20
Confl. Bikes (#/hr)							1		14			
Turn Type	Split		Perm			Perm		Perm custom				
Protected Phases	3	3			4			6				
Permitted Phases				4			6		6	2	2	
Actuated Green, G (s)				21.0	21.0		44.4	44.4	44.4	44.4	44.4	
Effective Green, g (s)				22.0	22.0		45.0	45.0	45.0	45.0	45.0	
Actuated g/C Ratio				0.29	0.29		0.60	0.60	0.60	0.60	0.60	
Clearance Time (s)				5.0	5.0		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)				328	264		338	1341	484	222	1340	
v/s Ratio Prot					0.03			c0.33				
v/s Ratio Perm				c0.06			0.01		0.13	0.16	0.20	
v/c Ratio				0.22	0.09		0.01	0.55	0.21	0.26	0.33	
Uniform Delay, d1				20.0	19.3		6.0	9.0	6.9	7.1	7.5	
Progression Factor				1.36	3.62		0.56	1.22	3.46	1.00	1.00	
Incremental Delay, d2				0.3	0.1		0.0	0.4	0.3	2.8	0.7	
Delay (s)				27.6	69.8		3.4	11.4	24.0	10.0	8.2	
Level of Service				C	E		A	B	C	A	A	
Approach Delay (s)		0.0			49.2			13.7			8.4	
Approach LOS		A			D			B			A	
Intersection Summary												
HCM Average Control Delay			15.3				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			59.5%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔	↑↑↑		↔	↑↑	↔	↔	↑	↔↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86		1.00	0.95	1.00	1.00	1.00	0.88
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00	0.67	1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.94	1.00	1.00	0.80	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3896		1110	3927		1048	2235	672	892	1176	1608
Flt Permitted	0.95	1.00		0.06	1.00		0.48	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	2168	3896		75	3927		529	2235	672	524	1176	1608
Volume (vph)	544	2598	183	43	1983	143	75	302	72	73	116	305
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	579	2764	195	46	2110	152	80	321	77	78	123	324
RTOR Reduction (vph)	0	6	0	0	7	0	0	0	1	0	0	0
Lane Group Flow (vph)	579	2953	0	46	2255	0	80	321	76	78	123	324
Confl. Peds. (#/hr)	165		141	141		165	128		258	258		128
Confl. Bikes (#/hr)			8			7			18			3
Turn Type	Prot			Perm			pm+pt		Perm	Perm		pm+ov
Protected Phases	1	6			2		3	8			4	1
Permitted Phases				2			8		8	4		4
Actuated Green, G (s)	35.8	100.8		61.0	61.0		38.4	38.4	38.4	25.0	25.0	60.8
Effective Green, g (s)	35.8	101.8		62.0	62.0		40.2	40.2	40.2	26.8	26.8	62.6
Actuated g/C Ratio	0.24	0.68		0.41	0.41		0.27	0.27	0.27	0.18	0.18	0.42
Clearance Time (s)	4.0	5.0		5.0	5.0		4.0	5.8	5.8	5.8	5.8	4.0
Vehicle Extension (s)	2.0	4.0		4.0	4.0		2.0	3.0	3.0	3.0	3.0	2.0
Lane Grp Cap (vph)	517	2644		31	1623		174	599	180	94	210	714
v/s Ratio Prot	0.27	c0.76			0.57		0.03	c0.14			0.10	0.11
v/s Ratio Perm				c0.61			0.09		0.11	c0.15		0.09
v/c Ratio	1.12	1.12		1.48	1.39		0.46	0.54	0.42	0.83	0.59	0.45
Uniform Delay, d1	57.1	24.1		44.0	44.0		43.8	46.9	45.3	59.4	56.5	31.4
Progression Factor	1.04	1.17		0.44	0.50		1.00	1.00	1.00	0.96	0.95	1.33
Incremental Delay, d2	56.7	53.1		232.7	175.6		0.7	0.9	1.6	41.6	4.0	0.2
Delay (s)	116.2	81.4		251.9	197.8		44.5	47.9	46.9	98.4	57.7	42.0
Level of Service	F	F		F	F		D	D	D	F	E	D
Approach Delay (s)		87.1			198.8			47.1			54.1	
Approach LOS		F			F			D			D	

Intersection Summary		
HCM Average Control Delay	119.4	HCM Level of Service F
HCM Volume to Capacity ratio	1.21	
Actuated Cycle Length (s)	150.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization	119.9%	ICU Level of Service H
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
 95: Sunset Blvd & Veteran Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑		↖		↖		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0		4.0			
Lane Util. Factor		0.95		1.00	0.95		1.00		1.00			
Frt		0.99		1.00	1.00		1.00		0.85			
Flt Protected		1.00		0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3126		1583	3167		1583		1417			
Flt Permitted		1.00		0.05	1.00		0.76		1.00			
Satd. Flow (perm)		3126		88	3167		1262		1417			
Volume (vph)	0	1981	187	333	1107	0	62	0	448	0	0	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2042	193	343	1141	0	64	0	462	0	0	0
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	212	0	0	0
Lane Group Flow (vph)	0	2230	0	343	1141	0	64	0	250	0	0	0
Turn Type				pm+pt		custom		Over	Perm			
Protected Phases		2		1	6			1			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		70.7		101.0	101.0		10.0		26.3			
Effective Green, g (s)		71.7		102.0	102.0		10.0		26.3			
Actuated g/C Ratio		0.60		0.85	0.85		0.08		0.22			
Clearance Time (s)		5.0		4.0	5.0		4.0		4.0			
Vehicle Extension (s)		4.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		1868		402	2692		105		311			
v/s Ratio Prot		c0.71		c0.19	0.36				0.18			
v/s Ratio Perm				0.54			c0.05					
v/c Ratio		1.19		0.85	0.42		0.61		0.80			
Uniform Delay, d1		24.2		46.7	2.1		53.1		44.4			
Progression Factor		1.00		1.53	0.81		1.00		1.00			
Incremental Delay, d2		92.8		13.3	0.4		9.6		13.8			
Delay (s)		117.0		84.9	2.1		62.8		58.2			
Level of Service		F		F	A		E		E			
Approach Delay (s)		117.0			21.2			58.8			0.0	
Approach LOS		F			C			E			A	
Intersection Summary												
HCM Average Control Delay			76.3			HCM Level of Service			E			
HCM Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			105.5%			ICU Level of Service			G			
Analysis Period (min)			15									
c	Critical Lane Group											



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑↑	↔	↔	↑↑	↔↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		0.97	0.86		1.00	0.95	1.00	1.00	0.95	0.88
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.96	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3994		2168	4034		1077	2235	955	1108	2235	1667
Flt Permitted	0.95	1.00		0.95	1.00		0.58	1.00	1.00	0.22	1.00	1.00
Satd. Flow (perm)	2168	3994		2168	4034		657	2235	955	252	2235	1667
Volume (vph)	526	3653	171	68	2402	41	221	621	150	115	120	205
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	572	3971	186	74	2611	45	240	675	163	125	130	223
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	0	0	0	13
Lane Group Flow (vph)	572	4153	0	74	2654	0	240	675	163	125	130	210
Confl. Peds. (#/hr)	13		43	43		13	53		19	19		53
Confl. Bikes (#/hr)			16			5			13			18
Turn Type	Prot			Prot			pm+pt		pm+ov	Perm		pm+ov
Protected Phases	5	2		1	6		3	8	1		4	5
Permitted Phases							8		8	4		4
Actuated Green, G (s)	30.0	91.5		5.0	66.5		37.1	37.1	42.1	28.1	28.1	58.1
Effective Green, g (s)	30.0	93.0		5.0	68.0		40.0	40.0	45.0	31.0	31.0	61.0
Actuated g/C Ratio	0.20	0.62		0.03	0.45		0.27	0.27	0.30	0.21	0.21	0.41
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.9	4.0	6.9	6.9	4.0
Vehicle Extension (s)	1.0	4.0		1.0	4.0		3.0	2.0	1.0	2.0	2.0	1.0
Lane Grp Cap (vph)	434	2476		72	1829		189	596	312	52	462	678
v/s Ratio Prot	0.26	c1.04		0.03	c0.66		c0.04	0.30	0.02		0.06	0.06
v/s Ratio Perm							0.30		0.15	c0.50		0.06
v/c Ratio	1.32	1.68		1.03	1.45		1.27	1.13	0.52	2.40	0.28	0.31
Uniform Delay, d1	60.0	28.5		72.5	41.0		55.6	55.0	43.6	59.5	50.1	30.2
Progression Factor	0.73	0.44		1.21	0.71		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	144.6	304.9		39.1	203.4		156.3	79.1	0.7	686.3	0.1	0.1
Delay (s)	188.7	317.4		126.8	232.4		211.8	134.1	44.3	745.8	50.2	30.3
Level of Service	F	F		F	F		F	F	D	F	D	C
Approach Delay (s)		301.9			229.6			137.8			222.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	256.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	145.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 97: Wilshire Blvd & Sepulveda Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖↖	↑↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86		0.97	0.81		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.92		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	4010		2168	4742		1118	2059		1118	2106	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1118	4010		2168	4742		1118	2059		1118	2106	
Volume (vph)	56	2721	178	119	2789	93	150	231	257	270	539	340
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	57	2777	182	121	2846	95	153	236	262	276	550	347
RTOR Reduction (vph)	0	6	0	0	3	0	0	131	0	0	0	0
Lane Group Flow (vph)	57	2953	0	121	2938	0	153	367	0	276	897	0
Turn Type	Prot		Prot		Prot		Prot		Prot			
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	8.9	67.7		15.8	74.6		17.0	29.6		17.4	30.0	
Effective Green, g (s)	8.9	69.2		15.8	76.1		17.0	31.6		17.4	32.0	
Actuated g/C Ratio	0.06	0.46		0.11	0.51		0.11	0.21		0.12	0.21	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	1.0	4.0		1.0	4.0		1.0	4.0		1.0	4.0	
Lane Grp Cap (vph)	66	1850		228	2406		127	434		130	449	
v/s Ratio Prot	0.05	c0.74		0.06	c0.62		c0.14	0.18		0.25	c0.43	
v/s Ratio Perm												
v/c Ratio	0.86	1.60		0.53	1.22		1.20	0.85		2.12	2.00	
Uniform Delay, d1	69.9	40.4		63.6	37.0		66.5	56.9		66.3	59.0	
Progression Factor	1.03	1.16		0.56	0.23		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.0	268.4		0.1	99.8		145.1	14.6		530.3	456.9	
Delay (s)	82.1	315.1		35.5	108.5		211.6	71.4		596.6	515.9	
Level of Service	F	F		D	F		F	E		F	F	
Approach Delay (s)		310.7			105.6			104.4			534.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	247.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	139.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕	↖	↖	↕↕	↖	↖	↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4530		1583	4550	1417	1583	3167	1417	1583	3074	
Flt Permitted	0.11	1.00		0.95	1.00	1.00	0.36	1.00	1.00	0.14	1.00	
Satd. Flow (perm)	190	4530		1583	4550	1417	605	3167	1417	241	3074	
Volume (vph)	55	1795	53	94	1995	122	147	939	217	63	426	104
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	57	1870	55	98	2078	127	153	978	226	66	444	108
RTOR Reduction (vph)	0	3	0	0	0	20	0	0	89	0	2	0
Lane Group Flow (vph)	57	1922	0	98	2078	107	153	978	137	66	550	0
Turn Type	Perm			Prot		Perm	Perm		Perm	Perm		
Protected Phases	8			7	4			6			2	
Permitted Phases	8					4	6		6	2		
Actuated Green, G (s)	34.1	34.1		8.1	45.7	45.7	34.3	34.3	34.3	34.3	34.3	
Effective Green, g (s)	35.1	35.1		7.6	46.7	46.7	35.3	35.3	35.3	35.3	35.3	
Actuated g/C Ratio	0.39	0.39		0.08	0.52	0.52	0.39	0.39	0.39	0.39	0.39	
Clearance Time (s)	5.0	5.0		3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	74	1767		134	2361	735	237	1242	556	95	1206	
v/s Ratio Prot	c0.42			0.06	c0.46			c0.31			0.18	
v/s Ratio Perm	0.30					0.08	0.25		0.10	0.27		
v/c Ratio	0.77	1.09		0.73	0.88	0.15	0.65	0.79	0.25	0.69	0.46	
Uniform Delay, d1	23.9	27.4		40.2	19.2	11.3	22.3	24.1	18.4	22.8	20.2	
Progression Factor	0.74	0.72		0.90	1.70	2.37	0.62	0.65	0.40	1.00	1.00	
Incremental Delay, d2	40.6	46.8		10.8	2.9	0.2	7.1	2.8	0.6	34.5	1.2	
Delay (s)	58.3	66.7		47.2	35.6	27.0	21.0	18.5	7.9	57.3	21.5	
Level of Service	E			D	D	C	C	B	A	E	C	
Approach Delay (s)	66.5			35.6				17.0			25.3	
Approach LOS	E			D				B			C	

Intersection Summary

HCM Average Control Delay	40.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑		↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4514		1583	3106		1583	3167	1417
Flt Permitted	0.16	1.00	1.00	0.12	1.00		0.95	1.00		0.15	1.00	1.00
Satd. Flow (perm)	265	4550	1417	201	4514		1583	3106		250	3167	1417
Volume (vph)	88	1607	87	102	1180	66	317	1136	167	56	429	115
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	90	1640	89	104	1204	67	323	1159	170	57	438	117
RTOR Reduction (vph)	0	0	47	0	6	0	0	13	0	0	0	21
Lane Group Flow (vph)	90	1640	42	104	1265	0	323	1316	0	57	438	96
Turn Type	Perm		pm+ov	pm+pt			Prot			Perm		Perm
Protected Phases		6	3	5	2		3	8			4	
Permitted Phases	6		6	2						4		4
Actuated Green, G (s)	27.7	27.7	41.2	35.5	35.5		13.5	44.5		27.5	27.5	27.5
Effective Green, g (s)	29.2	29.2	42.2	37.0	37.0		13.0	45.0		28.0	28.0	28.0
Actuated g/C Ratio	0.32	0.32	0.47	0.41	0.41		0.14	0.50		0.31	0.31	0.31
Clearance Time (s)	5.5	5.5	3.5	3.0	5.5		3.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	86	1476	727	141	1856		229	1553		78	985	441
v/s Ratio Prot		c0.36	0.01	0.03	c0.28		c0.20	c0.42			0.14	
v/s Ratio Perm	0.34		0.02	0.27						0.23		0.07
v/c Ratio	1.05	1.11	0.06	0.74	0.68		1.41	0.85		0.73	0.44	0.22
Uniform Delay, d1	30.4	30.4	13.0	22.1	21.7		38.5	19.5		27.6	24.8	22.9
Progression Factor	1.00	1.00	1.00	2.03	1.37		1.00	1.00		0.76	0.72	0.67
Incremental Delay, d2	110.3	60.1	0.0	8.7	0.9		208.6	5.9		40.5	1.3	1.0
Delay (s)	140.7	90.5	13.1	53.6	30.6		247.1	25.4		61.6	19.2	16.3
Level of Service	F	F	B	D	C		F	C		E	B	B
Approach Delay (s)		89.2			32.3			68.8			22.6	
Approach LOS		F			C			E			C	

Intersection Summary

HCM Average Control Delay	61.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑		↙	↑↑↑	↗	↙	↑↑	↗	↙↗	↙↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	0.86	0.86	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.98	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	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (prot)	1303	3723		1304	3747	1141	1304	2608	1144	2243	2266	
Flt Permitted	0.08	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (perm)	115	3723		1304	3747	1141	1304	2608	1144	2243	2266	
Volume (vph)	32	1666	56	79	1561	913	101	222	163	1285	238	28
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	34	1772	60	84	1661	971	107	236	173	1367	253	30
RTOR Reduction (vph)	0	2	0	0	0	420	0	0	0	0	2	0
Lane Group Flow (vph)	34	1830	0	84	1661	551	107	236	173	911	737	0
Conf. Peds. (#/hr)	5		9	9		5	56		6	6		56
Conf. Bikes (#/hr)			4			5			8			8
Turn Type	Perm		Prot		Perm	Split	pm+ov		Split			
Protected Phases	6		5		2	3	3	5	4		4	
Permitted Phases	6					2	3					
Actuated Green, G (s)	56.3	56.3	10.0		70.3	70.3	14.7	14.7	24.7	50.0	50.0	
Effective Green, g (s)	57.3	57.3	10.0		71.3	71.3	15.7	15.7	25.7	51.0	51.0	
Actuated g/C Ratio	0.38	0.38	0.07		0.48	0.48	0.10	0.10	0.17	0.34	0.34	
Clearance Time (s)	5.0	5.0	4.0		5.0	5.0	5.0	5.0	4.0	5.0	5.0	
Vehicle Extension (s)	4.0	4.0	2.0		4.0	4.0	2.0	2.0	2.0	4.0	4.0	
Lane Grp Cap (vph)	44	1422	87		1781	542	136	273	196	763	770	
v/s Ratio Prot	c0.49		0.06		0.44		0.08	0.09	c0.06	c0.41	0.33	
v/s Ratio Perm	0.30					c0.48	0.09					
v/c Ratio	0.77	1.29	0.97		0.93	1.02	0.79	0.86	0.88	1.19	1.12dl	
Uniform Delay, d1	40.6	46.4	69.8		37.1	39.3	65.5	66.1	60.7	49.5	48.4	
Progression Factor	1.45	1.42	1.06		1.09	4.88	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	63.6	133.1	20.7		1.2	15.9	23.5	22.9	33.2	100.0	22.4	
Delay (s)	122.4	199.1	95.0		41.7	207.8	89.0	89.0	93.9	149.5	70.9	
Level of Service	F	F	F		D	F	F	F	F	F	E	
Approach Delay (s)	197.7				102.7		90.6				114.3	
Approach LOS	F				F		F				F	

Intersection Summary

HCM Average Control Delay	130.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
101: W San Vicente Ave & Barrington Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑	↗		↕			↕↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00		1.00			0.95	
Frt	1.00	0.99		1.00	1.00	0.85		0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.99	
Satd. Flow (prot)	1583	4494		1583	3167	1417		1630			3099	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.65			0.63	
Satd. Flow (perm)	1583	4494		1583	3167	1417		1070			1978	
Volume (vph)	116	989	89	32	817	63	115	233	19	103	223	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	129	1099	99	36	908	70	128	259	21	114	248	17
RTOR Reduction (vph)	0	9	0	0	0	40	0	1	0	0	4	0
Lane Group Flow (vph)	129	1189	0	36	908	30	0	407	0	0	375	0
Turn Type	Prot			Prot		Perm	Prot				Prot	
Protected Phases	1	6		5	2		3	8			7	4
Permitted Phases						2						
Actuated Green, G (s)	13.6	46.5		5.2	38.1	38.1		26.0			26.0	
Effective Green, g (s)	13.6	46.8		5.2	38.4	38.4		26.0			26.0	
Actuated g/C Ratio	0.15	0.52		0.06	0.43	0.43		0.29			0.29	
Clearance Time (s)	4.0	4.3		4.0	4.3	4.3		4.0			4.0	
Vehicle Extension (s)	3.0	5.7		3.0	5.5	5.5		3.0			3.0	
Lane Grp Cap (vph)	239	2337		91	1351	605		309			571	
v/s Ratio Prot	0.08	c0.26		0.02	c0.29							
v/s Ratio Perm						0.02		c0.38			0.19	
v/c Ratio	0.54	0.51		0.40	0.67	0.05		1.32			19.00dl	
Uniform Delay, d1	35.3	14.1		40.9	20.7	15.1		32.0			28.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	2.3	0.8		2.8	2.7	0.2		163.2			2.7	
Delay (s)	37.6	14.9		43.7	23.4	15.3		195.2			30.8	
Level of Service	D	B		D	C	B		F			C	
Approach Delay (s)		17.1			23.6			195.2			30.8	
Approach LOS		B			C			F			C	

Intersection Summary

HCM Average Control Delay	44.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
dl	Defacto Left Lane. Recode with 1 though lane as a left lane.		
dr	Defacto Right Lane. Recode with 1 though lane as a right lane.		
c	Critical Lane Group		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.91	1.00	0.98	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.96	1.00	1.00	0.96	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1291	3728		1296	3689		1249	2608	1062	1254	2507	
Flt Permitted	0.10	1.00		0.12	1.00		0.33	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	138	3728		169	3689		431	2608	1062	554	2507	
Volume (vph)	50	1409	29	50	1503	68	110	362	133	181	406	64
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	53	1499	31	53	1599	72	117	385	141	193	432	68
RTOR Reduction (vph)	0	1	0	0	3	0	0	0	26	0	8	0
Lane Group Flow (vph)	53	1529	0	53	1668	0	117	385	115	193	492	0
Confl. Peds. (#/hr)	67		48	48		67	40		47	47		40
Confl. Bikes (#/hr)			7			2			2			5
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		6			2			8				4
Permitted Phases	6			2			8		8		4	
Actuated Green, G (s)	95.5	95.5		95.5	95.5		46.0	46.0	46.0	46.0	46.0	
Effective Green, g (s)	96.0	96.0		96.0	96.0		46.0	46.0	46.0	46.0	46.0	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.31	0.31	0.31	0.31	0.31	
Clearance Time (s)	4.5	4.5		4.5	4.5		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	3.0	3.0	3.0	
Lane Grp Cap (vph)	88	2386		108	2361		132	800	326	170	769	
v/s Ratio Prot		0.41			c0.45			0.15			0.20	
v/s Ratio Perm	0.38			0.31			0.27		0.11	c0.35		
v/c Ratio	0.60	0.64		0.49	0.71		0.89	0.48	0.35	1.14	0.64	
Uniform Delay, d1	15.8	16.5		14.2	17.7		49.5	42.3	40.4	52.0	44.8	
Progression Factor	1.00	1.00		1.51	1.67		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	26.9	1.3		5.8	0.7		52.5	2.1	3.0	110.0	4.0	
Delay (s)	42.7	17.8		27.3	30.3		102.0	44.4	43.4	162.0	48.9	
Level of Service	D	B		C	C		F	D	D	F	D	
Approach Delay (s)		18.6			30.2			54.6			80.4	
Approach LOS		B			C			D			F	

Intersection Summary			
HCM Average Control Delay	37.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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
Frt		0.93			0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1544			1602		1583	1646		1583	1667	1417
Flt Permitted		0.94			0.86		0.48	1.00		0.40	1.00	1.00
Satd. Flow (perm)		1466			1386		795	1646		664	1667	1417
Volume (vph)	36	89	123	33	94	35	181	462	42	43	397	31
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	97	134	36	102	38	197	502	46	47	432	34
RTOR Reduction (vph)	0	68	0	0	19	0	0	4	0	0	0	12
Lane Group Flow (vph)	0	202	0	0	157	0	197	544	0	47	432	22
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		6
Actuated Green, G (s)		12.5			12.5		38.7	38.7		38.7	38.7	38.7
Effective Green, g (s)		13.0			13.0		39.0	39.0		39.0	39.0	39.0
Actuated g/C Ratio		0.22			0.22		0.65	0.65		0.65	0.65	0.65
Clearance Time (s)		4.5			4.5		4.3	4.3		4.3	4.3	4.3
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		318			300		517	1070		432	1084	921
v/s Ratio Prot							c0.33				0.26	
v/s Ratio Perm		c0.14			0.11		0.25			0.07		0.02
v/c Ratio		0.63			0.52		0.38	0.51		0.11	0.40	0.02
Uniform Delay, d1		21.3			20.8		4.9	5.5		4.0	5.0	3.7
Progression Factor		1.00			1.00		0.41	0.39		1.00	1.00	1.00
Incremental Delay, d2		4.1			1.7		1.4	1.1		0.5	1.1	0.0
Delay (s)		25.5			22.4		3.4	3.3		4.5	6.1	3.8
Level of Service		C			C		A	A		A	A	A
Approach Delay (s)		25.5			22.4		3.3			5.8		
Approach LOS		C			C		A			A		

Intersection Summary

HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑	↗	↗	↑	↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1304	3704		1304	3712		1304	1373	1167	1304	1355	
Flt Permitted	0.17	1.00		0.18	1.00		0.30	1.00	1.00	0.29	1.00	
Satd. Flow (perm)	239	3704		244	3712		414	1373	1167	403	1355	
Volume (vph)	33	969	81	62	1051	70	109	542	89	85	487	46
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	34	1009	84	65	1095	73	114	565	93	89	507	48
RTOR Reduction (vph)	0	16	0	0	12	0	0	0	16	0	6	0
Lane Group Flow (vph)	34	1077	0	65	1156	0	114	565	77	89	549	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	2			2			4			4	4	
Permitted Phases	2			2			4			4	4	
Actuated Green, G (s)	22.4	22.4		22.4	22.4		28.0	28.0	28.0	28.0	28.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		29.0	29.0	29.0	29.0	29.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)	4.6	4.6		4.6	4.6		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	92	1420		94	1423		200	664	564	195	655	
v/s Ratio Prot		0.29			c0.31			c0.41			0.41	
v/s Ratio Perm	0.14			0.27			0.28		0.07	0.22		
v/c Ratio	0.37	0.76		0.69	0.81		0.57	0.85	0.14	0.46	0.84	
Uniform Delay, d1	13.3	16.1		15.5	16.6		11.1	13.6	8.6	10.3	13.5	
Progression Factor	1.00	1.00		1.73	1.61		1.00	1.00	1.00	0.68	0.78	
Incremental Delay, d2	11.0	3.8		32.3	4.8		11.3	13.0	0.5	6.9	11.3	
Delay (s)	24.3	19.9		59.2	31.5		22.3	26.6	9.1	13.9	21.8	
Level of Service	C	B		E	C		C	C	A	B	C	
Approach Delay (s)		20.1			33.0			23.8			20.7	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑	↗	↗	↑↑		↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.86	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4495		1583	5733	1417	1583	3049		1583	3167	1417
Flt Permitted	0.10	1.00		0.20	1.00	1.00	0.39	1.00		0.12	1.00	1.00
Satd. Flow (perm)	167	4495		339	5733	1417	643	3049		208	3167	1417
Volume (vph)	22	931	81	73	1501	272	405	855	280	325	484	82
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	950	83	74	1532	278	413	872	286	332	494	84
RTOR Reduction (vph)	0	11	0	0	0	20	0	35	0	0	0	12
Lane Group Flow (vph)	22	1022	0	74	1532	258	413	1123	0	332	494	72
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		Perm
Protected Phases		6			2	7	3	8		7	4	
Permitted Phases	6			2		2	8			4		4
Actuated Green, G (s)	39.0	39.0		39.0	39.0	45.0	36.1	30.1		36.1	30.1	30.1
Effective Green, g (s)	40.0	40.0		40.0	40.0	46.0	38.0	32.0		38.0	32.0	32.0
Actuated g/C Ratio	0.44	0.44		0.44	0.44	0.51	0.42	0.36		0.42	0.36	0.36
Clearance Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	5.9		4.0	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	1998		151	2548	787	334	1084		179	1126	504
v/s Ratio Prot		0.23			c0.27	0.02	0.08	0.37		c0.12	0.16	
v/s Ratio Perm	0.13			0.22		0.16	0.44			c0.66		0.05
v/c Ratio	0.30	0.51		0.49	0.60	0.33	1.24	1.04		1.85	0.44	0.14
Uniform Delay, d1	16.0	18.0		17.8	19.0	12.9	25.0	29.0		23.1	22.1	19.7
Progression Factor	1.00	1.00		1.22	1.25	1.97	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.0	0.9		5.5	0.5	0.1	129.6	36.9		405.3	1.2	0.6
Delay (s)	26.0	18.9		27.2	24.2	25.6	154.5	65.9		428.4	23.4	20.3
Level of Service	C	B		C	C	C	F	E		F	C	C
Approach Delay (s)		19.1			24.5			89.2			170.9	
Approach LOS		B			C			F			F	

Intersection Summary

HCM Average Control Delay	66.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3734		1304	3747	1238	
Flt Permitted	1.00		0.15	1.00	0.98	
Satd. Flow (perm)	3734		203	3747	1238	
Volume (vph)	1419	33	41	1551	53	75
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1478	34	43	1616	55	78
RTOR Reduction (vph)	1	0	0	0	26	0
Lane Group Flow (vph)	1511	0	43	1616	107	0
Turn Type			Perm			
Protected Phases	6			2	4	
Permitted Phases			2			
Actuated Green, G (s)	69.3		69.3	69.3	11.9	
Effective Green, g (s)	69.4		69.4	69.4	12.6	
Actuated g/C Ratio	0.77		0.77	0.77	0.14	
Clearance Time (s)	4.1		4.1	4.1	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2879		157	2889	173	
v/s Ratio Prot	0.40			c0.43	c0.09	
v/s Ratio Perm			0.21			
v/c Ratio	0.52		0.27	0.56	0.62	
Uniform Delay, d1	4.0		3.0	4.1	36.4	
Progression Factor	0.34		1.00	1.00	1.00	
Incremental Delay, d2	0.6		4.3	0.8	6.5	
Delay (s)	1.9		7.3	4.9	42.9	
Level of Service	A		A	A	D	
Approach Delay (s)	1.9			5.0	42.9	
Approach LOS	A			A	D	
Intersection Summary						
HCM Average Control Delay			5.1		HCM Level of Service	A
HCM Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			63.1%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.98			1.00	0.96
Flpb, ped/bikes	0.99	1.00		0.99	1.00			0.99			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	1.00
Satd. Flow (prot)	1297	3736		1289	3738			1202			1339	1123
Flt Permitted	0.12	1.00		0.17	1.00			0.92			0.93	1.00
Satd. Flow (perm)	164	3736		228	3738			1118			1267	1123
Volume (vph)	6	1316	14	33	1577	16	39	10	87	2	3	4
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	1371	15	34	1643	17	41	10	91	2	3	4
RTOR Reduction (vph)	0	1	0	0	1	0	0	31	0	0	0	3
Lane Group Flow (vph)	6	1385	0	34	1659	0	0	111	0	0	5	1
Confl. Peds. (#/hr)	30		38	38		30	24		15	15		24
Confl. Bikes (#/hr)			2			4			2			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)	66.2	66.2		66.2	66.2			15.8			15.8	15.8
Effective Green, g (s)	66.2	66.2		66.2	66.2			15.8			15.8	15.8
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.18			0.18	0.18
Clearance Time (s)	4.0	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	3.0
Lane Grp Cap (vph)	121	2748		168	2750			196			222	197
v/s Ratio Prot		0.37			c0.44							
v/s Ratio Perm	0.04			0.15				c0.10			0.00	0.00
v/c Ratio	0.05	0.50		0.20	0.60			0.57			0.02	0.00
Uniform Delay, d1	3.3	5.0		3.7	5.7			34.0			30.7	30.6
Progression Factor	2.55	2.77		0.58	0.56			1.00			1.00	1.00
Incremental Delay, d2	0.4	0.3		2.3	0.8			3.8			0.0	0.0
Delay (s)	8.7	14.2		4.5	4.0			37.7			30.7	30.6
Level of Service	A	B		A	A			D			C	C
Approach Delay (s)		14.2			4.0			37.7			30.7	
Approach LOS		B			A			D			C	

Intersection Summary

HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	
Frt	1.00	0.85	1.00	1.00	0.96	
Flt Protected	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (prot)	3167	1417	1583	3167	3004	
Flt Permitted	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (perm)	3167	1417	1583	3167	3004	
Volume (vph)	1170	500	94	980	234	73
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1258	538	101	1054	252	78
RTOR Reduction (vph)	0	75	0	0	36	0
Lane Group Flow (vph)	1258	463	101	1054	294	0
Turn Type		pt+ov	Prot			
Protected Phases	2	2 4	1	6	4	
Permitted Phases						
Actuated Green, G (s)	44.4	73.9	9.0	40.9	25.6	
Effective Green, g (s)	44.3	73.5	8.5	40.8	25.2	
Actuated g/C Ratio	0.49	0.82	0.09	0.45	0.28	
Clearance Time (s)	3.9		3.5	3.9	3.6	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1559	1157	150	1436	841	
v/s Ratio Prot	c0.40	c0.33	c0.06	0.33	0.10	
v/s Ratio Perm						
v/c Ratio	0.81	0.40	0.67	0.73	0.35	
Uniform Delay, d1	19.2	2.2	39.4	20.2	25.9	
Progression Factor	0.70	0.26	1.00	1.00	1.00	
Incremental Delay, d2	3.8	0.2	11.3	3.4	0.3	
Delay (s)	17.2	0.8	50.7	23.5	26.1	
Level of Service	B	A	D	C	C	
Approach Delay (s)	12.3			25.9	26.1	
Approach LOS	B			C	C	

Intersection Summary

HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			






























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	3685		1303	3641		1298	2529		1297	2530	
Flt Permitted	0.13	1.00		0.13	1.00		0.22	1.00		0.29	1.00	
Satd. Flow (perm)	179	3685		173	3641		295	2529		398	2530	
Volume (vph)	88	1085	84	120	1279	90	194	558	87	95	535	72
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	91	1119	87	124	1319	93	200	575	90	98	552	74
RTOR Reduction (vph)	0	10	0	0	8	0	0	13	0	0	11	0
Lane Group Flow (vph)	91	1196	0	124	1404	0	200	652	0	98	615	0
Conf. Peds. (#/hr)	106		44	44		106	78		51	51		78
Conf. Bikes (#/hr)			5			5			5			3
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	34.4	29.6		36.8	30.8		40.1	28.4		32.7	24.7	
Effective Green, g (s)	35.4	30.6		37.8	31.8		41.1	29.4		33.7	25.7	
Actuated g/C Ratio	0.39	0.34		0.42	0.35		0.46	0.33		0.37	0.29	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	130	1253		148	1286		265	826		229	722	
v/s Ratio Prot	0.04	0.32		c0.06	c0.39		c0.10	c0.26		0.04	0.24	
v/s Ratio Perm	0.24			0.30			0.25			0.12		
v/c Ratio	0.70	0.95		0.84	1.09		0.75	0.79		0.43	0.85	
Uniform Delay, d1	20.1	29.0		19.0	29.1		17.4	27.5		19.4	30.3	
Progression Factor	1.33	0.67		1.42	0.77		1.69	1.39		1.00	1.00	
Incremental Delay, d2	13.7	15.1		26.8	51.8		10.4	4.5		1.3	9.5	
Delay (s)	40.4	34.6		53.8	74.2		39.8	42.8		20.7	39.8	
Level of Service	D	C		D	E		D	D		C	D	
Approach Delay (s)		35.0			72.5			42.1			37.2	
Approach LOS		D			E			D			D	

Intersection Summary

HCM Average Control Delay	49.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.94			0.97			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1532			1570			3134			3148	
Flt Permitted		0.92			0.76			0.90			0.93	
Satd. Flow (perm)		1419			1214			2833			2944	
Volume (vph)	24	68	71	45	74	40	30	848	35	14	813	19
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	73	76	48	80	43	32	912	38	15	874	20
RTOR Reduction (vph)	0	36	0	0	16	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	139	0	0	155	0	0	980	0	0	908	0
Confl. Peds. (#/hr)	10		8	8		10	19		14	14		19
Confl. Bikes (#/hr)			6			4			4			3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		14.4			14.4			67.2			67.2	
Effective Green, g (s)		14.4			14.4			67.6			67.6	
Actuated g/C Ratio		0.16			0.16			0.75			0.75	
Clearance Time (s)		4.0			4.0			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		227			194			2128			2211	
v/s Ratio Prot												
v/s Ratio Perm		0.10			0.13			0.35			0.31	
v/c Ratio		0.61			0.80			0.46			0.41	
Uniform Delay, d1		35.2			36.4			4.3			4.0	
Progression Factor		1.00			1.00			1.00			0.42	
Incremental Delay, d2		4.8			20.1			0.7			0.4	
Delay (s)		40.0			56.5			5.0			2.1	
Level of Service		D			E			A			A	
Approach Delay (s)		40.0			56.5			5.0			2.1	
Approach LOS		D			E			A			A	
Intersection Summary												
HCM Average Control Delay			10.5					HCM Level of Service			B	
HCM Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			90.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			76.3%					ICU Level of Service			D	
Analysis Period (min)			15									
c Critical Lane Group												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			  			 			 	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95	1.00		0.91		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.99		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1304	2608	1167		3712		1304	2608	1167	1304	2597	
Flt Permitted	0.16	1.00	1.00		1.00		0.21	1.00	1.00	0.23	1.00	
Satd. Flow (perm)	217	2608	1167		3712		284	2608	1167	312	2597	
Volume (vph)	32	609	89	0	1036	68	85	840	58	62	865	25
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	641	94	0	1091	72	89	884	61	65	911	26
RTOR Reduction (vph)	0	0	52	0	6	0	0	0	31	0	2	0
Lane Group Flow (vph)	34	641	42	0	1157	0	89	884	30	65	935	0
Turn Type	Perm		Perm				Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4				2		2		6	
Actuated Green, G (s)	52.0	52.0	52.0		52.0		58.0	58.0	58.0	58.0	58.0	
Effective Green, g (s)	53.0	53.0	53.0		53.0		59.0	59.0	59.0	59.0	59.0	
Actuated g/C Ratio	0.44	0.44	0.44		0.44		0.49	0.49	0.49	0.49	0.49	
Clearance Time (s)	5.0	5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	96	1152	515		1639		140	1282	574	153	1277	
v/s Ratio Prot		0.25			c0.31			0.34			c0.36	
v/s Ratio Perm	0.16		0.04				0.31		0.03	0.21		
v/c Ratio	0.35	0.56	0.08		0.71		0.64	0.69	0.05	0.42	0.73	
Uniform Delay, d1	22.2	24.8	19.4		27.2		22.6	23.5	15.9	19.6	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	9.9	1.9	0.3		2.6		20.0	3.1	0.2	8.4	3.7	
Delay (s)	32.1	26.7	19.7		29.8		42.6	26.5	16.1	28.0	28.0	
Level of Service	C	C	B		C		D	C	B	C	C	
Approach Delay (s)		26.1			29.8			27.3			28.0	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			28.0				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			96.3%				ICU Level of Service				F	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	3072	4550	1417	1583	3167	1417	1583	3167	1417
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1583	4550	1417	3072	4550	1417	1583	3167	1417	1583	3167	1417
Volume (vph)	152	1178	106	254	1511	211	350	1254	222	304	1002	124
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	155	1202	108	259	1542	215	357	1280	227	310	1022	127
RTOR Reduction (vph)	0	0	12	0	0	126	0	0	6	0	0	2
Lane Group Flow (vph)	155	1202	96	259	1542	89	357	1280	221	310	1022	125
Turn Type	Prot	pm+ov		Prot	Perm		Prot	pm+ov		Prot	pm+ov	
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases		8			4			6			2	
Actuated Green, G (s)	13.0	37.3	50.3	12.7	37.0	37.0	13.0	37.0	49.7	13.0	37.0	50.0
Effective Green, g (s)	13.0	39.3	52.3	12.7	39.0	39.0	13.0	39.0	51.7	13.0	39.0	52.0
Actuated g/C Ratio	0.11	0.33	0.44	0.11	0.32	0.32	0.11	0.32	0.43	0.11	0.32	0.43
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0	4.0	6.0	4.0
Vehicle Extension (s)	3.0	4.7	3.0	3.0	5.0	5.0	3.0	4.5	3.0	3.0	4.6	3.0
Lane Grp Cap (vph)	171	1490	665	325	1479	461	171	1029	658	171	1029	661
v/s Ratio Prot	c0.10	0.26	0.02	0.08	c0.34		c0.23	c0.40	0.04	0.20	0.32	0.02
v/s Ratio Perm			0.05			0.06			0.12			0.07
v/c Ratio	0.91	0.81	0.14	0.80	1.04	0.19	2.09	1.24	0.34	1.81	0.99	0.19
Uniform Delay, d1	52.9	36.9	20.4	52.4	40.5	29.2	53.5	40.5	22.7	53.5	40.4	21.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	42.6	3.7	0.1	12.7	35.3	0.4	508.9	118.1	0.3	387.9	26.5	0.1
Delay (s)	95.5	40.6	20.5	65.1	75.8	29.6	562.4	158.6	23.0	441.4	66.8	21.1
Level of Service	F	D	C	E	E	C	F	F	C	F	E	C
Approach Delay (s)		44.9		69.5			219.4			142.5		
Approach LOS		D		E			F			F		

Intersection Summary

HCM Average Control Delay	120.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	112.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	0.91		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	3118		1583	3113		1583	4483		1583	3167	1417
Flt Permitted	0.16	1.00		0.17	1.00		0.12	1.00		0.17	1.00	1.00
Satd. Flow (perm)	266	3118		286	3113		200	4483		284	3167	1417
Volume (vph)	171	843	96	104	695	89	176	1060	116	49	984	90
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	173	852	97	105	702	90	178	1071	117	49	994	91
RTOR Reduction (vph)	0	9	0	0	11	0	0	14	0	0	0	41
Lane Group Flow (vph)	173	940	0	105	781	0	178	1174	0	49	994	50
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+ov	
Protected Phases	1	6		5	2		3	8		7	4	1
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)	32.6	24.1		29.0	22.3		45.7	37.6		38.3	33.7	42.2
Effective Green, g (s)	33.1	25.1		29.5	23.3		46.6	38.6		38.8	34.7	42.7
Actuated g/C Ratio	0.37	0.28		0.33	0.26		0.52	0.43		0.43	0.39	0.47
Clearance Time (s)	3.5	5.0		3.5	5.0		3.5	5.0		3.5	5.0	3.5
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	4.3		3.0	4.6	3.0
Lane Grp Cap (vph)	215	870		183	806		226	1923		182	1221	735
v/s Ratio Prot	c0.07	c0.30		0.04	0.25		c0.07	0.26		0.01	0.31	0.01
v/s Ratio Perm	0.22			0.15			c0.34			0.10		0.03
v/c Ratio	0.80	1.08		0.57	0.97		0.79	0.61		0.27	0.81	0.07
Uniform Delay, d1	22.4	32.4		24.0	33.0		16.3	19.9		15.5	24.8	12.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	19.2	54.5		4.3	25.0		16.4	0.7		0.8	4.7	0.0
Delay (s)	41.6	86.9		28.3	58.0		32.7	20.6		16.3	29.5	12.9
Level of Service	D	F		C	E		C	C		B	C	B
Approach Delay (s)		79.9			54.5			22.2			27.6	
Approach LOS		E			D			C			C	

Intersection Summary

HCM Average Control Delay	44.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2597		1304	2608	1304	1167
Flt Permitted	1.00		0.22	1.00	0.95	1.00
Satd. Flow (perm)	2597		302	2608	1304	1167
Volume (vph)	959	26	49	1436	113	53
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1054	29	54	1578	124	58
RTOR Reduction (vph)	2	0	0	0	0	44
Lane Group Flow (vph)	1081	0	54	1578	124	14
Turn Type			Perm		Perm	
Protected Phases	5			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	59.8		59.8	59.8	22.2	22.2
Effective Green, g (s)	59.8		59.8	59.8	22.2	22.2
Actuated g/C Ratio	0.66		0.66	0.66	0.25	0.25
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	4.0		4.0	4.0	3.0	3.0
Lane Grp Cap (vph)	1726		201	1733	322	288
v/s Ratio Prot	0.42			c0.61	c0.10	
v/s Ratio Perm			0.18			0.01
v/c Ratio	0.63		0.27	0.91	0.39	0.05
Uniform Delay, d1	8.7		6.2	12.8	28.2	25.9
Progression Factor	1.81		2.20	2.17	1.00	1.00
Incremental Delay, d2	1.4		0.9	2.8	0.8	0.1
Delay (s)	17.1		14.5	30.7	29.0	25.9
Level of Service	B		B	C	C	C
Approach Delay (s)	17.1			30.2	28.0	
Approach LOS	B			C	C	

Intersection Summary

HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.95			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1583	3160		1583	3158			1581			1566	
Flt Permitted	0.22	1.00		0.44	1.00			0.97			0.98	
Satd. Flow (perm)	370	3160		735	3158			1545			1534	
Volume (vph)	14	515	7	168	1058	19	6	27	17	10	65	55
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	15	554	8	181	1138	20	6	29	18	11	70	59
RTOR Reduction (vph)	0	1	0	0	1	0	0	16	0	0	38	0
Lane Group Flow (vph)	15	561	0	181	1157	0	0	37	0	0	102	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		2		2		4		4		4	
Permitted Phases	2		2		4		4		4		4	
Actuated Green, G (s)	69.3	69.3		69.3	69.3			11.5			11.5	
Effective Green, g (s)	69.6	69.6		69.6	69.6			12.4			12.4	
Actuated g/C Ratio	0.77	0.77		0.77	0.77			0.14			0.14	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	286	2444		568	2442			213			211	
v/s Ratio Prot	0.18		c0.37									
v/s Ratio Perm	0.04		0.25				0.02				c0.07	
v/c Ratio	0.05	0.23		0.32	0.47			0.18			0.48	
Uniform Delay, d1	2.4	2.8		3.1	3.6			34.3			35.8	
Progression Factor	0.37	0.37		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.3	0.2		1.5	0.7			0.4			1.7	
Delay (s)	1.2	1.2		4.5	4.3			34.7			37.6	
Level of Service	A		A		A		C				D	
Approach Delay (s)	1.2		4.3				34.7				37.6	
Approach LOS	A		A				C				D	

Intersection Summary			
HCM Average Control Delay	6.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙	↑↑↑		↙	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.84	1.00	1.00	0.74	1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	0.96	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		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)	1579	3167	1194	1526	3167	1047	1583	4513		1581	4308	
Flt Permitted	0.12	1.00	1.00	0.45	1.00	1.00	0.13	1.00		0.13	1.00	
Satd. Flow (perm)	204	3167	1194	720	3167	1047	223	4513		222	4308	
Volume (vph)	143	402	19	69	953	37	21	1231	31	25	1309	258
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	147	414	20	71	982	38	22	1269	32	26	1349	266
RTOR Reduction (vph)	0	0	12	0	0	22	0	3	0	0	29	0
Lane Group Flow (vph)	147	414	8	71	982	16	22	1298	0	26	1586	0
Confl. Peds. (#/hr)	125		125	125		125	125		125	125		125
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	4	1	5	2		1	6	
Permitted Phases	4		4	4		4	2			6		
Actuated Green, G (s)	38.3	31.3	35.3	38.3	31.3	35.4	32.6	28.6		32.8	28.7	
Effective Green, g (s)	39.8	32.6	36.8	39.8	32.6	36.9	34.1	29.9		34.3	30.0	
Actuated g/C Ratio	0.44	0.36	0.41	0.44	0.36	0.41	0.38	0.33		0.38	0.33	
Clearance Time (s)	4.2	5.3	4.2	4.2	5.3	4.2	4.2	5.3		4.2	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	200	1147	541	383	1147	476	148	1499		150	1436	
v/s Ratio Prot	c0.06	0.13	0.00	0.01	c0.31	0.00	0.01	0.29		c0.01	c0.37	
v/s Ratio Perm	0.27		0.01	0.07		0.01	0.05			0.06		
v/c Ratio	0.74	0.36	0.02	0.19	0.86	0.03	0.15	0.87		0.17	1.10	
Uniform Delay, d1	18.3	21.1	15.8	14.8	26.5	15.9	21.2	28.2		19.4	30.0	
Progression Factor	0.66	0.81	1.21	0.95	0.85	0.65	1.51	1.21		1.00	1.00	
Incremental Delay, d2	11.2	0.2	0.0	0.2	5.8	0.0	0.3	4.8		0.6	57.7	
Delay (s)	23.2	17.1	19.1	14.2	28.4	10.3	32.4	38.9		19.9	87.7	
Level of Service	C	B	B	B	C	B	C	D		B	F	
Approach Delay (s)		18.7			26.8			38.8			86.6	
Approach LOS		B			C			D			F	

Intersection Summary

HCM Average Control Delay	50.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.86			0.97		1.00	1.00		1.00	1.00	
Flt Protected		1.00			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1442			1557		1583	4539		1583	4549	
Flt Permitted		1.00			0.78		0.10	1.00		0.09	1.00	
Satd. Flow (perm)		1442			1256		167	4539		142	4549	
Volume (vph)	0	0	4	272	8	83	1	1508	25	62	1387	2
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	4	306	9	93	1	1694	28	70	1558	2
RTOR Reduction (vph)	0	2	0	0	8	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	2	0	0	400	0	1	1720	0	70	1560	0
Turn Type	Perm		Perm			Perm			Perm			
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		35.5			35.5		47.5	47.5		47.5	47.5	
Effective Green, g (s)		35.0			35.0		47.0	47.0		47.0	47.0	
Actuated g/C Ratio		0.39			0.39		0.52	0.52		0.52	0.52	
Clearance Time (s)		3.5			3.5		3.5	3.5		3.5	3.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		561			488		87	2370		74	2376	
v/s Ratio Prot		0.00						0.38			0.34	
v/s Ratio Perm					c0.32		0.01			c0.49		
v/c Ratio		0.00			0.82		0.01	0.73		0.95	0.66	
Uniform Delay, d1		16.8			24.7		10.3	16.5		20.3	15.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	0.46	
Incremental Delay, d2		0.0			14.3		0.2	2.0		57.8	0.7	
Delay (s)		16.8			38.9		10.6	18.5		78.1	7.8	
Level of Service		B			D		B	B		E	A	
Approach Delay (s)		16.8			38.9			18.5			10.9	
Approach LOS		B			D			B			B	

Intersection Summary

HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4488		1583	4520		1583	4496		1583	4512	
Flt Permitted	0.14	1.00		0.18	1.00		0.14	1.00		0.12	1.00	
Satd. Flow (perm)	236	4488		298	4520		235	4496		193	4512	
Volume (vph)	262	830	83	123	1348	63	46	1197	104	187	1105	66
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	276	874	87	129	1419	66	48	1260	109	197	1163	69
RTOR Reduction (vph)	0	13	0	0	5	0	0	11	0	0	7	0
Lane Group Flow (vph)	276	948	0	129	1480	0	48	1358	0	197	1225	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	35.3	27.3		34.7	27.0		34.5	30.0		41.0	33.5	
Effective Green, g (s)	35.3	28.3		34.7	28.0		34.5	31.0		41.5	34.5	
Actuated g/C Ratio	0.40	0.32		0.39	0.31		0.39	0.35		0.47	0.39	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	200	1427		213	1422		144	1566		199	1749	
v/s Ratio Prot	c0.11	0.21		0.05	0.33		0.01	0.30		c0.08	0.27	
v/s Ratio Perm	c0.44			0.19			0.12			c0.38		
v/c Ratio	1.38	0.66		0.61	1.04		0.33	0.87		0.99	0.70	
Uniform Delay, d1	23.7	26.2		18.9	30.5		18.0	27.1		19.2	22.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	199.1	1.2		4.8	35.1		1.4	6.7		60.2	2.4	
Delay (s)	222.7	27.4		23.7	65.6		19.3	33.8		79.4	25.3	
Level of Service	F	C		C	E		B	C		E	C	
Approach Delay (s)		71.0			62.2			33.3			32.7	
Approach LOS		E			E			C			C	

Intersection Summary

HCM Average Control Delay	49.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3151		1583	3153		1583	4501		1583	4418	
Flt Permitted	0.11	1.00		0.20	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	186	3151		336	3153		189	4501		189	4418	
Volume (vph)	138	727	25	186	1303	40	28	1138	88	61	1056	254
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	157	826	28	211	1481	45	32	1293	100	69	1200	289
RTOR Reduction (vph)	0	2	0	0	2	0	0	10	0	0	46	0
Lane Group Flow (vph)	157	852	0	211	1524	0	32	1383	0	69	1443	0
Turn Type	pm+pt		pm+pt		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	42.9	34.9		42.9	34.9		34.4	34.4		34.4	34.4	
Effective Green, g (s)	42.8	35.8		42.8	35.8		35.2	35.2		35.2	35.2	
Actuated g/C Ratio	0.48	0.40		0.48	0.40		0.39	0.39		0.39	0.39	
Clearance Time (s)	3.0	4.9		3.0	4.9		4.8	4.8		4.8	4.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	197	1253		257	1254		74	1760		74	1728	
v/s Ratio Prot	0.06	0.27		c0.06	c0.48			0.31			0.33	
v/s Ratio Perm	0.32			0.33			0.17			c0.36		
v/c Ratio	0.80	0.68		0.82	1.21		0.43	0.79		0.93	0.84	
Uniform Delay, d1	42.5	22.4		16.5	27.1		20.1	24.1		26.3	24.8	
Progression Factor	1.61	0.85		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.6	2.8		18.6	104.3		4.0	2.4		81.2	3.7	
Delay (s)	86.8	21.8		35.1	131.4		24.1	26.5		107.5	28.4	
Level of Service	F	C		D	F		C	C		F	C	
Approach Delay (s)		31.9			119.7			26.4			31.9	
Approach LOS		C			F			C			C	

Intersection Summary

HCM Average Control Delay	57.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑	↗		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.90			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417		1496			1568	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.98	
Satd. Flow (perm)	1583	3167	1417	1583	3167	1417		1496			1568	
Volume (vph)	17	524	9	55	1122	44	12	20	86	25	18	18
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	18	563	10	59	1206	47	13	22	92	27	19	19
RTOR Reduction (vph)	0	0	7	0	0	29	0	70	0	0	15	0
Lane Group Flow (vph)	18	563	3	59	1206	18	0	57	0	0	50	0
Turn Type	Prot		Perm	Prot		Perm	Split				Split	
Protected Phases	1	6		5	2		3	3			4	4
Permitted Phases			6			2						
Actuated Green, G (s)	3.1	25.4	25.4	7.2	29.5	29.5		21.0			21.0	
Effective Green, g (s)	2.1	25.6	25.6	6.2	29.7	29.7		21.6			20.6	
Actuated g/C Ratio	0.02	0.28	0.28	0.07	0.33	0.33		0.24			0.23	
Clearance Time (s)	3.0	4.2	4.2	3.0	4.2	4.2		4.6			3.6	
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0	5.0		3.0			3.0	
Lane Grp Cap (vph)	37	901	403	109	1045	468		359			359	
v/s Ratio Prot	0.01	0.18		c0.04	c0.38			c0.04			c0.03	
v/s Ratio Perm			0.00			0.01						
v/c Ratio	0.49	0.62	0.01	0.54	1.15	0.04		0.16			0.14	
Uniform Delay, d1	43.4	28.0	23.1	40.5	30.2	20.5		27.0			27.6	
Progression Factor	0.78	1.33	1.81	0.63	1.00	1.12		1.00			1.00	
Incremental Delay, d2	7.2	2.4	0.0	2.7	75.2	0.1		0.9			0.8	
Delay (s)	40.9	39.6	41.7	28.2	105.3	23.0		28.0			28.5	
Level of Service	D	D	D	C	F	C		C			C	
Approach Delay (s)		39.7			98.9			28.0			28.5	
Approach LOS		D			F			C			C	

Intersection Summary

HCM Average Control Delay	75.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 121: Santa Monica Ave & Orange Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↷		↶	↶↷			↷			↷	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.93			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1576	3153		1554	3150			1524			1578	
Flt Permitted	0.16	1.00		0.28	1.00			0.95			0.94	
Satd. Flow (perm)	262	3153		461	3150			1458			1500	
Volume (vph)	12	856	15	57	1268	31	13	26	39	24	62	32
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	13	941	16	63	1393	34	14	29	43	26	68	35
RTOR Reduction (vph)	0	1	0	0	1	0	0	37	0	0	20	0
Lane Group Flow (vph)	13	956	0	63	1426	0	0	49	0	0	109	0
Conf. Peds. (#/hr)	18		27	27		18	4		5	5		4
Conf. Bikes (#/hr)			5			7			1			2
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	68.9	68.9		68.9	68.9			12.0			12.0	
Effective Green, g (s)	69.4	69.4		69.4	69.4			12.6			12.6	
Actuated g/C Ratio	0.77	0.77		0.77	0.77			0.14			0.14	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.6			4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	202	2431		355	2429			204			210	
v/s Ratio Prot		0.30			c0.45							
v/s Ratio Perm	0.05			0.14				0.03			c0.07	
v/c Ratio	0.06	0.39		0.18	0.59			0.24			0.52	
Uniform Delay, d1	2.5	3.4		2.7	4.3			34.4			35.9	
Progression Factor	1.00	1.00		0.40	0.48			1.00			1.00	
Incremental Delay, d2	0.6	0.5		0.1	0.1			0.6			2.3	
Delay (s)	3.1	3.9		1.2	2.2			35.1			38.2	
Level of Service	A	A		A	A			D			D	
Approach Delay (s)		3.9			2.1			35.1			38.2	
Approach LOS		A			A			D			D	

Intersection Summary

HCM Average Control Delay	5.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			




























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2880		1490	2967		1490	2904		1490	2800	
Flt Permitted	0.17	1.00		0.27	1.00		0.10	1.00		0.22	1.00	
Satd. Flow (perm)	261	2880		430	2967		153	2904		342	2800	
Volume (vph)	371	420	122	390	677	20	58	706	145	27	750	509
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	386	438	127	406	705	21	60	735	151	28	781	530
RTOR Reduction (vph)	0	30	0	0	2	0	0	19	0	0	132	0
Lane Group Flow (vph)	386	535	0	406	724	0	60	867	0	28	1179	0
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	7	4		3	8			2			2	
Permitted Phases	4			8			2			2		
Actuated Green, G (s)	37.0	23.0		37.0	23.0		40.0	40.0		40.0	40.0	
Effective Green, g (s)	37.0	24.0		37.0	24.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.41	0.27		0.41	0.27		0.46	0.46		0.46	0.46	
Clearance Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	5.1		3.0	4.1		5.7	5.7		5.7	5.7	
Lane Grp Cap (vph)	285	768		330	791		70	1323		156	1276	
v/s Ratio Prot	c0.20	0.19		0.18	0.24			0.30			c0.42	
v/s Ratio Perm	c0.36			0.33			0.39			0.08		
v/c Ratio	1.35	0.70		1.23	0.92		0.86	0.66		0.18	0.92	
Uniform Delay, d1	22.7	29.7		22.5	32.0		21.9	19.0		14.5	23.0	
Progression Factor	1.00	1.00		2.38	1.13		1.50	1.42		1.00	1.00	
Incremental Delay, d2	180.8	5.2		106.2	2.1		45.2	1.3		2.5	12.5	
Delay (s)	203.5	34.9		159.7	38.1		78.0	28.4		17.0	35.6	
Level of Service	F	C		F	D		E	C		B	D	
Approach Delay (s)		103.3			81.7			31.5			35.2	
Approach LOS		F			F			C			D	

Intersection Summary

HCM Average Control Delay	61.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	113.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1490	4225		1490	4252		1490	2980	1333	1490	4197	
Flt Permitted	0.15	1.00		0.16	1.00		0.16	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	234	4225		245	4252		243	2980	1333	1490	4197	
Volume (vph)	151	887	87	127	1150	58	98	688	82	156	996	154
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	164	964	95	138	1250	63	107	748	89	170	1083	167
RTOR Reduction (vph)	0	13	0	0	6	0	0	0	37	0	23	0
Lane Group Flow (vph)	164	1046	0	138	1307	0	107	748	52	170	1227	0
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Prot		
Protected Phases	3	8		7	4				2	7	1	6
Permitted Phases	8			4			2		2			
Actuated Green, G (s)	35.6	25.6		35.6	25.6		25.8	25.8	35.8	10.0	24.4	
Effective Green, g (s)	38.0	26.8		35.6	25.6		25.8	25.8	35.8	11.4	25.8	
Actuated g/C Ratio	0.42	0.30		0.40	0.28		0.29	0.29	0.40	0.13	0.29	
Clearance Time (s)	5.2	5.2		4.0	4.0		4.0	4.0	4.0	5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.5	3.0		3.0	3.0	3.5	3.0	3.0	
Lane Grp Cap (vph)	255	1258		235	1209		70	854	589	189	1203	
v/s Ratio Prot	c0.08	0.25		0.07	c0.31			0.25	0.01	c0.11	0.29	
v/s Ratio Perm	0.19			0.17			c0.44		0.03			
v/c Ratio	0.64	0.83		0.59	1.08		1.53	0.88	0.09	0.90	1.02	
Uniform Delay, d1	19.7	29.5		19.3	32.2		32.1	30.6	16.9	38.7	32.1	
Progression Factor	1.32	1.32		1.00	1.00		0.76	0.75	1.39	0.92	1.06	
Incremental Delay, d2	5.4	6.4		4.0	50.8		288.0	10.3	0.1	18.3	21.0	
Delay (s)	31.3	45.3		23.3	83.0		312.3	33.0	23.5	53.8	54.9	
Level of Service	C	D		C	F		F	C	C	D	D	
Approach Delay (s)		43.4			77.3			63.8			54.8	
Approach LOS		D			E			E			D	
Intersection Summary												
HCM Average Control Delay			60.2			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.15									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			84.6%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 124: Fountain Ave & La Brea Ave

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 						  			  		
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.91		1.00	0.91		
Frt	1.00	0.97		1.00	1.00		1.00	0.99		1.00	0.97		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1509	2939		1509	1586		1509	4305		1509	4226		
Flt Permitted	0.21	1.00		0.31	1.00		0.22	1.00		0.27	1.00		
Satd. Flow (perm)	334	2939		490	1586		353	4305		432	4226		
Volume (vph)	125	587	124	91	1234	10	89	818	40	55	1044	212	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	130	611	129	95	1285	10	93	852	42	57	1088	221	
RTOR Reduction (vph)	0	16	0	0	1	0	0	12	0	0	10	0	
Lane Group Flow (vph)	130	724	0	95	1294	0	93	882	0	57	1299	0	
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm		
Protected Phases	4		4		4		2		2		2		
Permitted Phases	4		4		4		2		2		2		
Actuated Green, G (s)	19.0	19.0		19.0	19.0		18.0	18.0		18.0	18.0		
Effective Green, g (s)	19.0	19.0		19.0	19.0		18.0	18.0		18.0	18.0		
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.40	0.40		0.40	0.40		
Clearance Time (s)	4.0	4.0		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		3.0	3.0		
Lane Grp Cap (vph)	141	1241		207	670		141	1722		173	1690		
v/s Ratio Prot		0.25			c0.82			0.20			c0.31		
v/s Ratio Perm	0.39			0.19			0.26			0.13			
v/c Ratio	0.92	0.58		0.46	1.93		0.66	0.51		0.33	0.77		
Uniform Delay, d1	12.3	10.0		9.3	13.0		11.0	10.2		9.3	11.7		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.34	1.34		
Incremental Delay, d2	52.6	0.7		1.6	424.9		21.7	1.1		1.9	1.3		
Delay (s)	64.9	10.7		10.9	437.9		32.7	11.3		14.4	17.0		
Level of Service	E	B		B	F		C	B		B	B		
Approach Delay (s)		18.8			408.7			13.3			16.9		
Approach LOS		B			F			B			B		
Intersection Summary													
HCM Average Control Delay			134.5			HCM Level of Service				F			
HCM Volume to Capacity ratio			1.37										
Actuated Cycle Length (s)			45.0			Sum of lost time (s)				8.0			
Intersection Capacity Utilization			133.3%			ICU Level of Service				H			
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2940		1505	2987		1505	4246		1507	4145	
Flt Permitted	0.12	1.00		0.22	1.00		0.14	1.00		0.15	1.00	
Satd. Flow (perm)	186	2940		343	2987		220	4246		246	4145	
Volume (vph)	98	704	84	181	1110	41	95	844	92	70	978	127
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	102	733	88	189	1156	43	99	879	96	73	1019	132
RTOR Reduction (vph)	0	9	0	0	3	0	0	13	0	0	16	0
Lane Group Flow (vph)	102	812	0	189	1196	0	99	962	0	73	1135	0
Conf. Peds. (#/hr)	87		55	55		87	151		33	33		151
Conf. Bikes (#/hr)			5			11			2			7
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	49.3	43.3		55.5	46.5		34.7	28.8		32.3	27.6	
Effective Green, g (s)	48.3	43.3		54.7	46.5		33.7	28.8		31.3	27.6	
Actuated g/C Ratio	0.48	0.43		0.55	0.46		0.34	0.29		0.31	0.28	
Clearance Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		1.0	5.0		1.0	5.0	
Lane Grp Cap (vph)	156	1273		283	1389		137	1223		124	1144	
v/s Ratio Prot	0.03	0.28		c0.05	c0.40		c0.04	0.23		0.02	c0.27	
v/s Ratio Perm	0.28			0.31			0.21			0.16		
v/c Ratio	0.65	0.64		0.67	0.86		0.72	0.79		0.59	0.99	
Uniform Delay, d1	17.6	22.2		14.0	23.9		25.7	32.8		25.7	36.1	
Progression Factor	1.59	1.18		1.00	1.00		1.56	1.46		1.00	1.00	
Incremental Delay, d2	6.9	2.3		4.6	7.2		12.5	3.3		4.5	24.7	
Delay (s)	34.9	28.5		18.5	31.1		52.7	51.1		30.3	60.8	
Level of Service	C	C		B	C		D	D		C	E	
Approach Delay (s)		29.2			29.4			51.2			58.9	
Approach LOS		C			C			D			E	

Intersection Summary

HCM Average Control Delay	42.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕		↖	↗		↖	↗	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.98			1.00		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	1.00	0.88			0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1498	1380			1511		1509	2988		1507	2990	
Flt Permitted	0.61	1.00			0.86		0.15	1.00		0.21	1.00	
Satd. Flow (perm)	967	1380			1330		231	2988		331	2990	
Volume (vph)	16	12	41	52	56	20	97	1063	53	12	1152	56
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	17	13	43	55	59	21	102	1119	56	13	1213	59
RTOR Reduction (vph)	0	34	0	0	8	0	0	2	0	0	3	0
Lane Group Flow (vph)	17	22	0	0	127	0	102	1173	0	13	1269	0
Conf. Peds. (#/hr)	7		8	8		7	11		15	15		11
Conf. Bikes (#/hr)						1			2			1
Turn Type	Perm		Perm		pm+pt		pm+pt					
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	20.4	20.4			20.4		71.6	67.4		63.8	62.6	
Effective Green, g (s)	20.4	20.4			20.4		71.6	67.4		62.8	62.6	
Actuated g/C Ratio	0.20	0.20			0.20		0.72	0.67		0.63	0.63	
Clearance Time (s)	4.0	4.0			4.0		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	5.0	5.0			5.0		1.0	0.2		1.0	0.2	
Lane Grp Cap (vph)	197	282			271		229	2014		210	1872	
v/s Ratio Prot		0.02					c0.02	0.39		0.00	c0.42	
v/s Ratio Perm	0.02				c0.10		0.30			0.04		
v/c Ratio	0.09	0.08			0.47		0.45	0.58		0.06	0.68	
Uniform Delay, d1	32.2	32.2			35.0		7.8	8.7		8.6	12.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.31	1.15	
Incremental Delay, d2	0.4	0.2			2.7		0.5	1.2		0.0	0.7	
Delay (s)	32.6	32.4			37.7		8.3	10.0		2.7	14.6	
Level of Service	C	C			D		A	A		A	B	
Approach Delay (s)		32.5			37.7			9.8			14.5	
Approach LOS		C			D			A			B	

Intersection Summary

HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
127: Willoughby Ave & La Brea Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frt		0.96			0.98		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1490			1527		1490	4241		1490	4264	
Flt Permitted		0.86			0.84		0.16	1.00		0.19	1.00	
Satd. Flow (perm)		1293			1301		258	4241		301	4264	
Volume (vph)	42	112	67	81	224	39	53	1105	75	31	1259	36
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	43	114	68	83	229	40	54	1128	77	32	1285	37
RTOR Reduction (vph)	0	18	0	0	6	0	0	8	0	0	3	0
Lane Group Flow (vph)	0	207	0	0	346	0	54	1197	0	32	1319	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	8		4		4		6		6		2	
Permitted Phases	8		4		4		6		6		2	
Actuated Green, G (s)	26.0		26.0		26.0		54.6		54.6		54.6	
Effective Green, g (s)	27.0		27.0		27.0		55.0		55.0		55.0	
Actuated g/C Ratio	0.30		0.30		0.30		0.61		0.61		0.61	
Clearance Time (s)	5.0		5.0		5.0		4.4		4.4		4.4	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	388		390		390		158		2592		184	
v/s Ratio Prot							0.28				c0.31	
v/s Ratio Perm	0.16		c0.27		0.21				0.11			
v/c Ratio	0.53		0.89		0.34		0.46		0.17		0.51	
Uniform Delay, d1	26.2		30.1		8.6		9.5		7.6		9.9	
Progression Factor	1.00		1.00		2.19		2.41		1.00		1.00	
Incremental Delay, d2	1.4		20.9		3.9		0.4		2.0		0.7	
Delay (s)	27.7		51.0		22.7		23.2		9.7		10.6	
Level of Service	C		D		C		C		A		B	
Approach Delay (s)	27.7		51.0		23.2		23.2		10.5		10.5	
Approach LOS	C		D		C		C		B		B	

Intersection Summary

HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	1.00		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2923		1490	2968		1490	4226		1490	4232	
Flt Permitted	0.13	1.00		0.12	1.00		0.10	1.00		0.14	1.00	
Satd. Flow (perm)	209	2923		185	2968		161	4226		214	4232	
Volume (vph)	84	766	114	223	1244	36	57	1079	104	38	1261	106
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	89	815	121	237	1323	38	61	1148	111	40	1341	113
RTOR Reduction (vph)	0	13	0	0	2	0	0	12	0	0	11	0
Lane Group Flow (vph)	89	923	0	237	1359	0	61	1247	0	40	1443	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm		Perm	
Protected Phases	8		7		4		6		6		2	
Permitted Phases	8		4		6		6		6		2	
Actuated Green, G (s)	28.6	28.6		41.6	41.6		37.6	37.6		37.6	37.6	
Effective Green, g (s)	30.0	30.0		43.0	43.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.33	0.33		0.48	0.48		0.43	0.43		0.43	0.43	
Clearance Time (s)	5.4	5.4		3.5	5.4		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	70	974		219	1418		70	1831		93	1834	
v/s Ratio Prot		0.32		0.11	c0.46			0.29			0.34	
v/s Ratio Perm	c0.43			0.41			c0.38			0.19		
v/c Ratio	1.27	0.95		1.08	0.96		0.87	0.68		0.43	0.79	
Uniform Delay, d1	30.0	29.2		22.3	22.6		23.2	20.5		17.8	21.9	
Progression Factor	0.74	0.73		1.00	1.00		0.25	0.16		0.61	0.63	
Incremental Delay, d2	192.6	16.4		84.4	15.8		56.0	1.3		12.2	3.1	
Delay (s)	214.9	37.8		106.7	38.5		61.8	4.6		23.1	16.9	
Level of Service	F	D		F	D		E	A		C	B	
Approach Delay (s)		53.2			48.6			7.3			17.0	
Approach LOS		D			D			A			B	

Intersection Summary

HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕	↖		↕	↖
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00			1.00	0.96		0.98	
Flpb, ped/bikes	0.98	1.00		1.00	1.00			0.99	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		1.00	
Satd. Flow (prot)	1480	2968		1502	3008			1520	1291		1459	
Flt Permitted	0.20	1.00		0.28	1.00			0.69	1.00		0.98	
Satd. Flow (perm)	304	2968		447	3008			1082	1291		1440	
Volume (vph)	24	807	54	72	1295	14	38	14	30	6	43	42
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	25	832	56	74	1335	14	39	14	31	6	44	43
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	27	0	38	0
Lane Group Flow (vph)	25	886	0	74	1349	0	0	53	4	0	55	0
Conf. Peds. (#/hr)	45		31	31		45	9		19	19		9
Conf. Bikes (#/hr)			4			12			2			4
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		2		1	6			8				4
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	74.0	74.0		80.3	80.3			11.7	11.7			11.7
Effective Green, g (s)	74.0	74.0		80.3	80.3			11.7	11.7			11.7
Actuated g/C Ratio	0.74	0.74		0.80	0.80			0.12	0.12			0.12
Clearance Time (s)	4.0	4.0		3.0	4.0			4.0	4.0			4.0
Vehicle Extension (s)	0.2	0.2		1.0	0.2			4.0	4.0			3.0
Lane Grp Cap (vph)	225	2196		383	2415			127	151			168
v/s Ratio Prot		0.30		0.00	c0.45							
v/s Ratio Perm	0.08			0.15				c0.05	0.00			0.04
v/c Ratio	0.11	0.40		0.19	0.56			0.42	0.02			0.33
Uniform Delay, d1	3.7	4.8		2.5	3.5			41.0	39.1			40.5
Progression Factor	1.49	1.15		0.40	0.39			1.00	1.00			1.00
Incremental Delay, d2	1.0	0.5		0.0	0.5			3.0	0.1			1.1
Delay (s)	6.5	6.1		1.0	1.9			44.0	39.2			41.7
Level of Service	A	A		A	A			D	D			D
Approach Delay (s)		6.1			1.8			42.2				41.7
Approach LOS		A			A			D				D

Intersection Summary

HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑		↘	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frt	1.00	1.00	0.99		0.90	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1509	3018	2999		1408	
Flt Permitted	0.18	1.00	1.00		0.99	
Satd. Flow (perm)	289	3018	2999		1408	
Volume (vph)	26	723	1268	54	32	100
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	26	730	1281	55	32	101
RTOR Reduction (vph)	0	0	2	0	88	0
Lane Group Flow (vph)	26	730	1334	0	45	0
Turn Type	Perm					
Protected Phases		2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	80.4	80.4	80.4		11.6	
Effective Green, g (s)	79.9	79.9	79.9		12.1	
Actuated g/C Ratio	0.80	0.80	0.80		0.12	
Clearance Time (s)	3.5	3.5	3.5		4.5	
Vehicle Extension (s)	0.2	0.2	0.2		3.0	
Lane Grp Cap (vph)	231	2411	2396		170	
v/s Ratio Prot		0.24	c0.44		c0.03	
v/s Ratio Perm	0.09					
v/c Ratio	0.11	0.30	0.56		0.27	
Uniform Delay, d1	2.2	2.7	3.6		39.9	
Progression Factor	0.15	0.15	0.27		1.00	
Incremental Delay, d2	1.0	0.3	0.8		0.8	
Delay (s)	1.3	0.7	1.8		40.8	
Level of Service	A	A	A		D	
Approach Delay (s)		0.7	1.8		40.8	
Approach LOS		A	A		D	

Intersection Summary

























HCM Average Control Delay	3.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕↕↕		↗	↕↕↕		↗	↕↕	↗	↗	↕↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4443		1583	4537		1583	3167	1417	1583	3167	1417
Flt Permitted	0.12	1.00		0.29	1.00		0.20	1.00	1.00	0.40	1.00	1.00
Satd. Flow (perm)	208	4443		490	4537		335	3167	1417	664	3167	1417
Volume (vph)	101	558	104	239	1200	23	102	418	122	73	696	251
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	113	627	117	269	1348	26	115	470	137	82	782	282
RTOR Reduction (vph)	0	30	0	0	2	0	0	0	78	0	0	145
Lane Group Flow (vph)	113	714	0	269	1372	0	115	470	59	82	782	137
Turn Type	pm+pt			pm+pt			Perm	pm+ov	Perm		Perm	
Protected Phases	1	6		5	2		8	8	5		4	
Permitted Phases	6			2			8	8	4			4
Actuated Green, G (s)	44.8	38.0		49.2	40.2		29.1	29.1	38.1	29.1	29.1	29.1
Effective Green, g (s)	44.8	39.0		49.2	41.2		31.0	31.0	39.0	31.0	31.0	31.0
Actuated g/C Ratio	0.50	0.43		0.55	0.46		0.34	0.34	0.43	0.34	0.34	0.34
Clearance Time (s)	3.0	5.0		3.0	5.0		5.9	5.9	3.0	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	192	1925		365	2077		115	1091	677	229	1091	488
v/s Ratio Prot	0.04	0.16		c0.07	0.30			0.15	0.01		0.25	
v/s Ratio Perm	0.25			c0.34			c0.34		0.03	0.12		0.10
v/c Ratio	0.59	0.37		0.74	0.66		1.00	0.43	0.09	0.36	0.72	0.28
Uniform Delay, d1	13.6	17.2		11.9	19.0		29.5	22.7	15.0	22.1	25.7	21.4
Progression Factor	1.00	1.00		2.21	1.41		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6	0.6		0.7	0.2		83.9	1.2	0.1	4.3	4.0	1.4
Delay (s)	18.2	17.8		27.1	26.9		113.4	24.0	15.1	26.4	29.7	22.8
Level of Service	B	B		C	C		F	C	B	C	C	C
Approach Delay (s)		17.8			27.0			36.5			27.8	
Approach LOS		B			C			D			C	

Intersection Summary

HCM Average Control Delay	27.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2980		1509	3001		1509	2945		1509	2921	
Flt Permitted	0.12	1.00		0.40	1.00		0.11	1.00		0.25	1.00	
Satd. Flow (perm)	189	2980		628	3001		176	2945		391	2921	
Volume (vph)	62	494	45	201	1188	45	44	554	106	44	774	209
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	67	531	48	216	1277	48	47	596	114	47	832	225
RTOR Reduction (vph)	0	7	0	0	3	0	0	16	0	0	24	0
Lane Group Flow (vph)	67	572	0	216	1322	0	47	694	0	47	1033	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			4			8		
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Effective Green, g (s)	56.0	56.0		56.0	56.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	4.9	4.9		4.9	4.9		4.9	4.9		4.9	4.9	
Lane Grp Cap (vph)	106	1669		352	1681		63	1060		141	1052	
v/s Ratio Prot		0.19			c0.44			0.24			c0.35	
v/s Ratio Perm	0.35			0.34			0.27			0.12		
v/c Ratio	0.63	0.34		0.61	0.79		0.75	0.65		0.33	0.98	
Uniform Delay, d1	15.0	12.0		14.7	17.3		28.0	26.8		23.3	31.7	
Progression Factor	1.00	1.00		1.00	1.00		1.21	1.24		1.00	1.00	
Incremental Delay, d2	25.3	0.6		7.8	3.8		55.0	3.1		6.3	23.7	
Delay (s)	40.3	12.5		22.5	21.1		88.8	36.2		29.5	55.3	
Level of Service	D	B		C	C		F	D		C	E	
Approach Delay (s)		15.4			21.3			39.5			54.2	
Approach LOS		B			C			D			D	
Intersection Summary												
HCM Average Control Delay			32.8			HCM Level of Service		C				
HCM Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			101.4%			ICU Level of Service		G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
133: Norton Ave & Fairfax Ave



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frbp, ped/bikes	0.98		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		0.98	1.00	1.00	
Frt	0.91		1.00	1.00	0.99	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1385		1485	3018	2985	
Flt Permitted	0.99		0.22	1.00	1.00	
Satd. Flow (perm)	1385		350	3018	2985	
Volume (vph)	33	76	83	660	1030	41
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	33	77	84	667	1040	41
RTOR Reduction (vph)	59	0	0	0	3	0
Lane Group Flow (vph)	51	0	84	667	1078	0
Conf. Peds. (#/hr)			32			32
Conf. Bikes (#/hr)		21				3
Turn Type			Perm			
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	23.4		69.0	69.0	69.0	
Effective Green, g (s)	23.4		68.6	68.6	68.6	
Actuated g/C Ratio	0.23		0.69	0.69	0.69	
Clearance Time (s)	4.0		3.6	3.6	3.6	
Vehicle Extension (s)	3.0		0.2	0.2	0.2	
Lane Grp Cap (vph)	324		240	2070	2048	
v/s Ratio Prot	c0.04			0.22	c0.36	
v/s Ratio Perm			0.24			
v/c Ratio	0.16		0.35	0.32	0.53	
Uniform Delay, d1	30.5		6.5	6.3	7.7	
Progression Factor	1.00		0.22	0.14	0.26	
Incremental Delay, d2	1.0		2.2	0.2	0.4	
Delay (s)	31.5		3.7	1.1	2.5	
Level of Service	C		A	A	A	
Approach Delay (s)	31.5			1.4	2.5	
Approach LOS	C			A	A	
Intersection Summary						
HCM Average Control Delay			3.7		HCM Level of Service	A
HCM Volume to Capacity ratio			0.43			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			61.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕	↗		↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		1.00	0.95	1.00		0.91	0.91
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.78		1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.99	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1509	2924		1509	2968		1509	3018	1056		2857	1004
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.82	1.00
Satd. Flow (perm)	1509	2924		1509	2968		1509	3018	1056		2348	1004
Volume (vph)	145	626	78	187	1135	60	106	609	63	77	818	114
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	151	652	81	195	1182	62	110	634	66	80	852	119
RTOR Reduction (vph)	0	7	0	0	4	0	0	0	43	0	0	89
Lane Group Flow (vph)	151	726	0	195	1240	0	110	634	23	0	932	30
Confl. Peds. (#/hr)	144		116	116		144	115		139	139		116
Confl. Bikes (#/hr)			6			2			3			
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Actuated Green, G (s)	7.0	47.0		7.0	47.0		7.0	35.0	35.0		25.0	25.0
Effective Green, g (s)	6.0	47.0		6.0	47.0		6.0	35.0	35.0		25.0	25.0
Actuated g/C Ratio	0.06	0.47		0.06	0.47		0.06	0.35	0.35		0.25	0.25
Clearance Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	1.0	0.2		1.0	0.2		1.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	91	1374		91	1395		91	1056	370		587	251
v/s Ratio Prot	0.10	0.25		c0.13	c0.42		c0.07	0.21				
v/s Ratio Perm									0.02		c0.40	0.03
v/c Ratio	1.66	0.53		2.14	0.89		1.21	0.60	0.06		1.59	0.12
Uniform Delay, d1	47.0	18.7		47.0	24.1		47.0	26.7	21.6		37.5	29.0
Progression Factor	0.77	1.97		1.00	1.05		1.00	1.00	1.00		0.56	0.23
Incremental Delay, d2	335.9	1.3		544.3	7.7		160.8	2.5	0.3		271.5	0.8
Delay (s)	372.0	38.0		591.3	32.9		207.8	29.3	21.9		292.5	7.5
Level of Service	F	D		F	C		F	C	C		F	A
Approach Delay (s)		95.1			108.6			52.9			260.2	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	133.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.97			0.98		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1599			1607		1583	4539		1583	4524	
Flt Permitted		0.86			0.80		0.20	1.00		0.34	1.00	
Satd. Flow (perm)		1384			1314		341	4539		568	4524	
Volume (vph)	37	90	36	99	159	46	48	723	12	30	1094	44
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	38	93	37	102	164	47	49	745	12	31	1128	45
RTOR Reduction (vph)	0	16	0	0	10	0	0	1	0	0	3	0
Lane Group Flow (vph)	0	152	0	0	303	0	49	756	0	31	1170	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	8		4		4		6		6		2	
Permitted Phases	8		4		4		6		6		2	
Actuated Green, G (s)	23.0		23.0		23.0		57.2		57.2		57.2	
Effective Green, g (s)	24.4		24.4		24.4		57.6		57.6		57.6	
Actuated g/C Ratio	0.27		0.27		0.27		0.64		0.64		0.64	
Clearance Time (s)	5.4		5.4		5.4		4.4		4.4		4.4	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	375		375		356		218		2905		364	
v/s Ratio Prot							0.17				c0.26	
v/s Ratio Perm	0.11		c0.23		0.14				0.05			
v/c Ratio	0.41		0.85		0.22		0.26		0.09		0.40	
Uniform Delay, d1	26.9		31.1		6.8		7.0		6.2		7.9	
Progression Factor	1.00		1.00		0.77		0.32		1.00		1.00	
Incremental Delay, d2	0.7		17.4		2.0		0.2		0.5		0.4	
Delay (s)	27.6		48.5		7.3		2.4		6.6		8.3	
Level of Service	C		D		A		A		A		A	
Approach Delay (s)	27.6		48.5		2.7				8.2			
Approach LOS	C		D		A		A		A		A	

Intersection Summary

HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3111		1583	3132		1583	4445		1583	4434	
Flt Permitted	0.14	1.00		0.25	1.00		0.12	1.00		0.29	1.00	
Satd. Flow (perm)	240	3111		424	3132		208	4445		478	4434	
Volume (vph)	77	598	80	184	1225	95	50	605	109	78	1005	206
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	80	623	83	192	1276	99	52	630	114	81	1047	215
RTOR Reduction (vph)	0	12	0	0	6	0	0	29	0	0	32	0
Lane Group Flow (vph)	80	694	0	192	1369	0	52	715	0	81	1230	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm			
Protected Phases	8		7		4		6		6		2	
Permitted Phases	8		4		6		6		2			
Actuated Green, G (s)	35.7	35.7		48.7	48.7		31.1	31.1		31.1	31.1	
Effective Green, g (s)	37.0	37.0		50.0	50.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.41	0.41		0.56	0.56		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.3	5.3		3.5	5.3		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	99	1279		351	1740		74	1580		170	1577	
v/s Ratio Prot		0.22		0.05	c0.44			0.16			c0.28	
v/s Ratio Perm	0.33			0.25			0.25			0.17		
v/c Ratio	0.81	0.54		0.55	0.79		0.70	0.45		0.48	0.78	
Uniform Delay, d1	23.4	20.1		11.6	15.8		24.9	22.3		22.5	25.9	
Progression Factor	1.00	1.00		1.94	1.90		1.14	1.18		1.14	1.01	
Incremental Delay, d2	48.9	1.7		0.7	1.6		38.1	0.8		8.6	3.6	
Delay (s)	72.3	21.7		23.2	31.6		66.4	27.1		34.3	29.6	
Level of Service	E	C		C	C		E	C		C	C	
Approach Delay (s)		26.9			30.6			29.7			29.9	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕		↘	↕	↗		↕		↘	↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95	1.00		0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85		0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	2992		1509	3018	1350		2982		1509	3018	1350
Flt Permitted	0.10	1.00		0.28	1.00	1.00		0.79		0.34	1.00	1.00
Satd. Flow (perm)	154	2992		450	3018	1350		2366		544	3018	1350
Volume (vph)	136	707	42	128	1214	38	20	466	34	49	972	156
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	140	729	43	132	1252	39	21	480	35	51	1002	161
RTOR Reduction (vph)	0	4	0	0	0	21	0	5	0	0	0	106
Lane Group Flow (vph)	140	768	0	132	1252	18	0	531	0	51	1002	55
Turn Type	pm+pt			pm+pt			Perm	Perm		Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	56.0	48.4		54.0	47.4	47.4		34.0		34.0	34.0	34.0
Effective Green, g (s)	55.0	48.4		53.0	47.4	47.4		34.0		34.0	34.0	34.0
Actuated g/C Ratio	0.55	0.48		0.53	0.47	0.47		0.34		0.34	0.34	0.34
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0		4.0		4.0	4.0	4.0
Vehicle Extension (s)	1.0	3.0		1.0	3.0	3.0		3.5		3.5	3.5	3.5
Lane Grp Cap (vph)	174	1448		298	1431	640		804		185	1026	459
v/s Ratio Prot	c0.05	0.26		0.02	c0.41					c0.33		
v/s Ratio Perm	0.39			0.21		0.01		0.22		0.09		0.04
v/c Ratio	0.80	0.53		0.44	0.87	0.03		0.66		0.28	0.98	0.12
Uniform Delay, d1	17.4	17.9		12.8	23.6	14.0		28.1		24.0	32.6	22.7
Progression Factor	1.00	1.00		1.10	0.65	1.09		1.00		1.00	1.00	1.00
Incremental Delay, d2	21.8	1.4		0.2	3.9	0.0		4.2		3.7	23.0	0.5
Delay (s)	39.2	19.3		14.3	19.4	15.3		32.3		27.7	55.6	23.2
Level of Service	D	B		B	B	B		C		C	E	C
Approach Delay (s)		22.4			18.8			32.3			50.1	
Approach LOS		C			B			C			D	

Intersection Summary

HCM Average Control Delay	30.7	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	106.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.97			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3157		1583	3148			1615			1630	
Flt Permitted	0.12	1.00		0.27	1.00			0.96			0.93	
Satd. Flow (perm)	201	3157		448	3148			1555			1523	
Volume (vph)	29	841	17	94	1264	50	11	86	24	62	260	35
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	867	18	97	1303	52	11	89	25	64	268	36
RTOR Reduction (vph)	0	2	0	0	4	0	0	17	0	0	8	0
Lane Group Flow (vph)	30	883	0	97	1351	0	0	108	0	0	360	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		4		4	
Permitted Phases	6		2		8		4		8		4	
Actuated Green, G (s)	32.8	32.8		32.8	32.8			18.0			18.0	
Effective Green, g (s)	33.1	33.1		33.1	33.1			18.9			18.9	
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.32			0.32	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	111	1742		247	1737			490			480	
v/s Ratio Prot	0.28		c0.43									
v/s Ratio Perm	0.15			0.22				0.07			c0.24	
v/c Ratio	0.27	0.51		0.39	0.78			0.22			0.75	
Uniform Delay, d1	7.1	8.4		7.7	10.6			15.1			18.4	
Progression Factor	0.70	0.59		1.00	1.00			1.00			1.00	
Incremental Delay, d2	5.5	1.0		4.6	3.5			0.2			6.3	
Delay (s)	10.5	6.0		12.3	14.1			15.4			24.8	
Level of Service	B		A		B		B		B		C	
Approach Delay (s)	6.1		14.0		15.4		24.8					
Approach LOS	A		B		B		C					

Intersection Summary






















HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↓		↑	↑↓	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.96		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.97	
Satd. Flow (prot)		3013			3018	1350		1499		1433	1425	
Flt Permitted		1.00			1.00	1.00		0.98		0.95	0.97	
Satd. Flow (perm)		3013			3018	1350		1499		1433	1425	
Volume (vph)	0	581	7	0	1362	321	16	19	15	263	28	25
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	618	7	0	1449	341	17	20	16	280	30	27
RTOR Reduction (vph)	0	1	0	0	0	62	0	15	0	0	7	0
Lane Group Flow (vph)	0	624	0	0	1449	279	0	38	0	168	162	0
Turn Type					pm+ov		Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases						6						
Actuated Green, G (s)		64.2			64.2	81.9		6.1		17.7	17.7	
Effective Green, g (s)		64.2			64.2	81.9		6.1		17.7	17.7	
Actuated g/C Ratio		0.64			0.64	0.82		0.06		0.18	0.18	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1934			1938	1160		91		254	252	
v/s Ratio Prot		0.21			c0.48	0.04		c0.03		c0.12	0.11	
v/s Ratio Perm						0.16						
v/c Ratio		0.32			0.75	0.24		0.42		0.66	0.64	
Uniform Delay, d1		8.1			12.3	2.0		45.2		38.4	38.2	
Progression Factor		1.17			1.00	1.00		1.00		1.44	1.47	
Incremental Delay, d2		0.3			2.7	0.1		3.1		6.6	5.8	
Delay (s)		9.7			15.0	2.2		48.3		61.7	61.8	
Level of Service		A			B	A		D		E	E	
Approach Delay (s)		9.7			12.6			48.3			61.7	
Approach LOS		A			B			D			E	

Intersection Summary

HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1509	2959		1509	3004			1523	1350		1495	
Flt Permitted	0.10	1.00		0.18	1.00			0.96	1.00		0.99	
Satd. Flow (perm)	154	2959		280	3004			1523	1350		1495	
Volume (vph)	19	731	108	283	1508	46	113	20	255	13	17	15
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	20	769	114	298	1587	48	119	21	268	14	18	16
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	220	0	14	0
Lane Group Flow (vph)	20	874	0	298	1633	0	0	140	48	0	34	0
Turn Type	Perm			pm+pt			Split		pm+ov	Split		
Protected Phases		6		5	7	2	4	4	5	7	8	8
Permitted Phases	6			2					4			
Actuated Green, G (s)	41.2	41.2		49.2	47.2			14.0	19.0		14.0	
Effective Green, g (s)	41.2	41.2		49.2	47.2			14.0	18.0		14.0	
Actuated g/C Ratio	0.41	0.41		0.49	0.47			0.14	0.18		0.14	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	63	1219		187	1418			213	243		209	
v/s Ratio Prot		0.30		c0.06	c0.54			c0.09	0.01		c0.02	
v/s Ratio Perm	0.13			c0.72					0.03			
v/c Ratio	0.32	0.72		1.59	1.15			0.66	0.20		0.16	
Uniform Delay, d1	19.9	24.5		26.4	26.4			40.7	34.9		37.8	
Progression Factor	1.00	1.00		1.00	1.00			1.39	7.45		1.00	
Incremental Delay, d2	12.8	3.6		290.8	76.9			6.7	0.1		1.7	
Delay (s)	32.6	28.2		317.2	103.3			63.3	260.0		39.5	
Level of Service	C	C		F	F			E	F		D	
Approach Delay (s)		28.3			136.3			192.5			39.5	
Approach LOS		C			F			F			D	
Intersection Summary												
HCM Average Control Delay			112.2			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			22.8			
Intersection Capacity Utilization			100.8%			ICU Level of Service			G			
Analysis Period (min)			15									
c	Critical Lane Group											



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations			↗	↖	↔			↕	↗		↕	↔	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0		
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95		
Frbp, ped/bikes			1.00	1.00	0.99			1.00	1.00		1.00		
Flpb, ped/bikes			1.00	1.00	1.00			1.00	1.00		1.00		
Frt			0.86	1.00	0.98			1.00	0.85		1.00		
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00		
Satd. Flow (prot)			1374	1433	1402			3014	1350		3010		
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00		
Satd. Flow (perm)			1374	1433	1402			2866	1350		3010		
Volume (vph)	0	0	10	1565	9	126	5	386	431	0	401	4	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	0	0	10	1597	9	129	5	394	440	0	409	4	
RTOR Reduction (vph)	0	0	4	0	7	0	0	0	282	0	1	0	
Lane Group Flow (vph)	0	0	6	928	800	0	0	399	158	0	412	0	
Confl. Peds. (#/hr)	22						22	22				22	
Confl. Bikes (#/hr)							2					1	
Turn Type			custom	Prot			Perm		Perm				
Protected Phases				4	8			2			2		
Permitted Phases			4				2		2				
Actuated Green, G (s)			56.0	56.0	56.0			35.0	35.0		35.0		
Effective Green, g (s)			56.0	56.0	56.0			36.0	36.0		36.0		
Actuated g/C Ratio			0.56	0.56	0.56			0.36	0.36		0.36		
Clearance Time (s)			4.0	4.0	4.0			5.0	5.0		5.0		
Vehicle Extension (s)			7.0	7.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)			769	802	785			1032	486		1084		
v/s Ratio Prot				c0.65	0.57							0.14	
v/s Ratio Perm			0.00					c0.14	0.12				
v/c Ratio			0.01	1.16	1.02			0.39	0.33		0.38		
Uniform Delay, d1			9.7	22.0	22.0			23.8	23.2		23.7		
Progression Factor			1.00	1.00	1.00			0.92	2.82		1.46		
Incremental Delay, d2			0.0	84.5	37.0			1.0	1.7		0.1		
Delay (s)			9.7	106.5	59.0			22.9	67.1		34.6		
Level of Service			A	F	E			C	E		C		
Approach Delay (s)		9.7			84.4			46.1			34.6		
Approach LOS		A			F			D			C		
Intersection Summary													
HCM Average Control Delay			66.6									HCM Level of Service	E
HCM Volume to Capacity ratio			0.86										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			87.3%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↑↗		↖	↑↑	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	0.99		1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00	1.00	0.98	1.00		1.00	1.00		0.98	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1501	1588	1268	1482	1540		1509	2963		1484	3018	1288
Flt Permitted	0.27	1.00	1.00	0.55	1.00		0.08	1.00		0.41	1.00	1.00
Satd. Flow (perm)	434	1588	1268	851	1540		119	2963		642	3018	1288
Volume (vph)	152	186	119	67	215	35	108	530	37	31	1405	537
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	163	200	128	72	231	38	116	570	40	33	1511	577
RTOR Reduction (vph)	0	0	98	0	7	0	0	4	0	0	0	89
Lane Group Flow (vph)	163	200	30	72	262	0	116	606	0	33	1511	488
Conf. Peds. (#/hr)	31		29	29		31	16		30	30		16
Conf. Bikes (#/hr)			2			4			2			1
Turn Type	pm+pt		Perm	pm+pt			pm+pt			pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3		8
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	31.5	23.0	23.0	26.6	20.8		59.2	53.5		51.9	49.2	49.2
Effective Green, g (s)	31.0	23.5	23.5	25.6	20.8		59.7	54.0		50.9	49.2	49.2
Actuated g/C Ratio	0.31	0.24	0.24	0.26	0.21		0.60	0.54		0.51	0.49	0.49
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	215	373	298	248	320		161	1600		341	1485	634
v/s Ratio Prot	c0.06	0.13		0.01	0.17		c0.05	0.20		0.00	c0.50	
v/s Ratio Perm	c0.18		0.02	0.06			0.38			0.05		0.38
v/c Ratio	0.76	0.54	0.10	0.29	0.82		0.72	0.38		0.10	1.02	0.77
Uniform Delay, d1	28.8	33.5	30.0	29.1	37.8		19.4	13.3		12.3	25.4	20.8
Progression Factor	1.00	1.00	1.00	0.96	0.98		2.30	1.67		0.85	0.71	0.62
Incremental Delay, d2	14.2	1.5	0.1	0.2	14.2		11.2	0.6		0.0	19.6	3.8
Delay (s)	43.0	35.0	30.1	28.2	51.2		55.8	22.8		10.5	37.6	16.7
Level of Service	D	C	C	C	D		E	C		B	D	B
Approach Delay (s)		36.4			46.3			28.0			31.5	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	32.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 143: Santa Monica Blvd & La Cienega Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↔		↔↔	↑↔		↔↔	↑↔			↑↑	↔
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98			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	0.99		1.00	1.00		1.00	0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2973		2927	3015		2927	2889			3018	1290
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2973		2927	3015		2927	2889			3018	1290
Volume (vph)	122	641	37	272	1225	4	126	533	114	0	1030	674
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	130	682	39	289	1303	4	134	567	121	0	1096	717
RTOR Reduction (vph)	0	4	0	0	0	0	0	18	0	0	0	158
Lane Group Flow (vph)	130	717	0	289	1307	0	134	670	0	0	1096	559
Confl. Peds. (#/hr)	75		79	79		75	30		64	64		30
Confl. Bikes (#/hr)			8			23			2			3
Turn Type	Prot			Prot			Prot					Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	7.5	30.4		9.0	31.9		8.1	47.1			34.0	34.0
Effective Green, g (s)	7.5	30.9		9.0	32.4		9.1	48.1			35.0	35.0
Actuated g/C Ratio	0.08	0.31		0.09	0.32		0.09	0.48			0.35	0.35
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	220	919		263	977		266	1390			1056	452
v/s Ratio Prot	0.04	0.24		c0.10	c0.43		0.05	c0.23			0.36	
v/s Ratio Perm												c0.43
v/c Ratio	0.59	0.78		1.10	1.34		0.50	0.48			1.04	1.24
Uniform Delay, d1	44.8	31.5		45.5	33.8		43.3	17.5			32.5	32.5
Progression Factor	0.82	1.55		1.32	0.84		1.00	1.00			0.81	1.11
Incremental Delay, d2	2.7	6.2		76.3	157.1		0.5	0.4			29.5	115.4
Delay (s)	39.3	55.0		136.5	185.6		43.8	17.9			55.8	151.7
Level of Service	D	E		F	F		D	B			E	F
Approach Delay (s)		52.6			176.7			22.1			93.7	
Approach LOS		D			F			C			F	

Intersection Summary

HCM Average Control Delay	101.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2980		1509	3007		1509	2925		1509	2961	
Flt Permitted	0.28	1.00		0.95	1.00		0.10	1.00		0.17	1.00	
Satd. Flow (perm)	452	2980		1509	3007		159	2925		266	2961	
Volume (vph)	40	480	44	330	904	21	77	731	188	83	1116	158
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	522	48	359	983	23	84	795	204	90	1213	172
RTOR Reduction (vph)	0	8	0	0	2	0	0	26	0	0	12	0
Lane Group Flow (vph)	43	562	0	359	1004	0	84	973	0	90	1373	0
Turn Type	Perm		Prot		Perm		Perm		Perm			
Protected Phases	8		7		4		6		6			2
Permitted Phases	8						6					2
Actuated Green, G (s)	25.0	25.0		13.0	41.0		39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		12.0	42.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.13	0.47		0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	131	861		201	1403		71	1300		118	1316	
v/s Ratio Prot		0.19		c0.24	c0.33			0.33			0.46	
v/s Ratio Perm	0.10						c0.53			0.34		
v/c Ratio	0.33	0.65		1.79	0.72		1.18	0.75		0.76	1.04	
Uniform Delay, d1	25.1	28.0		39.0	19.2		25.0	20.8		21.0	25.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.6	3.8		373.0	3.2		164.5	4.0		36.5	36.8	
Delay (s)	31.7	31.9		412.0	22.4		189.5	24.8		57.5	61.8	
Level of Service	C	C		F	C		F	C		E	E	
Approach Delay (s)		31.9			124.9			37.6			61.6	
Approach LOS		C			F			D			E	

Intersection Summary

HCM Average Control Delay	70.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			






























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			1.00		1.00	1.00	
Flpb, ped/bikes					1.00			1.00		0.98	1.00	
Frt					0.96			1.00		1.00	1.00	
Flt Protected					0.97			1.00		0.95	1.00	
Satd. Flow (prot)					1544			3140		1555	3167	
Flt Permitted					0.79			1.00		0.24	1.00	
Satd. Flow (perm)					1267			3140		398	3167	
Volume (vph)	0	0	0	141	0	62	0	875	27	31	1441	0
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	150	0	66	0	931	29	33	1533	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	200	0	0	958	0	33	1533	0
Conf. Peds. (#/hr)								10		32	32	10
Conf. Bikes (#/hr)			1							2		4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					30.5			61.0		61.0	61.0	
Effective Green, g (s)					31.0			61.0		61.0	61.0	
Actuated g/C Ratio					0.31			0.61		0.61	0.61	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					393			1915		243	1932	
v/s Ratio Prot								0.30			c0.48	
v/s Ratio Perm					c0.16					0.08		
v/c Ratio					0.51			0.50		0.14	0.79	
Uniform Delay, d1					28.3			10.9		8.3	14.7	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					4.7			0.9		1.2	3.5	
Delay (s)					32.9			11.9		9.5	18.2	
Level of Service					C			B		A	B	
Approach Delay (s)		0.0			32.9			11.9			18.0	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM Average Control Delay			17.0								HCM Level of Service	B
HCM Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			100.0								Sum of lost time (s)	8.0
Intersection Capacity Utilization			64.2%								ICU Level of Service	C
Analysis Period (min)			15									
c	Critical Lane Group											



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↗		↖	↑↑	↖	↖	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	1.00	0.95	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	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1325	3072	3111		1583	3167	1353	1582	4345	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.10	1.00	1.00	0.16	1.00	
Satd. Flow (perm)	3072	3167	1325	3072	3111		165	3167	1353	264	4345	
Volume (vph)	81	565	53	270	986	69	99	815	202	70	1197	246
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	84	582	55	278	1016	71	102	840	208	72	1234	254
RTOR Reduction (vph)	0	0	2	0	4	0	0	0	80	0	26	0
Lane Group Flow (vph)	84	582	53	278	1083	0	102	840	128	72	1462	0
Conf. Peds. (#/hr)	73		41	41		73	67		26	26		67
Conf. Bikes (#/hr)			3			4			1			4
Turn Type	Prot		pm+ov	Prot			pm+pt		pm+ov		pm+pt	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2				8		8	4		
Actuated Green, G (s)	6.4	48.8	55.8	8.0	50.4		45.9	38.9	46.9	43.1	37.5	
Effective Green, g (s)	6.4	50.1	57.1	8.0	51.7		47.3	40.3	48.3	44.5	38.9	
Actuated g/C Ratio	0.05	0.42	0.48	0.07	0.43		0.39	0.34	0.40	0.37	0.32	
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3		4.0	5.4	4.0	4.0	5.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	164	1322	675	205	1340		148	1064	590	159	1409	
v/s Ratio Prot	0.03	c0.18	0.00	c0.09	c0.35		c0.04	0.27	0.01	0.02	c0.34	
v/s Ratio Perm			0.04				0.23		0.08	0.15		
v/c Ratio	0.51	0.44	0.08	1.36	0.81		0.69	0.79	0.22	0.45	1.04	
Uniform Delay, d1	55.3	24.9	17.1	56.0	29.8		28.6	36.0	23.5	26.9	40.6	
Progression Factor	0.72	0.34	0.32	0.90	1.29		1.49	1.41	3.42	1.00	1.00	
Incremental Delay, d2	2.5	1.0	0.0	178.9	3.4		9.6	4.5	0.1	2.0	34.2	
Delay (s)	42.3	9.4	5.6	229.5	42.0		52.1	55.4	80.5	28.9	74.8	
Level of Service	D	A	A	F	D		D	E	F	C	E	
Approach Delay (s)		12.9			80.1			59.6			72.7	
Approach LOS		B			F			E			E	

Intersection Summary

HCM Average Control Delay	62.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3101		1583	3167	1417	1583	3061	
Flt Permitted	0.13	1.00	1.00	0.30	1.00		0.22	1.00	1.00	0.36	1.00	
Satd. Flow (perm)	222	3167	1417	500	3101		370	3167	1417	596	3061	
Volume (vph)	64	667	111	217	916	148	72	559	51	86	639	183
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	702	117	228	964	156	76	588	54	91	673	193
RTOR Reduction (vph)	0	0	62	0	11	0	0	0	29	0	22	0
Lane Group Flow (vph)	67	702	55	228	1109	0	76	588	25	91	844	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8	4		
Actuated Green, G (s)	54.6	54.6	54.6	54.6	54.6		54.0	54.0	54.0	54.0	54.0	
Effective Green, g (s)	56.5	56.5	56.5	56.5	56.5		55.5	55.5	55.5	55.5	55.5	
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	105	1491	667	235	1460		171	1465	655	276	1416	
v/s Ratio Prot		0.22			0.36			0.19			c0.28	
v/s Ratio Perm	0.30		0.04	c0.46			0.21		0.02	0.15		
v/c Ratio	0.64	0.47	0.08	0.97	0.76		0.44	0.40	0.04	0.33	0.60	
Uniform Delay, d1	24.0	21.6	17.5	30.9	26.2		21.8	21.3	17.6	20.5	23.9	
Progression Factor	1.21	1.17	2.90	0.95	0.98		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	18.7	0.7	0.2	35.4	2.0		8.2	0.8	0.1	3.2	1.9	
Delay (s)	47.7	26.0	50.8	64.7	27.5		30.0	22.1	17.8	23.6	25.8	
Level of Service	D	C	D	E	C		C	C	B	C	C	
Approach Delay (s)		30.9			33.8			22.6			25.6	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			29.1			HCM Level of Service					C	
HCM Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			89.8%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00		0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85		1.00		1.00	1.00	0.85		0.94	
Flt Protected	0.95	1.00	1.00		1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1509	3018	1350		3012		1433	1437	1350		1467	
Flt Permitted	0.08	1.00	1.00		1.00		0.95	0.95	1.00		0.99	
Satd. Flow (perm)	124	3018	1350		3012		1433	1437	1350		1467	
Volume (vph)	16	884	272	0	1501	17	593	2	47	22	17	34
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	16	911	280	0	1547	18	611	2	48	23	18	35
RTOR Reduction (vph)	0	0	52	0	0	0	0	0	38	0	26	0
Lane Group Flow (vph)	16	911	228	0	1565	0	306	307	10	0	50	0
Turn Type	pm+pt		Perm				Split		Perm	Split		
Protected Phases	1	6			2		4	4		3	3	
Permitted Phases	6		6						4			
Actuated Green, G (s)	73.0	71.4	71.4		71.4		26.0	26.0	26.0		6.0	
Effective Green, g (s)	72.0	71.4	71.4		71.4		26.0	26.0	26.0		6.0	
Actuated g/C Ratio	0.60	0.60	0.60		0.60		0.22	0.22	0.22		0.05	
Clearance Time (s)	3.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	6.0	6.0		6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	81	1796	803		1792		310	311	293		73	
v/s Ratio Prot	c0.00	0.30			c0.52		0.21	c0.21			c0.03	
v/s Ratio Perm	0.12		0.17						0.01			
v/c Ratio	0.20	0.51	0.28		0.87		0.99	0.99	0.04		0.69	
Uniform Delay, d1	15.8	14.1	11.8		20.5		46.8	46.8	37.1		56.1	
Progression Factor	0.48	0.39	0.16		1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.4	0.9	0.8		6.2		47.1	47.1	0.0		23.8	
Delay (s)	7.9	6.4	2.6		26.7		94.0	93.9	37.2		79.9	
Level of Service	A	A	A		C		F	F	D		E	
Approach Delay (s)		5.5			26.7			89.8			79.9	
Approach LOS		A			C			F			E	
Intersection Summary												
HCM Average Control Delay			32.5				HCM Level of Service		C			
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			82.0%				ICU Level of Service		D			
Analysis Period (min)			15									
c	Critical Lane Group											



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕	↗	↗	↕	↕
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.93	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.97	1.00	1.00	0.97	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2959		1498	2977		1458	3018	1254	1470	2901	
Flt Permitted	0.07	1.00		0.32	1.00		0.29	1.00	1.00	0.33	1.00	
Satd. Flow (perm)	107	2959		501	2977		452	3018	1254	503	2901	
Volume (vph)	82	596	51	184	1628	77	62	394	91	15	355	68
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	94	685	59	211	1871	89	71	453	105	17	408	78
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	81	0	15	0
Lane Group Flow (vph)	94	739	0	211	1957	0	71	453	24	17	471	0
Confl. Peds. (#/hr)	83		60	60		83	58		40	40		58
Confl. Bikes (#/hr)			3			8						
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8		8		4	
Actuated Green, G (s)	63.9	59.3		66.6	60.4		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	63.9	59.3		66.1	60.4		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.64	0.59		0.66	0.60		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	133	1755		388	1798		104	694	288	116	667	
v/s Ratio Prot	c0.03	0.25		0.03	c0.66			0.15				c0.16
v/s Ratio Perm	0.42			0.33			0.16		0.02	0.03		
v/c Ratio	0.71	0.42		0.54	1.09		0.68	0.65	0.08	0.15	0.71	
Uniform Delay, d1	20.8	11.0		7.2	19.8		35.2	34.9	30.2	30.7	35.4	
Progression Factor	1.68	0.76		1.13	0.83		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	12.3	0.7		0.1	40.8		30.7	4.7	0.6	2.6	6.2	
Delay (s)	47.4	9.1		8.3	57.2		65.8	39.6	30.8	33.3	41.6	
Level of Service	D	A		A	E		E	D	C	C	D	
Approach Delay (s)		13.4			52.5			41.1			41.3	
Approach LOS		B			D			D			D	

Intersection Summary


























HCM Average Control Delay	41.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗		↖	↗	↖
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	2971		1509	1588	1350	1509	2929		1509	3018	1350
Flt Permitted	0.13	1.00		0.43	1.00	1.00	0.41	1.00		0.30	1.00	1.00
Satd. Flow (perm)	205	2971		684	1588	1350	645	2929		480	3018	1350
Volume (vph)	19	407	47	306	737	153	91	562	138	170	518	96
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	20	428	49	322	776	161	96	592	145	179	545	101
RTOR Reduction (vph)	0	12	0	0	0	94	0	29	0	0	0	47
Lane Group Flow (vph)	20	465	0	322	776	67	96	708	0	179	545	54
Turn Type	Perm			Perm			Perm	Perm		Perm		Perm
Protected Phases	2			2			4			4		
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	31.0	31.0		31.0	31.0	31.0	36.0	36.0		36.0	36.0	36.0
Effective Green, g (s)	31.0	31.0		31.0	31.0	31.0	36.0	36.0		36.0	36.0	36.0
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lane Grp Cap (vph)	85	1228		283	656	558	310	1406		230	1449	648
v/s Ratio Prot		0.16		c0.49			0.24			0.18		
v/s Ratio Perm	0.10			0.47		0.05	0.15			c0.37		0.04
v/c Ratio	0.24	0.38		1.14	1.18	0.12	0.31	0.50		0.78	0.38	0.08
Uniform Delay, d1	14.3	15.3		22.0	22.0	13.6	11.9	13.4		16.2	12.4	10.6
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	6.4	0.9		96.0	97.3	0.4	2.6	1.3		22.4	0.7	0.3
Delay (s)	20.7	16.2		118.0	119.3	14.0	14.5	14.7		38.6	13.1	10.8
Level of Service	C	B		F	F	B	B	B		D	B	B
Approach Delay (s)		16.4		105.5			14.6			18.4		
Approach LOS		B		F			B			B		

Intersection Summary

HCM Average Control Delay	49.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		0.95	0.91	0.95	1.00	1.00	
Frt	1.00	0.98		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	0.96	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2943		1509	3012		1433	1387	1282	1509	1496	
Flt Permitted	0.06	1.00		0.21	1.00		0.95	0.96	1.00	0.95	1.00	
Satd. Flow (perm)	88	2943		328	3012		1433	1387	1282	1509	1496	
Volume (vph)	6	807	159	301	2006	24	251	23	233	16	18	11
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	849	167	317	2112	25	264	24	245	17	19	12
RTOR Reduction (vph)	0	14	0	0	1	0	0	0	199	0	10	0
Lane Group Flow (vph)	6	1002	0	317	2136	0	144	144	46	17	21	0
Turn Type	Perm		pm+pt			Split		pm+ov		Split		
Protected Phases	6		5			4		4		5		
Permitted Phases	6		2					4		3		
Actuated Green, G (s)	72.0	72.0		81.0	81.0		7.0	7.0	13.0	21.0	21.0	
Effective Green, g (s)	72.0	72.0		81.0	81.0		7.0	7.0	12.0	20.0	20.0	
Actuated g/C Ratio	0.60	0.60		0.68	0.68		0.06	0.06	0.10	0.17	0.17	
Clearance Time (s)	4.0	4.0		3.0	4.0		4.0	4.0	3.0	3.0	3.0	
Vehicle Extension (s)	4.5	4.5		1.0	4.5		2.0	2.0	1.0	2.0	2.0	
Lane Grp Cap (vph)	53	1766		271	2033		84	81	171	252	249	
v/s Ratio Prot		0.34		0.05	c0.71		0.10	c0.10	0.01	0.01	c0.01	
v/s Ratio Perm	0.07			c0.74					0.02			
v/c Ratio	0.11	0.57		1.17	1.05		1.71	1.78	0.27	0.07	0.08	
Uniform Delay, d1	10.3	14.6		20.4	19.5		56.5	56.5	49.9	42.1	42.3	
Progression Factor	1.00	1.00		0.81	0.70		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.3	1.3		97.3	30.8		366.5	395.0	0.3	0.5	0.7	
Delay (s)	14.6	15.9		113.9	44.3		423.0	451.5	50.3	42.7	42.9	
Level of Service	B	B		F	D		F	F	D	D	D	
Approach Delay (s)		15.9			53.3			259.4				42.8
Approach LOS		B			D			F				D
Intersection Summary												
HCM Average Control Delay	70.8			HCM Level of Service				E				
HCM Volume to Capacity ratio	1.00											
Actuated Cycle Length (s)	120.0				Sum of lost time (s)				12.0			
Intersection Capacity Utilization	102.6%			ICU Level of Service				G				
Analysis Period (min)	15											
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95	
Frt		0.93			0.99		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1457			1535		1509	2960		1509	2982	
Flt Permitted		0.92			0.88		0.47	1.00		0.41	1.00	
Satd. Flow (perm)		1355			1372		752	2960		648	2982	
Volume (vph)	23	15	40	74	91	19	137	397	58	13	359	31
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	24	16	42	77	95	20	143	414	60	14	374	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	82	0	0	192	0	143	474	0	14	406	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		2		6		6		4		8		
Permitted Phases		2		6		4		8		8		
Actuated Green, G (s)		28.9		28.9		14.5	14.5	14.5		14.5	14.5	
Effective Green, g (s)		29.5		29.5		13.5	13.5	13.5		13.5	13.5	
Actuated g/C Ratio		0.58		0.58		0.26	0.26	0.26		0.26	0.26	
Clearance Time (s)		4.6		4.6		3.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)		4.5		4.5		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		784		794		199	784	784		172	789	
v/s Ratio Prot							0.16				0.14	
v/s Ratio Perm		0.06		c0.14		c0.19				0.02		
v/c Ratio		0.10		0.24		0.72	0.60	0.60		0.08	0.51	
Uniform Delay, d1		4.8		5.3		17.0	16.4	16.4		14.1	16.0	
Progression Factor		1.00		1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3		0.7		11.7	1.3	1.3		0.2	0.6	
Delay (s)		5.1		6.0		28.7	17.7	17.7		14.3	16.5	
Level of Service		A		A		C	B	B		B	B	
Approach Delay (s)		5.1		6.0			20.3				16.5	
Approach LOS		A		A			C				B	

Intersection Summary

























HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	↘
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frbp, ped/bikes	1.00	0.99		1.00	1.00			0.96			0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.98			0.99	
Frt	1.00	0.99		1.00	1.00			0.93			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1509	2971		1495	3001			1372			1507	
Flt Permitted	0.08	1.00		0.36	1.00			0.90			0.89	
Satd. Flow (perm)	123	2971		562	3001			1247			1354	
Volume (vph)	22	505	33	244	1561	28	56	46	125	19	64	15
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	543	35	262	1678	30	60	49	134	20	69	16
RTOR Reduction (vph)	0	5	0	0	1	0	0	48	0	0	7	0
Lane Group Flow (vph)	24	573	0	262	1707	0	0	195	0	0	98	0
Conf. Peds. (#/hr)	48		34	34		48	40		40	40		40
Conf. Bikes (#/hr)			3			4						2
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	62.3	51.5		72.3	58.0			19.2			19.2	
Effective Green, g (s)	61.8	51.5		72.3	58.0			19.7			19.7	
Actuated g/C Ratio	0.62	0.52		0.72	0.58			0.20			0.20	
Clearance Time (s)	3.5	4.0		3.5	4.0			4.5			4.5	
Vehicle Extension (s)	1.0	5.0		1.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	219	1530		563	1741			246			267	
v/s Ratio Prot	0.01	0.19		c0.08	c0.57							
v/s Ratio Perm	0.06			0.26				c0.16			0.07	
v/c Ratio	0.11	0.37		0.47	0.98			0.79			0.37	
Uniform Delay, d1	12.7	14.6		5.4	20.4			38.2			34.7	
Progression Factor	1.00	1.00		0.95	0.44			1.00			1.00	
Incremental Delay, d2	1.0	0.7		0.3	3.4			15.9			0.9	
Delay (s)	13.8	15.3		5.4	12.4			54.1			35.6	
Level of Service	B	B		A	B			D			D	
Approach Delay (s)		15.2			11.4			54.1			35.6	
Approach LOS		B			B			D			D	

Intersection Summary

HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3117		1583	3148		1583	1667	1417	1583	1592	
Flt Permitted	0.20	1.00		0.20	1.00		0.20	1.00	1.00	0.51	1.00	
Satd. Flow (perm)	327	3117		327	3148		337	1667	1417	852	1592	
Volume (vph)	52	725	86	80	1139	48	55	312	97	39	468	200
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	788	93	87	1238	52	60	339	105	42	509	217
RTOR Reduction (vph)	0	15	0	0	5	0	0	0	23	0	3	0
Lane Group Flow (vph)	57	866	0	87	1285	0	60	339	82	42	723	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1060		111	1070		177	878	746	449	838	
v/s Ratio Prot		0.28			c0.41			0.20			c0.45	
v/s Ratio Perm	0.17			0.27			0.18		0.06	0.05		
v/c Ratio	0.51	0.82		0.78	1.20		0.34	0.39	0.11	0.09	0.86	
Uniform Delay, d1	15.8	18.1		17.8	19.8		8.2	8.4	7.1	7.1	12.3	
Progression Factor	1.00	1.00		0.85	0.92		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.0	7.0		33.4	97.4		5.1	1.3	0.3	0.4	11.4	
Delay (s)	31.8	25.1		48.6	115.6		13.3	9.7	7.4	7.5	23.7	
Level of Service	C			D			B		A		C	
Approach Delay (s)		25.5			111.4			9.7			22.8	
Approach LOS		C			F			A			C	
Intersection Summary												
HCM Average Control Delay			55.7			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			60.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			106.3%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↕			↕			↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)				4.0	4.0			4.0			4.0	4.0
Lane Util. Factor				1.00	0.95			0.95			0.95	1.00
Frt				1.00	1.00			1.00			1.00	0.85
Flt Protected				0.95	1.00			1.00			1.00	1.00
Satd. Flow (prot)				1509	3008			3007			3018	1350
Flt Permitted				0.95	1.00			0.90			1.00	1.00
Satd. Flow (perm)				1509	3008			2730			3018	1350
Volume (vph)	0	0	0	123	1418	30	27	355	0	0	443	102
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	131	1509	32	29	378	0	0	471	109
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	131	1540	0	0	407	0	0	471	109
Turn Type				custom			custom					Free
Protected Phases				2	2		3	3			1	
Permitted Phases				4	4		6	6				Free
Actuated Green, G (s)				34.9	34.9			27.5			20.0	100.0
Effective Green, g (s)				33.5	33.5			26.5			20.0	100.0
Actuated g/C Ratio				0.34	0.34			0.26			0.20	1.00
Clearance Time (s)				3.0	3.0			3.0			4.0	
Vehicle Extension (s)				1.0	1.0			1.0			4.0	
Lane Grp Cap (vph)				566	1128			735			604	1350
v/s Ratio Prot				0.03	c0.19			c0.02			c0.16	
v/s Ratio Perm				0.05	0.32			c0.12				0.08
v/c Ratio				0.23	1.36			0.55			0.78	0.08
Uniform Delay, d1				24.2	33.2			31.7			37.9	0.0
Progression Factor				1.00	1.00			0.32			1.00	1.00
Incremental Delay, d2				1.0	170.0			0.4			9.6	0.1
Delay (s)				25.2	203.2			10.6			47.5	0.1
Level of Service				C	F			B			D	A
Approach Delay (s)		0.0			189.3			10.6			38.6	
Approach LOS		A			F			B			D	

Intersection Summary























HCM Average Control Delay	129.1	HCM Level of Service	F
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔		↔	↕↕	↔		↕↔			↕↔	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.97			0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.99	
Satd. Flow (prot)	1304	2598		1304	2608	1167		1309			1333	
Flt Permitted	0.18	1.00		0.21	1.00	1.00		0.82			0.91	
Satd. Flow (perm)	241	2598		295	2608	1167		1092			1227	
Volume (vph)	23	1085	28	41	1260	32	64	68	34	26	75	16
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	24	1119	29	42	1299	33	66	70	35	27	77	16
RTOR Reduction (vph)	0	1	0	0	0	9	0	11	0	0	7	0
Lane Group Flow (vph)	24	1147	0	42	1299	24	0	160	0	0	113	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	2			6			6	8			4	
Permitted Phases	2			6			6	8			4	
Actuated Green, G (s)	64.5	64.5		64.5	64.5	64.5		16.4			16.4	
Effective Green, g (s)	65.1	65.1		65.1	65.1	65.1		16.9			16.9	
Actuated g/C Ratio	0.72	0.72		0.72	0.72	0.72		0.19			0.19	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6		4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)	174	1879		213	1886	844		205			230	
v/s Ratio Prot	0.44			c0.50								
v/s Ratio Perm	0.10			0.14		0.02		c0.15			0.09	
v/c Ratio	0.14	0.61		0.20	0.69	0.03		0.78			0.49	
Uniform Delay, d1	3.8	6.2		4.0	6.9	3.5		34.8			32.7	
Progression Factor	0.17	0.38		0.71	0.54	0.88		1.00			1.00	
Incremental Delay, d2	0.1	0.1		1.0	1.0	0.0		15.5			0.6	
Delay (s)	0.8	2.5		3.8	4.7	3.1		50.3			33.3	
Level of Service	A	A		A	A	A		D			C	
Approach Delay (s)	2.4			4.6				50.3			33.3	
Approach LOS	A			A				D			C	

Intersection Summary

HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1304	2592		1304	2601			1327			1321	
Flt Permitted	0.16	1.00		0.33	1.00			0.91			0.90	
Satd. Flow (perm)	226	2592		451	2601			1226			1204	
Volume (vph)	21	623	26	34	970	17	33	88	24	54	113	37
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	649	27	35	1010	18	34	92	25	56	118	39
RTOR Reduction (vph)	0	5	0	0	2	0	0	12	0	0	14	0
Lane Group Flow (vph)	22	671	0	35	1026	0	0	139	0	0	199	0
Turn Type	Perm		Perm		Perm			Perm				
Protected Phases	2		6		6			8				
Permitted Phases	2		6		8			4				
Actuated Green, G (s)	25.5	25.5		25.5	25.5			25.5			25.5	
Effective Green, g (s)	26.0	26.0		26.0	26.0			26.0			26.0	
Actuated g/C Ratio	0.43	0.43		0.43	0.43			0.43			0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	98	1123		195	1127			531			522	
v/s Ratio Prot		0.26			c0.39							
v/s Ratio Perm	0.10			0.08				0.11			c0.17	
v/c Ratio	0.22	0.60		0.18	0.91			0.26			0.38	
Uniform Delay, d1	10.7	13.0		10.4	15.9			10.9			11.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	5.2	2.3		2.0	12.4			1.2			2.1	
Delay (s)	15.9	15.3		12.5	28.3			12.1			13.7	
Level of Service	B	B		B	C			B			B	
Approach Delay (s)		15.4			27.8			12.1			13.7	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM Average Control Delay			21.2	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			60.0	Sum of lost time (s)				8.0				
Intersection Capacity Utilization			66.5%	ICU Level of Service				C				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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)	1583	1629		1583	1667	1417	1583	1667	1417	1583	1667	1417
Flt Permitted	0.47	1.00		0.25	1.00	1.00	0.32	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)	782	1629		422	1667	1417	526	1667	1417	651	1667	1417
Volume (vph)	89	449	80	61	322	39	56	395	43	97	467	68
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	95	478	85	65	343	41	60	420	46	103	497	72
RTOR Reduction (vph)	0	11	0	0	0	41	0	0	26	0	0	41
Lane Group Flow (vph)	95	552	0	65	343	0	60	420	20	103	497	31
Turn Type	Perm			Perm		NA	Perm		Perm	Perm		custom
Protected Phases		4			4			2				2
Permitted Phases	4			4			2		2	2		4
Actuated Green, G (s)	25.5	25.5		25.5	25.5	0.0	25.5	25.5	25.5	25.5	25.5	25.5
Effective Green, g (s)	26.0	26.0		26.0	26.0	0.0	26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.43	0.43		0.43	0.43	0.00	0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	339	706		183	722	0	228	722	614	282	722	614
v/s Ratio Prot		c0.34			0.21			0.25			c0.30	
v/s Ratio Perm	0.12			0.15			0.11		0.01	0.16		0.02
v/c Ratio	0.28	0.78		0.36	0.48	0.00	0.26	0.58	0.03	0.37	0.69	0.05
Uniform Delay, d1	11.0	14.6		11.4	12.1	30.0	10.9	12.9	9.8	11.4	13.7	9.9
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	2.1	8.4		5.3	2.2	0.0	2.8	3.4	0.1	3.6	5.3	0.2
Delay (s)	13.0	23.0		16.7	14.4	30.0	13.7	16.3	9.9	15.1	19.0	10.0
Level of Service	B	C		B	B	C	B	B	A	B	B	B
Approach Delay (s)		21.6			16.1			15.4			17.5	
Approach LOS		C			B			B			B	

Intersection Summary		
HCM Average Control Delay	17.9	HCM Level of Service B
HCM Volume to Capacity ratio	0.74	
Actuated Cycle Length (s)	60.0	Sum of lost time (s) 8.0
Intersection Capacity Utilization	81.0%	ICU Level of Service D
Analysis Period (min)	15	
c Critical Lane Group		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗		↘	↗	↗	↘	↗	↗	↘	↗	↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.82	1.00	1.00	0.96	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		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)	1304	2574		1304	2608	961	1302	1373	1117	1301	1373	1111
Flt Permitted	0.13	1.00		0.12	1.00	1.00	0.18	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	180	2574		168	2608	961	252	1373	1117	336	1373	1111
Volume (vph)	40	1005	66	121	1080	101	78	424	61	132	501	90
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	1069	70	129	1149	107	83	451	65	140	533	96
RTOR Reduction (vph)	0	5	0	0	0	68	0	0	42	0	0	61
Lane Group Flow (vph)	43	1134	0	129	1149	39	83	451	23	140	533	35
Conf. Peds. (#/hr)	72		37	37		72	34		29	29		34
Conf. Bikes (#/hr)			4			6			4			4
Turn Type	pm+pt			pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	33.1	29.9		37.5	32.1	32.1	35.4	31.0	31.0	37.6	32.1	32.1
Effective Green, g (s)	34.3	30.5		38.7	32.7	32.7	36.4	31.5	31.5	38.6	32.6	32.6
Actuated g/C Ratio	0.38	0.34		0.43	0.36	0.36	0.40	0.35	0.35	0.43	0.36	0.36
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	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	3.0	3.0	3.0
Lane Grp Cap (vph)	116	872		148	948	349	159	481	391	208	497	402
v/s Ratio Prot	0.02	0.44		c0.06	c0.44		0.03	0.33		c0.04	c0.39	
v/s Ratio Perm	0.13			0.32		0.04	0.18		0.02	0.24		0.03
v/c Ratio	0.37	1.30		0.87	1.21	0.11	0.52	0.94	0.06	0.67	1.07	0.09
Uniform Delay, d1	20.9	29.8		21.1	28.7	19.0	19.4	28.3	19.4	18.8	28.7	18.9
Progression Factor	0.84	0.75		1.03	1.09	1.74	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	141.2		30.6	102.6	0.5	3.1	26.0	0.1	8.3	61.2	0.1
Delay (s)	19.0	163.4		52.3	133.9	33.5	22.4	54.3	19.5	27.1	89.9	19.0
Level of Service	B	F		D	F	C	C	D	B	C	F	B
Approach Delay (s)		158.1			118.6			46.1			69.6	
Approach LOS		F			F			D			E	

Intersection Summary			
HCM Average Control Delay	109.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	
Frbp, ped/bikes		1.00	0.95		0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		0.99	1.00		0.99	1.00	
Frt		1.00	0.85		0.98		1.00	0.99		1.00	1.00	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1650	1350		1601		1566	1650		1565	1657	
Flt Permitted		0.91	1.00		0.92		0.31	1.00		0.38	1.00	
Satd. Flow (perm)		1513	1350		1478		507	1650		631	1657	
Volume (vph)	24	121	108	28	108	27	66	539	28	10	674	19
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	130	116	30	116	29	71	580	30	11	725	20
RTOR Reduction (vph)	0	0	98	0	13	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	156	18	0	162	0	71	608	0	11	744	0
Conf. Peds. (#/hr)	12		25	25		12	21		16	16		21
Conf. Bikes (#/hr)			4			4			4			3
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		9.0	9.0		9.0		42.0	42.0		42.0	42.0	
Effective Green, g (s)		9.5	9.5		9.5		42.5	42.5		42.5	42.5	
Actuated g/C Ratio		0.16	0.16		0.16		0.71	0.71		0.71	0.71	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		0.2	0.2		0.2		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		240	214		234		359	1169		447	1174	
v/s Ratio Prot								0.37				c0.45
v/s Ratio Perm		0.10	0.01		c0.11		0.14			0.02		
v/c Ratio		0.65	0.09		0.69		0.20	0.52		0.02	0.63	
Uniform Delay, d1		23.7	21.5		23.9		3.0	4.0		2.6	4.6	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		4.7	0.1		6.9		1.2	1.7		0.1	2.6	
Delay (s)		28.4	21.6		30.8		4.2	5.7		2.7	7.2	
Level of Service		C	C		C		A	A		A	A	
Approach Delay (s)		25.5			30.8			5.5			7.2	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM Average Control Delay			11.4				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			84.4%				ICU Level of Service				E	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑	↘	↘	↑	↘	↘	↑	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2608	1167	1304	2608	1167	1304	1373	1167	1304	1373	1167
Flt Permitted	0.23	1.00	1.00	0.40	1.00	1.00	0.18	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	315	2608	1167	543	2608	1167	244	1373	1167	402	1373	1167
Volume (vph)	69	510	31	92	816	65	85	489	60	121	616	99
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	73	537	33	97	859	68	89	515	63	127	648	104
RTOR Reduction (vph)	0	0	18	0	0	37	0	0	34	0	0	48
Lane Group Flow (vph)	73	537	15	97	859	31	89	515	29	127	648	56
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
Effective Green, g (s)	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
Actuated g/C Ratio	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Clearance Time (s)	4.5	4.5	4.5	4.5	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	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	144	1188	532	247	1188	532	111	625	532	183	625	532
v/s Ratio Prot		0.21			c0.33			0.38				c0.47
v/s Ratio Perm	0.23		0.01	0.18		0.03	0.36		0.02	0.32		0.05
v/c Ratio	0.51	0.45	0.03	0.39	0.72	0.06	0.80	0.82	0.05	0.69	1.04	0.10
Uniform Delay, d1	17.3	16.8	13.5	16.2	19.9	13.7	21.0	21.4	13.7	19.5	24.5	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	1.2	0.1	4.6	3.8	0.2	32.7	8.7	0.0	10.8	45.9	0.1
Delay (s)	29.5	18.0	13.6	20.9	23.7	13.9	53.7	30.0	13.7	30.3	70.4	14.1
Level of Service	C	B	B	C	C	B	D	C	B	C	E	B
Approach Delay (s)		19.1			22.8			31.6			57.9	
Approach LOS		B			C			C			E	

Intersection Summary

HCM Average Control Delay	33.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.90	1.00	1.00	0.88	1.00	1.00	0.94	1.00	1.00	1.00
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.97	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	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	1.00
Satd. Flow (prot)	1283	2608	1050	1289	2608	1022	1293	1373	1100	1270	1354	1354
Flt Permitted	0.20	1.00	1.00	0.19	1.00	1.00	0.25	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	272	2608	1050	252	2608	1022	339	1373	1100	655	1354	1354
Volume (vph)	31	1042	111	109	996	74	80	265	132	95	440	33
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	32	1063	113	111	1016	76	82	270	135	97	449	34
RTOR Reduction (vph)	0	0	53	0	0	35	0	0	35	0	3	0
Lane Group Flow (vph)	32	1063	60	111	1016	41	82	270	100	97	480	0
Conf. Peds. (#/hr)	43		34	34		43	23		40	40		23
Conf. Bikes (#/hr)			2			7			5			2
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8		4	
Actuated Green, G (s)	47.5	47.5	47.5	47.5	47.5	47.5	33.4	33.4	33.4	33.4	33.4	33.4
Effective Green, g (s)	48.1	48.1	48.1	48.1	48.1	48.1	33.9	33.9	33.9	33.9	33.9	33.9
Actuated g/C Ratio	0.53	0.53	0.53	0.53	0.53	0.53	0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	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	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	145	1394	561	135	1394	546	128	517	414	247	510	510
v/s Ratio Prot		0.41			0.39			0.20				c0.35
v/s Ratio Perm	0.12		0.06	c0.44		0.04	0.24		0.09	0.15		
v/c Ratio	0.22	0.76	0.11	0.82	0.73	0.07	0.64	0.52	0.24	0.39	0.94	
Uniform Delay, d1	11.1	16.5	10.3	17.4	16.0	10.2	23.0	21.8	19.2	20.5	27.1	
Progression Factor	1.29	1.01	2.42	1.11	0.97	1.57	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.7	2.0	0.2	5.2	0.3	0.0	10.5	1.0	0.3	1.0	25.8	
Delay (s)	16.0	18.6	25.3	24.6	15.8	15.9	33.5	22.7	19.5	21.6	52.9	
Level of Service	B	B	C	C	B	B	C	C	B	C	D	
Approach Delay (s)		19.2			16.6			23.7			47.6	
Approach LOS		B			B			C			D	

Intersection Summary

HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.96		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2574		1304	2506		1304	2545		1304	2577	
Flt Permitted	0.16	1.00		0.33	1.00		0.33	1.00		0.23	1.00	
Satd. Flow (perm)	217	2574		454	2506		454	2545		321	2577	
Volume (vph)	53	619	58	102	792	280	84	666	127	67	573	49
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	638	60	105	816	289	87	687	131	69	591	51
RTOR Reduction (vph)	0	12	0	0	56	0	0	26	0	0	11	0
Lane Group Flow (vph)	55	686	0	105	1049	0	87	792	0	69	631	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	28.0	28.0		28.0	28.0		23.0	23.0		23.0	23.0	
Effective Green, g (s)	28.5	28.5		28.5	28.5		23.5	23.5		23.5	23.5	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.39	0.39		0.39	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	103	1223		216	1190		178	997		126	1009	
v/s Ratio Prot		0.27			c0.42			c0.31			0.24	
v/s Ratio Perm	0.25			0.23			0.19			0.21		
v/c Ratio	0.53	0.56		0.49	0.88		0.49	0.79		0.55	0.63	
Uniform Delay, d1	11.1	11.3		10.8	14.2		13.7	16.1		14.1	14.7	
Progression Factor	0.55	0.57		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.1	1.6		7.6	9.5		9.3	6.5		16.0	2.9	
Delay (s)	22.2	8.0		18.4	23.8		23.0	22.6		30.2	17.6	
Level of Service	C	A		B	C		C	C		C	B	
Approach Delay (s)		9.1			23.3			22.7			18.8	
Approach LOS		A			C			C			B	

Intersection Summary

HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↘		↗	↘	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1289	2561		1304	2572		1291	1309		1286	1345	
Flt Permitted	0.21	1.00		0.13	1.00		0.27	1.00		0.33	1.00	
Satd. Flow (perm)	289	2561		179	2572		366	1309		449	1345	
Volume (vph)	29	1027	94	67	822	50	68	221	70	103	294	35
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	35	1237	113	81	990	60	82	266	84	124	354	42
RTOR Reduction (vph)	0	6	0	0	4	0	0	15	0	0	6	0
Lane Group Flow (vph)	35	1344	0	81	1046	0	82	335	0	124	390	0
Conf. Peds. (#/hr)	31		38	38		31	20		23	23		20
Conf. Bikes (#/hr)						2			2			4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	53.7	53.7		53.7	53.7		27.2	27.2		27.2	27.2	
Effective Green, g (s)	54.3	54.3		54.3	54.3		27.7	27.7		27.7	27.7	
Actuated g/C Ratio	0.60	0.60		0.60	0.60		0.31	0.31		0.31	0.31	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	174	1545		108	1552		113	403		138	414	
v/s Ratio Prot		c0.52			0.41			0.26			c0.29	
v/s Ratio Perm	0.12			0.45			0.22			0.28		
v/c Ratio	0.20	0.87		0.75	0.67		0.73	0.83		0.90	0.94	
Uniform Delay, d1	8.1	14.9		12.9	11.9		27.8	29.0		29.8	30.4	
Progression Factor	1.00	1.18		1.24	1.32		0.85	0.87		1.00	1.00	
Incremental Delay, d2	2.4	6.5		27.1	1.6		17.2	12.8		46.1	29.7	
Delay (s)	10.5	24.1		43.1	17.3		40.8	38.0		75.9	60.1	
Level of Service	B	C		D	B		D	D		E	E	
Approach Delay (s)		23.8			19.1			38.6			63.9	
Approach LOS		C			B			D			E	

Intersection Summary

HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↑	↕	↕	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		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	1.00	0.85	1.00	0.99	
Flt Protected		0.99	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1657	1417		1650	1417	1583	1667	1417	1583	1645	
Flt Permitted		0.95	1.00		0.89	1.00	0.45	1.00	1.00	0.52	1.00	
Satd. Flow (perm)		1580	1417		1488	1417	750	1667	1417	868	1645	
Volume (vph)	15	109	61	32	125	36	60	316	44	16	376	36
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	18	130	73	38	149	43	71	376	52	19	448	43
RTOR Reduction (vph)	0	0	61	0	0	36	0	0	13	0	2	0
Lane Group Flow (vph)	0	148	12	0	187	7	71	376	39	19	489	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4		4	2		2	2		
Actuated Green, G (s)		14.8	14.8		14.8	14.8	66.2	66.2	66.2	66.2	66.2	
Effective Green, g (s)		15.3	15.3		15.3	15.3	66.7	66.7	66.7	66.7	66.7	
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.74	0.74	0.74	0.74	0.74	
Clearance Time (s)		4.5	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	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		269	241		253	241	556	1235	1050	643	1219	
v/s Ratio Prot								0.23			c0.30	
v/s Ratio Perm		0.09	0.01		c0.13	0.01	0.09		0.03	0.02		
v/c Ratio		0.55	0.05		0.74	0.03	0.13	0.30	0.04	0.03	0.40	
Uniform Delay, d1		34.2	31.3		35.5	31.2	3.3	3.9	3.1	3.1	4.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98	0.77	
Incremental Delay, d2		2.4	0.1		10.7	0.1	0.5	0.6	0.1	0.0	0.3	
Delay (s)		36.6	31.4		46.2	31.2	3.8	4.5	3.2	3.0	3.6	
Level of Service		D	C		D	C	A	A	A	A	A	
Approach Delay (s)		34.9			43.4			4.3			3.6	
Approach LOS		C			D			A			A	

Intersection Summary

HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2580		1304	2582		1304	1346		1304	1349	
Flt Permitted	0.30	1.00		0.35	1.00		0.33	1.00		0.38	1.00	
Satd. Flow (perm)	405	2580		477	2582		449	1346		521	1349	
Volume (vph)	37	595	46	44	693	49	68	303	46	80	344	45
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	40	640	49	47	745	53	73	326	49	86	370	48
RTOR Reduction (vph)	0	8	0	0	7	0	0	11	0	0	10	0
Lane Group Flow (vph)	40	681	0	47	791	0	73	364	0	86	408	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			8		4
Permitted Phases	2			6			8			8		4
Actuated Green, G (s)	30.4	30.4		30.4	30.4		20.6	20.6		20.6	20.6	
Effective Green, g (s)	30.9	30.9		30.9	30.9		21.1	21.1		21.1	21.1	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.35	0.35		0.35	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	209	1329		246	1330		158	473		183	474	
v/s Ratio Prot		0.26			c0.31			0.27			c0.30	
v/s Ratio Perm	0.10			0.10			0.16			0.17		
v/c Ratio	0.19	0.51		0.19	0.59		0.46	0.77		0.47	0.86	
Uniform Delay, d1	7.8	9.6		7.8	10.2		15.1	17.3		15.1	18.1	
Progression Factor	1.00	1.00		0.45	0.47		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	1.4		0.9	1.0		0.8	6.7		0.7	14.3	
Delay (s)	9.9	11.0		4.4	5.8		15.8	24.0		15.8	32.4	
Level of Service	A	B		A	A		B	C		B	C	
Approach Delay (s)		10.9			5.7			22.6			29.6	
Approach LOS		B			A			C			C	

Intersection Summary

HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘			↗	↗		↗	↗
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Volume (veh/h)	19	1010	73	62	861	63	11	10	71	15	4	44
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	22	1174	85	72	1001	73	13	12	83	17	5	51
Pedestrians	20		26		28		31		31		31	
Lane Width (ft)	12.0		12.0		12.0		12.0		12.0		12.0	
Walking Speed (ft/s)	4.0		4.0		4.0		4.0		4.0		4.0	
Percent Blockage	2		2		2		3		3		3	
Right turn flare (veh)												
Median type					None		None		None		None	
Median storage veh												
Upstream signal (ft)	801		400									
pX, platoon unblocked	0.80			0.87			0.86	0.86	0.87	0.86	0.86	0.80
vC, conflicting volume	1105			1287			2007	2539	684	1959	2544	588
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	882			1184			1568	2183	493	1512	2190	236
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			86			69	62	81	47	85	91
cM capacity (veh/h)	594			499			42	31	436	33	30	587

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	22	783	476	72	667	407	24	83	22	51
Volume Left	22	0	0	72	0	0	13	0	17	0
Volume Right	0	0	85	0	0	73	0	83	0	51
cSH	594	1700	1700	499	1700	1700	36	436	32	587
Volume to Capacity	0.04	0.46	0.28	0.14	0.39	0.24	0.68	0.19	0.69	0.09
Queue Length 95th (ft)	3	0	0	13	0	0	60	17	58	7
Control Delay (s)	11.3	0.0	0.0	13.4	0.0	0.0	224.9	15.2	244.5	11.7
Lane LOS	B			B			F	C	F	B
Approach Delay (s)	0.2			0.8			63.0		81.9	
Approach LOS							F		F	

Intersection Summary

Average Delay	5.4
Intersection Capacity Utilization	70.7%
ICU Level of Service	C
Analysis Period (min)	15



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↑	↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.91	1.00	1.00	0.77	1.00	1.00	0.94	1.00	1.00	0.94
Flpb, ped/bikes	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1263	2608	1062	1282	2608	902	1277	1373	1094	1267	1373	1098
Flt Permitted	0.28	1.00	1.00	0.26	1.00	1.00	0.29	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	376	2608	1062	355	2608	902	385	1373	1094	581	1373	1098
Volume (vph)	32	793	33	39	747	39	48	246	73	108	344	38
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	36	901	38	44	849	44	55	280	83	123	391	43
RTOR Reduction (vph)	0	0	15	0	0	18	0	0	53	0	0	29
Lane Group Flow (vph)	36	901	23	44	849	26	55	280	30	123	391	14
Confl. Peds. (#/hr)	55		55	55		88	47		49	49		47
Confl. Bikes (#/hr)			3			5			4			1
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	53.1	53.1	53.1	53.1	53.1	53.1	27.9	27.9	27.9	27.9	27.9	27.9
Effective Green, g (s)	53.6	53.6	53.6	53.6	53.6	53.6	28.4	28.4	28.4	28.4	28.4	28.4
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.60	0.60	0.32	0.32	0.32	0.32	0.32	0.32
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	224	1553	632	211	1553	537	121	433	345	183	433	346
v/s Ratio Prot		c0.35			0.33			0.20				c0.28
v/s Ratio Perm	0.10		0.02	0.12		0.03	0.14		0.03	0.21		0.01
v/c Ratio	0.16	0.58	0.04	0.21	0.55	0.05	0.45	0.65	0.09	0.67	0.90	0.04
Uniform Delay, d1	8.1	11.2	7.5	8.4	10.9	7.6	24.6	26.5	21.7	26.8	29.5	21.3
Progression Factor	1.47	1.27	2.24	0.55	0.66	0.30	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	1.3	0.1	1.8	1.1	0.1	1.0	2.5	0.0	7.4	21.3	0.0
Delay (s)	13.2	15.6	17.0	6.4	8.3	2.4	25.6	29.0	21.7	34.2	50.8	21.4
Level of Service	B	B	B	A	A	A	C	C	C	C	D	C
Approach Delay (s)		15.5			7.9			27.1			44.9	
Approach LOS		B			A			C			D	

Intersection Summary

HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 169: Arizona Ave & 14th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	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	0.97		1.00	1.00	
Flt Protected		0.99	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1657	1417		1637	1417	1583	1618		1583	1661	
Flt Permitted		0.96	1.00		0.85	1.00	0.52	1.00		0.51	1.00	
Satd. Flow (perm)		1592	1417		1418	1417	866	1618		850	1661	
Volume (vph)	14	98	67	37	66	70	24	314	77	19	369	9
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	14	101	69	38	68	72	25	324	79	20	380	9
RTOR Reduction (vph)	0	0	58	0	0	60	0	9	0	0	1	0
Lane Group Flow (vph)	0	115	12	0	106	12	25	394	0	20	388	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4		4	2			2		
Actuated Green, G (s)		9.5	9.5		9.5	9.5	41.5	41.5		41.5	41.5	
Effective Green, g (s)		10.0	10.0		10.0	10.0	42.0	42.0		42.0	42.0	
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.70	0.70		0.70	0.70	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)		265	236		236	236	606	1133		595	1163	
v/s Ratio Prot							c0.24				0.23	
v/s Ratio Perm		0.07	0.01		c0.07	0.01	0.03			0.02		
v/c Ratio		0.43	0.05		0.45	0.05	0.04	0.35		0.03	0.33	
Uniform Delay, d1		22.5	21.0		22.5	21.0	2.8	3.6		2.8	3.5	
Progression Factor		1.00	1.00		1.00	1.00	2.29	3.01		1.00	1.00	
Incremental Delay, d2		0.4	0.0		0.5	0.0	0.1	0.6		0.1	0.8	
Delay (s)		22.9	21.0		23.0	21.0	6.5	11.3		2.9	4.3	
Level of Service		C	C		C	C	A	B		A	A	
Approach Delay (s)		22.2			22.2			11.0			4.2	
Approach LOS		C			C			B			A	

Intersection Summary

HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↗	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2577		1304	2572		1304	1373	1167	1304	1373	1167
Flt Permitted	0.49	1.00		0.38	1.00		0.40	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	667	2577		527	2572		552	1373	1167	504	1373	1167
Volume (vph)	29	530	46	44	378	39	55	344	79	56	319	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	576	50	48	411	42	60	374	86	61	347	43
RTOR Reduction (vph)	0	8	0	0	10	0	0	0	57	0	0	29
Lane Group Flow (vph)	32	618	0	48	443	0	60	374	29	61	347	14
Turn Type	Perm			Perm			Perm		Perm	Perm	Perm	Perm
Protected Phases	2			6			8		8	4		4
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	31.3	31.3		31.3	31.3		19.7	19.7	19.7	19.7	19.7	19.7
Effective Green, g (s)	31.8	31.8		31.8	31.8		20.2	20.2	20.2	20.2	20.2	20.2
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.34	0.34	0.34	0.34	0.34	0.34
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	354	1366		279	1363		186	462	393	170	462	393
v/s Ratio Prot	c0.24			0.17			c0.27			0.25		
v/s Ratio Perm	0.05			0.09			0.11		0.02	0.12		0.01
v/c Ratio	0.09	0.45		0.17	0.33		0.32	0.81	0.07	0.36	0.75	0.04
Uniform Delay, d1	7.0	8.7		7.3	8.0		14.8	18.1	13.5	15.0	17.7	13.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.78	0.87	0.56
Incremental Delay, d2	0.5	1.1		1.3	0.6		0.4	9.5	0.0	0.5	5.8	0.0
Delay (s)	7.5	9.8		8.6	8.6		15.2	27.7	13.6	12.2	21.1	7.5
Level of Service	A			A			B		C	B	B	C
Approach Delay (s)	9.7			8.6			23.9			18.6		
Approach LOS	A			A			C			B		

Intersection Summary




























HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑		↘	↑	↘	↘	↑	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95	1.00	1.00	0.95		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	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)	1304	2608	1167	1304	2590		1304	1373	1167	1304	1373	1167
Flt Permitted	0.25	1.00	1.00	0.23	1.00		0.30	1.00	1.00	0.41	1.00	1.00
Satd. Flow (perm)	349	2608	1167	313	2590		414	1373	1167	557	1373	1167
Volume (vph)	40	848	33	78	749	36	61	246	98	113	308	36
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	48	1010	39	93	892	43	73	293	117	135	367	43
RTOR Reduction (vph)	0	0	15	0	3	0	0	0	39	0	0	30
Lane Group Flow (vph)	48	1010	24	93	932	0	73	293	78	135	367	13
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		4
Actuated Green, G (s)	54.2	54.2	54.2	54.2	54.2		26.7	26.7	26.7	26.7	26.7	26.7
Effective Green, g (s)	54.8	54.8	54.8	54.8	54.8		27.2	27.2	27.2	27.2	27.2	27.2
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61		0.30	0.30	0.30	0.30	0.30	0.30
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	213	1588	711	191	1577		125	415	353	168	415	353
v/s Ratio Prot		c0.39			0.36			0.21				c0.27
v/s Ratio Perm	0.14		0.02	0.30			0.18		0.07	0.24		0.01
v/c Ratio	0.23	0.64	0.03	0.49	0.59		0.58	0.71	0.22	0.80	0.88	0.04
Uniform Delay, d1	8.0	11.2	7.0	9.8	10.8		26.6	27.9	23.5	28.9	29.9	22.2
Progression Factor	0.87	0.98	0.79	0.83	0.71		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.3	1.8	0.1	7.7	1.5		4.4	4.4	0.1	22.4	19.0	0.0
Delay (s)	9.2	12.8	5.6	15.8	9.1		31.0	32.3	23.6	51.3	48.9	22.2
Level of Service	A	B	A	B	A		C	C	C	D	D	C
Approach Delay (s)		12.4			9.7			30.0			47.4	
Approach LOS		B			A			C			D	

Intersection Summary

HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	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	1.00
Satd. Flow (prot)	1304	2608	1167	1304	2608	1167	1304	1373	1167	1304	2579	2579
Flt Permitted	0.35	1.00	1.00	0.34	1.00	1.00	0.33	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	485	2608	1167	470	2608	1167	459	1373	1167	407	2579	2579
Volume (vph)	22	656	150	207	635	33	104	346	215	38	450	36
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	713	163	225	690	36	113	376	234	41	489	39
RTOR Reduction (vph)	0	0	65	0	0	14	0	0	121	0	8	0
Lane Group Flow (vph)	24	713	98	225	690	22	113	376	113	41	520	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	53.8	53.8	53.8	53.8	53.8	53.8	27.2	27.2	27.2	27.2	27.2	27.2
Effective Green, g (s)	54.3	54.3	54.3	54.3	54.3	54.3	27.7	27.7	27.7	27.7	27.7	27.7
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.60	0.60	0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	293	1573	704	284	1573	704	141	423	359	125	794	794
v/s Ratio Prot		0.27			0.26			c0.27			0.20	
v/s Ratio Perm	0.05		0.08	c0.48		0.02	0.25		0.10	0.10		
v/c Ratio	0.08	0.45	0.14	0.79	0.44	0.03	0.80	0.89	0.31	0.33	0.66	0.66
Uniform Delay, d1	7.4	9.7	7.7	13.6	9.6	7.2	28.6	29.7	23.9	24.0	27.0	27.0
Progression Factor	0.49	0.64	0.17	0.89	0.68	0.58	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.8	0.4	17.1	0.7	0.1	25.6	19.3	0.2	0.6	1.5	1.5
Delay (s)	4.1	7.0	1.7	29.2	7.3	4.2	54.2	48.9	24.1	24.5	28.5	28.5
Level of Service	A	A	A	C	A	A	D	D	C	C	C	C
Approach Delay (s)		6.0			12.4			41.7			28.2	
Approach LOS		A			B			D			C	
Intersection Summary												
HCM Average Control Delay			20.2				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			82.4%				ICU Level of Service				E	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2503		1304	1373	1167	1304	2533		1304	2603	
Flt Permitted	0.50	1.00		0.55	1.00	1.00	0.22	1.00		0.17	1.00	
Satd. Flow (perm)	691	2503		759	1373	1167	296	2533		240	2603	
Volume (vph)	10	224	82	128	300	75	97	724	171	44	799	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	241	88	138	323	81	104	778	184	47	859	11
RTOR Reduction (vph)	0	42	0	0	0	43	0	36	0	0	2	0
Lane Group Flow (vph)	11	287	0	138	323	38	104	926	0	47	868	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	2			6			8			4		
Permitted Phases	2			6			6	8		4		
Actuated Green, G (s)	27.3	27.3		27.3	27.3	27.3	23.7	23.7		23.7	23.7	
Effective Green, g (s)	27.8	27.8		27.8	27.8	27.8	24.2	24.2		24.2	24.2	
Actuated g/C Ratio	0.46	0.46		0.46	0.46	0.46	0.40	0.40		0.40	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	320	1160		352	636	541	119	1022		97	1050	
v/s Ratio Prot	0.11			c0.24			c0.37			0.33		
v/s Ratio Perm	0.02			0.18			0.03	0.35		0.20		
v/c Ratio	0.03	0.25		0.39	0.51	0.07	0.87	0.91		0.48	0.83	
Uniform Delay, d1	8.8	9.8		10.6	11.3	8.9	16.5	16.8		13.3	16.0	
Progression Factor	0.61	0.53		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.5		3.3	2.9	0.2	44.9	11.0		1.4	5.2	
Delay (s)	5.6	5.6		13.8	14.2	9.2	61.4	27.8		14.7	21.2	
Level of Service	A			B		A	E			C		
Approach Delay (s)	5.6			13.3			31.1			20.9		
Approach LOS	A			B			C			C		

Intersection Summary			
HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗			↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1304	2589		1304	2574		1304	1308			1338	
Flt Permitted	0.35	1.00		0.32	1.00		0.47	1.00			0.75	
Satd. Flow (perm)	481	2589		446	2574		646	1308			1022	
Volume (vph)	21	679	35	74	602	58	25	150	68	99	197	23
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	707	36	77	627	60	26	156	71	103	205	24
RTOR Reduction (vph)	0	3	0	0	7	0	0	20	0	0	3	0
Lane Group Flow (vph)	22	740	0	77	680	0	26	207	0	0	329	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8			4
Permitted Phases	2		6		6		8		8			4
Actuated Green, G (s)	52.1	52.1		52.1	52.1		28.9	28.9			28.9	
Effective Green, g (s)	52.6	52.6		52.6	52.6		29.4	29.4			29.4	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.33	0.33			0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	281	1513		261	1504		211	427			334	
v/s Ratio Prot	c0.29				0.26		0.16					
v/s Ratio Perm	0.05		0.17				0.04					c0.32
v/c Ratio	0.08	0.49		0.30	0.45		0.12	0.48			0.98	
Uniform Delay, d1	8.1	10.9		9.4	10.6		21.3	24.2			30.1	
Progression Factor	1.02	0.87		0.40	0.40		1.00	1.00			1.00	
Incremental Delay, d2	0.5	1.1		2.5	0.9		0.1	0.3			44.5	
Delay (s)	8.9	10.6		6.3	5.1		21.4	24.6			74.5	
Level of Service	A	B		A	A		C	C			E	
Approach Delay (s)	10.6				5.2		24.2					74.5
Approach LOS	B				A		C					E

Intersection Summary

HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↔		↔	↕	↔	↔	↕		↔	↕↔	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2590		1304	1373	1167	1304	1360		1304	1362	
Flt Permitted	0.50	1.00		0.58	1.00	1.00	0.61	1.00		0.36	1.00	
Satd. Flow (perm)	688	2590		797	1373	1167	833	1360		499	1362	
Volume (vph)	18	246	12	17	334	71	14	316	20	39	169	9
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	19	265	13	18	359	76	15	340	22	42	182	10
RTOR Reduction (vph)	0	5	0	0	0	34	0	5	0	0	4	0
Lane Group Flow (vph)	19	274	0	18	359	42	15	357	0	42	188	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	2			6			8			4		
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	32.5	32.5		32.5	32.5	32.5	18.5	18.5		18.5	18.5	
Effective Green, g (s)	33.0	33.0		33.0	33.0	33.0	19.0	19.0		19.0	19.0	
Actuated g/C Ratio	0.55	0.55		0.55	0.55	0.55	0.32	0.32		0.32	0.32	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	378	1425		438	755	642	264	431		158	431	
v/s Ratio Prot	0.11			c0.26			c0.26			0.14		
v/s Ratio Perm	0.03			0.02			0.02			0.08		
v/c Ratio	0.05	0.19		0.04	0.48	0.07	0.06	0.83		0.27	0.44	
Uniform Delay, d1	6.2	6.8		6.2	8.2	6.3	14.3	19.0		15.3	16.3	
Progression Factor	1.00	1.00		0.79	0.65	0.63	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		0.1	1.8	0.2	0.0	11.8		0.3	0.3	
Delay (s)	6.5	7.1		5.0	7.1	4.1	14.3	30.8		15.6	16.5	
Level of Service	A			A		A	B	C		B	B	
Approach Delay (s)	7.1			6.6			30.2			16.4		
Approach LOS	A			A			C			B		

Intersection Summary

HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↑	↗	↘	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	0.80	1.00	0.99		1.00	1.00	0.93	1.00	0.99	
Flpb, ped/bikes	0.94	1.00	1.00	0.93	1.00		0.97	1.00	1.00	0.96	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1220	2608	937	1206	2558		1268	1373	1082	1247	1340	
Flt Permitted	0.39	1.00	1.00	0.42	1.00		0.57	1.00	1.00	0.60	1.00	
Satd. Flow (perm)	504	2608	937	530	2558		765	1373	1082	791	1340	
Volume (vph)	13	568	45	74	584	35	107	125	77	50	121	16
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	598	47	78	615	37	113	132	81	53	127	17
RTOR Reduction (vph)	0	0	13	0	3	0	0	0	66	0	7	0
Lane Group Flow (vph)	14	598	34	78	649	0	113	132	15	53	137	0
Conf. Peds. (#/hr)	71		75	75		71	33		50	50		33
Conf. Bikes (#/hr)			7			6			7			6
Turn Type	Perm		Perm	Perm		Perm		Perm	Perm	Perm		
Protected Phases		2			6		8				4	
Permitted Phases	2		2	6		8		8		4		
Actuated Green, G (s)	64.5	64.5	64.5	64.5	64.5		16.5	16.5	16.5	16.5	16.5	
Effective Green, g (s)	65.0	65.0	65.0	65.0	65.0		17.0	17.0	17.0	17.0	17.0	
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.72		0.19	0.19	0.19	0.19	0.19	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	364	1884	677	383	1847		145	259	204	149	253	
v/s Ratio Prot		0.23			c0.25			0.10			0.10	
v/s Ratio Perm	0.03		0.04	0.15		c0.15		0.01	0.07			
v/c Ratio	0.04	0.32	0.05	0.20	0.35		0.78	0.51	0.07	0.36	0.54	
Uniform Delay, d1	3.6	4.5	3.6	4.1	4.7		34.7	32.8	30.0	31.7	33.0	
Progression Factor	0.54	0.52	0.20	1.93	1.91		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.4	0.1	1.1	0.5		21.0	0.6	0.1	0.5	1.3	
Delay (s)	2.1	2.8	0.9	9.0	9.4		55.7	33.3	30.1	32.3	34.2	
Level of Service	A	A	A	A	A		E	C	C	C	C	
Approach Delay (s)		2.6			9.3			40.3			33.7	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↖		↖	↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes		1.00	0.93		0.99		1.00	0.98		1.00	1.00	0.93
Flpb, ped/bikes		0.99	1.00		0.99		0.97	1.00		0.95	1.00	1.00
Frt		1.00	0.85		0.98		1.00	0.96		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1636	1323		1595		1530	1568		1503	1667	1319
Flt Permitted		0.94	1.00		0.94		0.59	1.00		0.67	1.00	1.00
Satd. Flow (perm)		1550	1323		1512		954	1568		1061	1667	1319
Volume (vph)	14	56	66	31	132	23	32	96	34	12	260	18
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	15	58	69	32	138	24	33	100	35	12	271	19
RTOR Reduction (vph)	0	0	56	0	12	0	0	11	0	0	0	6
Lane Group Flow (vph)	0	73	13	0	182	0	33	124	0	12	271	13
Confl. Peds. (#/hr)	38		55	55		38	31		39	39		31
Confl. Bikes (#/hr)						1						2
Turn Type	Perm		Perm	Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		4
Actuated Green, G (s)		11.1	11.1		11.1		39.9	39.9		39.9	39.9	39.9
Effective Green, g (s)		11.6	11.6		11.6		40.4	40.4		40.4	40.4	40.4
Actuated g/C Ratio		0.19	0.19		0.19		0.67	0.67		0.67	0.67	0.67
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		300	256		292		642	1056		714	1122	888
v/s Ratio Prot								0.08			c0.16	
v/s Ratio Perm		0.05	0.01		c0.12		0.03			0.01		0.01
v/c Ratio		0.24	0.05		0.62		0.05	0.12		0.02	0.24	0.01
Uniform Delay, d1		20.5	19.7		22.2		3.3	3.5		3.2	3.8	3.2
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.2	0.0		3.0		0.2	0.2		0.0	0.5	0.0
Delay (s)		20.6	19.8		25.2		3.5	3.7		3.3	4.3	3.3
Level of Service		C	B		C		A	A		A	A	A
Approach Delay (s)		20.2			25.2			3.7			4.2	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM Average Control Delay			12.0				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.33									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			53.9%				ICU Level of Service				A	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑	↘	↘	↑	↘	↘	↑	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.87	1.00	1.00	0.88	1.00	1.00	0.85	1.00	1.00	0.83
Flpb, ped/bikes	0.95	1.00	1.00	0.98	1.00	1.00	0.91	1.00	1.00	0.90	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1234	2608	1016	1279	2608	1023	1185	1373	994	1179	1373	966
Flt Permitted	0.45	1.00	1.00	0.42	1.00	1.00	0.36	1.00	1.00	0.51	1.00	1.00
Satd. Flow (perm)	584	2608	1016	560	2608	1023	452	1373	994	630	1373	966
Volume (vph)	24	467	72	75	504	102	57	175	86	69	245	18
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	502	77	81	542	110	61	188	92	74	263	19
RTOR Reduction (vph)	0	0	32	0	0	34	0	0	71	0	0	15
Lane Group Flow (vph)	26	502	45	81	542	76	61	188	21	74	263	4
Confl. Peds. (#/hr)	80		84	84		80	121		103	103		121
Turn Type	Perm		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	52.6	52.6	52.6	61.3	61.3	61.3	19.7	19.7	19.7	19.7	19.7	19.7
Effective Green, g (s)	53.1	53.1	53.1	61.8	61.8	61.8	20.2	20.2	20.2	20.2	20.2	20.2
Actuated g/C Ratio	0.59	0.59	0.59	0.69	0.69	0.69	0.22	0.22	0.22	0.22	0.22	0.22
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	345	1539	599	422	1791	702	101	308	223	141	308	217
v/s Ratio Prot		c0.19		0.01	c0.21			0.14			c0.19	
v/s Ratio Perm	0.04		0.04	0.12		0.07	0.13		0.02	0.12		0.00
v/c Ratio	0.08	0.33	0.08	0.19	0.30	0.11	0.60	0.61	0.09	0.52	0.85	0.02
Uniform Delay, d1	7.9	9.4	7.9	5.0	5.6	4.8	31.3	31.4	27.6	30.7	33.5	27.2
Progression Factor	0.90	1.05	1.42	0.79	1.01	0.59	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.6	0.2	0.1	0.4	0.3	6.8	2.5	0.1	1.6	19.3	0.0
Delay (s)	7.5	10.3	11.5	4.0	6.0	3.1	38.1	33.9	27.7	32.3	52.8	27.2
Level of Service	A	B	B	A	A	A	D	C	C	C	D	C
Approach Delay (s)		10.4			5.4			33.0			47.1	
Approach LOS		B			A			C			D	

Intersection Summary

HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↖	↗	↗	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95	
Frbp, ped/bikes		0.98			0.98		1.00	1.00	0.90	1.00	0.99	
Flpb, ped/bikes		1.00			0.99		0.96	1.00	1.00	0.95	1.00	
Frt		0.96			0.96		1.00	1.00	0.85	1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1551			1545		1517	1667	1278	1505	3120	
Flt Permitted		0.98			0.93		0.52	1.00	1.00	0.54	1.00	
Satd. Flow (perm)		1532			1450		834	1667	1278	848	3120	
Volume (vph)	6	61	31	48	119	63	31	261	44	6	331	21
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	6	66	33	52	128	68	33	281	47	6	356	23
RTOR Reduction (vph)	0	19	0	0	23	0	0	0	27	0	8	0
Lane Group Flow (vph)	0	86	0	0	225	0	33	281	20	6	371	0
Conf. Peds. (#/hr)	41		59	59		41	38		42	42		38
Conf. Bikes (#/hr)			4			7			1			3
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2			6			8		8		4	
Actuated Green, G (s)		25.5			25.5		25.5	25.5	25.5	25.5	25.5	
Effective Green, g (s)		26.0			26.0		26.0	26.0	26.0	26.0	26.0	
Actuated g/C Ratio		0.43			0.43		0.43	0.43	0.43	0.43	0.43	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		664			628		361	722	554	367	1352	
v/s Ratio Prot							c0.17					0.12
v/s Ratio Perm		0.06			c0.16		0.04		0.02	0.01		
v/c Ratio		0.13			0.36		0.09	0.39	0.04	0.02	0.27	
Uniform Delay, d1		10.2			11.4		10.0	11.6	9.8	9.7	10.9	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4			1.6		0.5	1.6	0.1	0.1	0.5	
Delay (s)		10.6			13.0		10.5	13.2	9.9	9.8	11.4	
Level of Service		B			B		B	B	A	A	B	
Approach Delay (s)		10.6			13.0			12.5			11.4	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑	↑	↑	↑	↑	↑	↑↓	↑
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1373	1167		1373	1167	1304	1373	1167	1304	2579	
Flt Permitted		1.00	1.00		1.00	1.00	0.47	1.00	1.00	0.33	1.00	
Satd. Flow (perm)		1373	1167		1373	1167	652	1373	1167	458	2579	
Volume (vph)	0	212	56	0	208	49	30	367	45	24	329	26
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	230	61	0	226	53	33	399	49	26	358	28
RTOR Reduction (vph)	0	0	46	0	0	40	0	0	31	0	7	0
Lane Group Flow (vph)	0	230	15	0	226	13	33	399	18	26	379	0
Turn Type		Perm			Perm		Perm		Perm		Perm	
Protected Phases		2			6			8			4	
Permitted Phases		2			6		8		8		4	
Actuated Green, G (s)		20.5	20.5		20.5	20.5	30.5	30.5	30.5	30.5	30.5	
Effective Green, g (s)		21.0	21.0		21.0	21.0	31.0	31.0	31.0	31.0	31.0	
Actuated g/C Ratio		0.25	0.25		0.25	0.25	0.36	0.36	0.36	0.36	0.36	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		339	288		339	288	238	501	426	167	941	
v/s Ratio Prot		c0.17			c0.16			c0.29			0.15	
v/s Ratio Perm		0.01			0.01		0.05	0.02		0.06		
v/c Ratio		0.68	0.05		0.67	0.05	0.14	0.80	0.04	0.16	0.40	
Uniform Delay, d1		28.9	24.4		28.8	24.4	18.1	24.2	17.4	18.2	20.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		10.4	0.3		10.0	0.3	1.2	12.4	0.2	2.0	1.3	
Delay (s)		39.4	24.8		38.8	24.7	19.3	36.6	17.6	20.2	21.4	
Level of Service		D	C		D	C	B	D	B	C	C	
Approach Delay (s)		36.3			36.1			33.4			21.3	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
181: Wilshire Blvd & 3rd St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑		↖	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.79		1.00	0.92
Flpb, ped/bikes	0.83	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1078	2608	1744		1304	1073
Flt Permitted	0.70	1.00	1.00		0.95	1.00
Satd. Flow (perm)	795	2608	1744		1304	1073
Volume (vph)	29	498	0	76	61	24
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	541	0	83	66	26
RTOR Reduction (vph)	0	0	21	0	0	22
Lane Group Flow (vph)	32	541	62	0	66	4
Confl. Peds. (#/hr)	82			82	87	61
Confl. Bikes (#/hr)				7		3
Turn Type	Perm				Perm	
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	67.0	67.0	67.0		14.0	14.0
Effective Green, g (s)	67.5	67.5	67.5		14.5	14.5
Actuated g/C Ratio	0.75	0.75	0.75		0.16	0.16
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	596	1956	1308		210	173
v/s Ratio Prot		c0.21	0.04		c0.05	
v/s Ratio Perm	0.04					0.00
v/c Ratio	0.05	0.28	0.05		0.31	0.02
Uniform Delay, d1	2.9	3.5	2.9		33.4	31.8
Progression Factor	0.61	0.65	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.3	0.1		0.3	0.0
Delay (s)	1.9	2.6	3.0		33.7	31.8
Level of Service	A	A	A		C	C
Approach Delay (s)		2.6	3.0		33.1	
Approach LOS		A	A		C	

Intersection Summary

HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↖	↗	↖	↗	↘	↖	↗	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	1667	1417		1645	1417	1583	1667	1417	1583	1667	1417
Flt Permitted	0.65	1.00	1.00		0.92	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1088	1667	1417		1538	1417	1583	1667	1417	1583	1667	1417
Volume (vph)	20	67	296	34	96	37	157	488	35	20	395	163
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	73	322	37	104	40	171	530	38	22	429	177
RTOR Reduction (vph)	0	0	111	0	0	25	0	0	21	0	0	118
Lane Group Flow (vph)	22	73	211	0	141	15	171	530	17	22	429	59
Turn Type	Perm		pm+ov	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases		2	3		6		3	8		7		4
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	33.7	33.7	47.0		33.7	33.7	13.3	40.4	40.4	2.4	29.5	29.5
Effective Green, g (s)	34.2	34.2	48.0		34.2	34.2	13.8	40.9	40.9	2.9	30.0	30.0
Actuated g/C Ratio	0.38	0.38	0.53		0.38	0.38	0.15	0.45	0.45	0.03	0.33	0.33
Clearance Time (s)	4.5	4.5	4.5		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	1.0	3.0	3.0
Lane Grp Cap (vph)	413	633	819		584	538	243	758	644	51	556	472
v/s Ratio Prot		0.04	c0.04				c0.11	0.32		0.01	c0.26	
v/s Ratio Perm	0.02		0.11		0.09	0.01			0.01			0.04
v/c Ratio	0.05	0.12	0.26		0.24	0.03	0.70	0.70	0.03	0.43	0.77	0.12
Uniform Delay, d1	17.7	18.1	11.4		19.0	17.5	36.2	19.6	13.6	42.7	26.9	20.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.90	1.36	2.42	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4	0.2		1.0	0.1	8.5	2.7	0.0	2.1	6.6	0.1
Delay (s)	17.9	18.5	11.5		20.0	17.6	41.0	29.4	32.9	44.9	33.5	21.0
Level of Service	B	B	B		C	B	D	C	C	D	C	C
Approach Delay (s)		13.1			19.5			32.3			30.4	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↕	↗	↖	↕
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	2530	1167	2608	1167	1304	2608
Flt Permitted	0.95	1.00	1.00	1.00	0.44	1.00
Satd. Flow (perm)	2530	1167	2608	1167	598	2608
Volume (vph)	159	182	456	264	314	476
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	171	196	490	284	338	512
RTOR Reduction (vph)	0	169	0	96	0	0
Lane Group Flow (vph)	171	27	490	188	338	512
Turn Type		Perm		Perm	pm+pt	
Protected Phases	6		8		7	4
Permitted Phases		6		8	4	
Actuated Green, G (s)	11.8	11.8	59.2	59.2	69.2	69.2
Effective Green, g (s)	12.3	12.3	59.7	59.7	69.7	69.7
Actuated g/C Ratio	0.14	0.14	0.66	0.66	0.77	0.77
Clearance Time (s)	4.5	4.5	4.5	4.5	3.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	1.0	3.0
Lane Grp Cap (vph)	346	159	1730	774	510	2020
v/s Ratio Prot	c0.07		0.19		c0.04	0.20
v/s Ratio Perm		0.02		0.16	c0.47	
v/c Ratio	0.49	0.17	0.28	0.24	0.66	0.25
Uniform Delay, d1	36.0	34.3	6.3	6.1	3.8	2.8
Progression Factor	1.01	1.07	1.00	1.00	1.20	0.47
Incremental Delay, d2	1.1	0.5	0.4	0.7	2.1	0.3
Delay (s)	37.4	37.2	6.7	6.8	6.7	1.6
Level of Service	D	D	A	A	A	A
Approach Delay (s)	37.3		6.7			3.6
Approach LOS	D		A			A

Intersection Summary

HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 184: Santa Monica Blvd & Ocean Ave

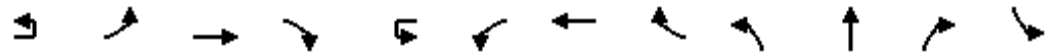
						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1304	1167	2608	1167	1304	2608
Flt Permitted	0.95	1.00	1.00	1.00	0.34	1.00
Satd. Flow (perm)	1304	1167	2608	1167	471	2608
Volume (vph)	55	41	643	172	79	447
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	44	684	183	84	476
RTOR Reduction (vph)	0	35	0	63	0	0
Lane Group Flow (vph)	59	9	684	120	84	476
Turn Type	pm+ov		Perm pm+pt			
Protected Phases	6	7	8		7	4
Permitted Phases		6		8	4	
Actuated Green, G (s)	13.7	18.0	58.5	58.5	67.3	67.3
Effective Green, g (s)	14.2	19.0	59.0	59.0	67.8	67.8
Actuated g/C Ratio	0.16	0.21	0.66	0.66	0.75	0.75
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	206	298	1710	765	399	1965
v/s Ratio Prot	c0.05	0.00	c0.26		0.01	c0.18
v/s Ratio Perm		0.01		0.10	0.15	
v/c Ratio	0.29	0.03	0.40	0.16	0.21	0.24
Uniform Delay, d1	33.4	28.2	7.2	6.0	3.3	3.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.0	0.7	0.4	0.1	0.3
Delay (s)	33.7	28.2	7.9	6.4	3.4	3.6
Level of Service	C	C	A	A	A	A
Approach Delay (s)	31.4		7.6			3.6
Approach LOS	C		A			A
Intersection Summary						
HCM Average Control Delay			7.7		HCM Level of Service	A
HCM Volume to Capacity ratio			0.37			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			44.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00			0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.98			0.99			0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1549	1649		1583	1628			1634			1576	
Flt Permitted	0.38	1.00		0.19	1.00			0.97			0.94	
Satd. Flow (perm)	626	1649		314	1628			1593			1485	
Volume (vph)	244	695	39	25	430	48	23	336	34	29	169	77
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	257	732	41	26	453	51	24	354	36	31	178	81
RTOR Reduction (vph)	0	3	0	0	7	0	0	5	0	0	23	0
Lane Group Flow (vph)	257	770	0	26	497	0	0	409	0	0	267	0
Conf. Peds. (#/hr)	28		25	25		28	21		28	28		21
Conf. Bikes (#/hr)			13			10			6			3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	33.0	33.0		33.0	33.0			19.0			19.0	
Effective Green, g (s)	33.0	33.0		33.0	33.0			19.0			19.0	
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.32			0.32	
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)	344	907		173	895			504			470	
v/s Ratio Prot		c0.47			0.31							
v/s Ratio Perm	0.41			0.08				c0.26			0.18	
v/c Ratio	0.75	0.85		0.15	0.56			0.81			0.57	
Uniform Delay, d1	10.3	11.4		6.6	8.7			18.8			17.1	
Progression Factor	1.00	1.00		0.89	0.95			2.32			1.00	
Incremental Delay, d2	13.8	9.7		1.7	2.3			9.7			4.9	
Delay (s)	24.1	21.1		7.6	10.6			53.4			22.0	
Level of Service	C	C		A	B			D			C	
Approach Delay (s)		21.9			10.4			53.4			22.0	
Approach LOS		C			B			D			C	

Intersection Summary

HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑	↗		↔	↑↑↑	↗	↖	↖		↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		1583	4550	1417		1583	4550	1417	1583	1649		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.53	1.00		0.21
Satd. Flow (perm)		1583	4550	1417		1583	4550	1417	890	1649		348
Volume (vph)	25	62	1782	16	2	53	1482	65	56	334	25	112
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	64	1837	16	2	55	1528	67	58	344	26	115
RTOR Reduction (vph)	0	0	0	6	0	0	0	33	0	2	0	0
Lane Group Flow (vph)	0	90	1837	10	0	57	1528	34	58	368	0	115
Turn Type	Prot	Prot		Perm	Prot	Prot		pm+ov	pm+pt			pm+pt
Protected Phases	1	1	6		5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		10.5	51.9	51.9		7.8	49.2	59.9	37.6	30.6		45.0
Effective Green, g (s)		10.5	52.9	52.9		7.8	50.2	60.9	39.6	32.6		47.0
Actuated g/C Ratio		0.09	0.44	0.44		0.06	0.42	0.51	0.33	0.27		0.39
Clearance Time (s)		4.0	5.0	5.0		4.0	5.0	4.0	4.0	6.0		4.0
Vehicle Extension (s)		3.0	4.4	4.4		3.0	4.3	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		139	2006	625		103	1903	766	334	448		246
v/s Ratio Prot		c0.06	c0.40			0.04	0.34	0.00	0.01	c0.22		c0.04
v/s Ratio Perm				0.01				0.02	0.05			0.14
v/c Ratio		0.65	0.92	0.02		0.55	0.80	0.04	0.17	0.82		0.47
Uniform Delay, d1		53.0	31.5	18.9		54.4	30.6	14.9	28.0	41.0		26.3
Progression Factor		1.00	1.00	1.00		1.58	0.37	0.27	1.00	1.00		0.99
Incremental Delay, d2		9.9	8.0	0.0		3.0	1.8	0.0	0.2	11.5		1.3
Delay (s)		62.9	39.5	18.9		88.9	12.9	4.0	28.3	52.4		27.4
Level of Service		E	D	B		F	B	A	C	D		C
Approach Delay (s)			40.4				15.2			49.2		
Approach LOS			D				B			D		
Intersection Summary												
HCM Average Control Delay			31.0				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		20.0			
Intersection Capacity Utilization			84.3%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												



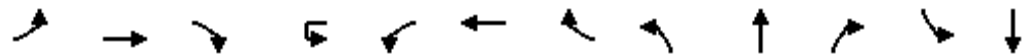
Movement	SBT	SBR
Lane Configurations	↓	↘
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frt	0.96	
Flt Protected	1.00	
Satd. Flow (prot)	1605	
Flt Permitted	1.00	
Satd. Flow (perm)	1605	
Volume (vph)	166	54
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	171	56
RTOR Reduction (vph)	10	0
Lane Group Flow (vph)	217	0
Turn Type		
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	34.3	
Effective Green, g (s)	36.3	
Actuated g/C Ratio	0.30	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	486	
v/s Ratio Prot	0.14	
v/s Ratio Perm		
v/c Ratio	0.45	
Uniform Delay, d1	33.8	
Progression Factor	0.99	
Incremental Delay, d2	0.6	
Delay (s)	33.9	
Level of Service	C	
Approach Delay (s)	31.7	
Approach LOS	C	
Intersection Summary		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1567	1631		1583	1627		1569	3029		1583	3099	
Flt Permitted	0.42	1.00		0.09	1.00		0.21	1.00		0.16	1.00	
Satd. Flow (perm)	686	1631		144	1627		346	3029		274	3099	
Volume (vph)	155	777	96	76	373	50	81	660	176	41	673	77
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	161	809	100	79	389	52	84	688	183	43	701	80
RTOR Reduction (vph)	0	5	0	0	5	0	0	26	0	0	10	0
Lane Group Flow (vph)	161	904	0	79	436	0	84	845	0	43	771	0
Conf. Peds. (#/hr)	18		24	24		18	27		25	25		27
Conf. Bikes (#/hr)			5			42			5			2
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	49.0	49.0		49.0	49.0		31.1	31.1		31.1	31.1	
Effective Green, g (s)	50.0	50.0		50.0	50.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	381	906		80	904		123	1077		97	1102	
v/s Ratio Prot		c0.55			0.27			c0.28			0.25	
v/s Ratio Perm	0.23			0.55			0.24			0.16		
v/c Ratio	0.42	1.00		0.99	0.48		0.68	0.78		0.44	0.70	
Uniform Delay, d1	11.6	19.9		19.7	12.1		24.7	25.9		22.2	24.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	29.4		97.2	1.8		26.6	5.7		14.0	3.7	
Delay (s)	15.0	49.4		116.9	14.0		51.3	31.6		36.2	28.6	
Level of Service	B	D		F	B		D	C		D	C	
Approach Delay (s)		44.2			29.6			33.4			29.0	
Approach LOS		D			C			C			C	

Intersection Summary

HCM Average Control Delay	35.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗		↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00
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)	1583	4550	1417		1583	4550	1417	1583	3167	1417	1583	3167
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.43	1.00	1.00	0.23	1.00
Satd. Flow (perm)	1583	4550	1417		1583	4550	1417	709	3167	1417	385	3167
Volume (vph)	118	1496	268	7	128	1327	84	139	609	155	143	373
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	122	1542	276	7	132	1368	87	143	628	160	147	385
RTOR Reduction (vph)	0	0	140	0	0	0	58	0	0	115	0	0
Lane Group Flow (vph)	122	1542	136	0	139	1368	29	143	628	45	147	385
Turn Type	Prot		pm+ov	Prot	Prot		Perm	pm+pt		Perm	pm+pt	
Protected Phases	1	6	3	5	5	2		3	8		7	4
Permitted Phases			6				2	8		8		4
Actuated Green, G (s)	18.0	38.8	47.6		12.8	33.6	33.6	37.8	29.0	29.0	38.0	29.1
Effective Green, g (s)	18.0	40.1	49.9		12.8	34.9	34.9	41.0	31.2	31.2	41.2	31.3
Actuated g/C Ratio	0.16	0.36	0.45		0.12	0.32	0.32	0.37	0.28	0.28	0.37	0.28
Clearance Time (s)	4.0	5.3	5.0		4.0	5.3	5.3	5.0	6.2	6.2	5.0	6.2
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	4.2	4.2	3.0	3.6
Lane Grp Cap (vph)	259	1659	694		184	1444	450	342	898	402	252	901
v/s Ratio Prot	0.08	c0.34	0.02		0.09	c0.30		0.04	c0.20		c0.05	0.12
v/s Ratio Perm			0.08				0.02	0.12		0.03	0.17	
v/c Ratio	0.47	0.93	0.20		0.76	0.95	0.06	0.42	0.70	0.11	0.58	0.43
Uniform Delay, d1	41.7	33.6	18.0		47.1	36.7	26.2	24.0	35.2	29.2	24.8	32.1
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	1.4	10.7	0.1		16.1	14.1	0.3	0.8	2.7	0.2	3.4	0.4
Delay (s)	43.0	44.3	18.2		63.2	50.7	26.4	24.8	37.9	29.3	28.2	32.4
Level of Service	D	D	B		E	D	C	C	D	C	C	C
Approach Delay (s)		40.5				50.5			34.4			29.8
Approach LOS		D				D			C			C

Intersection Summary

HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	58
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	60
RTOR Reduction (vph)	33
Lane Group Flow (vph)	27
Turn Type	pm+ov
Protected Phases	1
Permitted Phases	4
Actuated Green, G (s)	47.1
Effective Green, g (s)	49.3
Actuated g/C Ratio	0.45
Clearance Time (s)	4.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	635
v/s Ratio Prot	0.01
v/s Ratio Perm	0.01
v/c Ratio	0.04
Uniform Delay, d1	17.1
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	17.1
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑			↑↑↑	↔	↔	↔↔↔	↔			
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.86	0.81	0.86			
Frt	1.00	1.00			1.00	0.85	1.00	0.96	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	3072	4550			5733	1417	1362	3813	1218			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	3072	4550			5733	1417	1362	3813	1218			
Volume (vph)	428	1266	0	0	1233	311	836	397	671	0	0	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	437	1292	0	0	1258	317	853	405	685	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	126	0	48	48	0	0	0
Lane Group Flow (vph)	437	1292	0	0	1258	191	427	1095	325	0	0	0
Turn Type	Prot				Perm		Split	Perm				
Protected Phases	1	6			2		4	4				
Permitted Phases					2						4	
Actuated Green, G (s)	36.0	74.0			34.0	34.0	35.2	35.2	35.2			
Effective Green, g (s)	36.0	75.0			35.0	35.0	37.0	37.0	37.0			
Actuated g/C Ratio	0.30	0.62			0.29	0.29	0.31	0.31	0.31			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.8	5.8	5.8			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	922	2844			1672	413	420	1176	376			
v/s Ratio Prot	0.14	c0.28			c0.22		c0.31	0.29				
v/s Ratio Perm					0.13						0.27	
v/c Ratio	0.47	0.45			0.75	0.46	1.02	0.93	0.87			
Uniform Delay, d1	34.3	11.8			38.6	34.8	41.5	40.3	39.1			
Progression Factor	0.88	1.08			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.3	0.4			3.2	3.7	48.2	13.0	18.3			
Delay (s)	30.4	13.1			41.7	38.5	89.7	53.3	57.4			
Level of Service	C	B			D	D	F	D	E			
Approach Delay (s)	17.5				41.1		62.1				0.0	
Approach LOS	B				D		E				A	

Intersection Summary

HCM Average Control Delay	41.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↔↔	↑↑↑					↔	↔↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81		0.97	0.91					0.91	0.86	0.91
Frt		0.95		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.97	1.00
Satd. Flow (prot)		6431		3072	4550					1441	2793	1289
Flt Permitted		1.00		0.95	1.00					0.95	0.97	1.00
Satd. Flow (perm)		6431		3072	4550					1441	2793	1289
Volume (vph)	0	1067	491	648	1414	0	0	0	0	642	283	224
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1089	501	661	1443	0	0	0	0	655	289	229
RTOR Reduction (vph)	0	65	0	0	0	0	0	0	0	0	0	37
Lane Group Flow (vph)	0	1525	0	661	1443	0	0	0	0	328	616	192
Turn Type				Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Actuated Green, G (s)		45.3		28.0	77.8					32.5	32.5	32.5
Effective Green, g (s)		46.0		28.5	78.5					33.5	33.5	33.5
Actuated g/C Ratio		0.38		0.24	0.65					0.28	0.28	0.28
Clearance Time (s)		4.7		4.5	4.7					5.0	5.0	5.0
Vehicle Extension (s)		3.0		4.0	3.0					4.0	4.0	4.0
Lane Grp Cap (vph)		2465		730	2976					402	780	360
v/s Ratio Prot		c0.24		c0.22	0.32					c0.23	0.22	
v/s Ratio Perm												0.15
v/c Ratio		0.62		0.91	0.48					0.82	0.79	0.53
Uniform Delay, d1		29.9		44.4	10.5					40.4	40.0	36.6
Progression Factor		1.00		0.91	0.51					1.00	1.00	1.00
Incremental Delay, d2		1.2		8.6	0.3					12.6	5.7	1.9
Delay (s)		31.1		48.9	5.6					53.0	45.7	38.6
Level of Service		C		D	A					D	D	D
Approach Delay (s)		31.1			19.2			0.0			46.3	
Approach LOS		C			B			A			D	

Intersection Summary

HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			0.99			0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.97			0.96			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1557	1649		1583	1601			1574			1616	
Flt Permitted	0.42	1.00		0.12	1.00			0.97			0.90	
Satd. Flow (perm)	691	1649		203	1601			1531			1465	
Volume (vph)	64	877	43	51	376	78	41	296	142	22	79	11
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	877	43	51	376	78	41	296	142	22	79	11
RTOR Reduction (vph)	0	3	0	0	12	0	0	26	0	0	7	0
Lane Group Flow (vph)	64	917	0	51	442	0	0	453	0	0	105	0
Conf. Peds. (#/hr)	19		23	23		19	17		16	16		17
Conf. Bikes (#/hr)			9			39			2			10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	32.8	32.8		32.8	32.8			19.2			19.2	
Effective Green, g (s)	32.8	32.8		32.8	32.8			19.2			19.2	
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.32			0.32	
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)	378	901		111	875			490			469	
v/s Ratio Prot		c0.56			0.28							
v/s Ratio Perm	0.09			0.25				c0.30			0.07	
v/c Ratio	0.17	1.02		0.46	0.50			0.92			0.22	
Uniform Delay, d1	6.8	13.6		8.2	8.5			19.7			14.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.0	34.6		13.1	2.1			23.3			0.2	
Delay (s)	7.8	48.2		21.3	10.6			43.0			15.2	
Level of Service	A	D		C	B			D			B	
Approach Delay (s)		45.6			11.7			43.0			15.2	
Approach LOS		D			B			D			B	

Intersection Summary			
HCM Average Control Delay	35.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

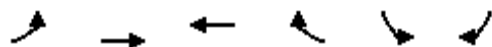


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶		↶	↶	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4534		1583	4489		1583	1605		1583	1620	
Flt Permitted	0.17	1.00		0.22	1.00		0.40	1.00		0.38	1.00	
Satd. Flow (perm)	287	4534		359	4489		659	1605		641	1620	
Volume (vph)	45	1045	25	27	1131	111	36	152	50	129	160	37
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	1136	27	29	1229	121	39	165	54	140	174	40
RTOR Reduction (vph)	0	1	0	0	6	0	0	13	0	0	9	0
Lane Group Flow (vph)	49	1162	0	29	1344	0	39	206	0	140	205	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			2			4			4		
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	87.3	87.3		87.3	87.3		23.3	23.3		23.3	23.3	
Effective Green, g (s)	87.7	87.7		87.7	87.7		24.3	24.3		24.3	24.3	
Actuated g/C Ratio	0.73	0.73		0.73	0.73		0.20	0.20		0.20	0.20	
Clearance Time (s)	4.4	4.4		4.4	4.4		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	210	3314		262	3281		133	325		130	328	
v/s Ratio Prot		0.26			c0.30			0.13			0.13	
v/s Ratio Perm	0.17			0.08			0.06			c0.22		
v/c Ratio	0.23	0.35		0.11	0.41		0.29	0.63		1.08	0.63	
Uniform Delay, d1	5.2	5.8		4.7	6.2		40.6	43.8		47.8	43.7	
Progression Factor	0.71	0.63		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	0.2		0.9	0.4		1.2	4.0		101.0	3.7	
Delay (s)	5.6	3.9		5.6	6.6		41.8	47.8		148.9	47.4	
Level of Service	A	A		A	A		D	D		F	D	
Approach Delay (s)		3.9			6.6			46.9			87.5	
Approach LOS		A			A			D			F	

Intersection Summary

HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
208: W San Vicente Ave & Bundy Dr



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑	↗	↖↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.95	1.00	0.97	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)	1583	4550	3167	1417	3072	1417
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1583	4550	3167	1417	3072	1417
Volume (vph)	295	1232	837	377	438	331
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	317	1325	900	405	471	356
RTOR Reduction (vph)	0	0	0	12	0	31
Lane Group Flow (vph)	317	1325	900	393	471	325
Turn Type	Prot			pm+ov		pt+ov
Protected Phases	5	2	6	4	4	4 5
Permitted Phases				6		
Actuated Green, G (s)	12.5	44.4	40.9	66.5	25.6	41.7
Effective Green, g (s)	12.0	44.3	40.8	66.0	25.2	41.2
Actuated g/C Ratio	0.13	0.49	0.45	0.73	0.28	0.46
Clearance Time (s)	3.5	3.9	3.9	3.6	3.6	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	211	2240	1436	1102	860	649
v/s Ratio Prot	c0.20	c0.29	0.28	0.10	c0.15	0.23
v/s Ratio Perm				0.18		
v/c Ratio	1.50	0.59	0.63	0.36	0.55	0.50
Uniform Delay, d1	39.0	16.4	18.8	4.3	27.6	17.2
Progression Factor	1.00	1.00	0.48	0.01	1.00	1.00
Incremental Delay, d2	249.2	1.2	1.5	0.1	0.7	0.6
Delay (s)	288.2	17.5	10.5	0.2	28.3	17.8
Level of Service	F	B	B	A	C	B
Approach Delay (s)		69.8	7.3		23.7	
Approach LOS		E	A		C	

Intersection Summary

HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3013		1509	3018	1430	
Flt Permitted	1.00		0.37	1.00	0.98	
Satd. Flow (perm)	3013		585	3018	1430	
Volume (vph)	713	8	27	1341	23	36
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	720	8	27	1355	23	36
RTOR Reduction (vph)	1	0	0	0	32	0
Lane Group Flow (vph)	727	0	27	1355	27	0
Turn Type			Perm			
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	80.4		80.4	80.4	11.6	
Effective Green, g (s)	79.9		79.9	79.9	12.1	
Actuated g/C Ratio	0.80		0.80	0.80	0.12	
Clearance Time (s)	3.5		3.5	3.5	4.5	
Vehicle Extension (s)	0.2		0.2	0.2	3.0	
Lane Grp Cap (vph)	2407		467	2411	173	
v/s Ratio Prot	0.24			c0.45	c0.02	
v/s Ratio Perm			0.05			
v/c Ratio	0.30		0.06	0.56	0.16	
Uniform Delay, d1	2.7		2.1	3.7	39.4	
Progression Factor	2.09		0.27	0.17	1.00	
Incremental Delay, d2	0.2		0.2	0.8	0.4	
Delay (s)	5.8		0.8	1.4	39.8	
Level of Service	A		A	A	D	
Approach Delay (s)	5.8			1.4	39.8	
Approach LOS	A			A	D	
Intersection Summary						
HCM Average Control Delay			3.9		HCM Level of Service	A
HCM Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			57.6%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT	NWR2
Lane Configurations											
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95					0.95	1.00
Frt	1.00	1.00	0.85	0.85	0.97					1.00	0.86
Flt Protected	0.95	1.00	1.00	1.00	1.00					0.99	1.00
Satd. Flow (prot)	1583	3167	1417	1417	3087					3123	1442
Flt Permitted	0.95	1.00	1.00	1.00	1.00					0.61	1.00
Satd. Flow (perm)	1583	3167	1417	1417	3087					1944	1442
Volume (vph)	55	485	243	47	327	36	30	106	54	406	14
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	516	259	50	348	38	32	113	57	432	15
RTOR Reduction (vph)	0	0	0	48	6	0	0	0	0	0	0
Lane Group Flow (vph)	59	516	259	2	412	0	0	0	0	602	15
Turn Type	custom		Perm	Perm					Prot		Free
Protected Phases	3	3			6				2	1	
Permitted Phases	4	4	3	3						2	Free
Actuated Green, G (s)	25.0	25.0	5.0	5.0	22.5					34.9	100.0
Effective Green, g (s)	23.6	23.6	4.0	4.0	22.5					33.9	100.0
Actuated g/C Ratio	0.24	0.24	0.04	0.04	0.22					0.34	1.00
Clearance Time (s)	3.0	3.0	3.0	3.0	4.0					4.0	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	3.0					4.0	
Lane Grp Cap (vph)	437	874	57	57	695					895	1442
v/s Ratio Prot	0.01	c0.02			c0.13					c0.13	
v/s Ratio Perm	0.03	0.14	c0.18	0.00						c0.09	0.01
v/c Ratio	0.14	0.59	4.54	0.04	0.59					0.67	0.01
Uniform Delay, d1	30.3	33.9	48.0	46.1	34.7					28.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00					0.30	1.00
Incremental Delay, d2	0.1	0.7	1634.2	0.1	3.7					3.0	0.0
Delay (s)	30.4	34.6	1682.2	46.2	38.3					11.6	0.0
Level of Service	C	C	F	D	D					B	A
Approach Delay (s)		517.7			38.3					11.6	
Approach LOS		F			D					B	

Intersection Summary

HCM Average Control Delay	250.5	HCM Level of Service	F
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑↑	↖		↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	1.00
Frt	1.00	0.98		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.99	1.00
Satd. Flow (prot)	1583	4471		1583	4485			3155	1417		3148	1417
Flt Permitted	0.17	1.00		0.95	1.00			0.79	1.00		0.66	1.00
Satd. Flow (perm)	276	4471		1583	4485			2490	1417		2095	1417
Volume (vph)	70	1247	164	107	1238	131	57	718	149	81	607	68
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	1313	173	113	1303	138	60	756	157	85	639	72
RTOR Reduction (vph)	0	19	0	0	14	0	0	0	98	0	0	26
Lane Group Flow (vph)	74	1467	0	113	1427	0	0	816	59	0	724	46
Turn Type	Perm		Prot		Perm		Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	6		5		2		8		4		4	
Permitted Phases	6						8		4		4	
Actuated Green, G (s)	36.0	36.0		8.0	48.0			33.5	33.5		33.5	33.5
Effective Green, g (s)	36.0	36.0		8.0	48.0			34.0	34.0		34.0	34.0
Actuated g/C Ratio	0.40	0.40		0.09	0.53			0.38	0.38		0.38	0.38
Clearance Time (s)	4.0	4.0		4.0	4.0			4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	110	1788		141	2392			941	535		791	535
v/s Ratio Prot	c0.33		c0.07		0.32							
v/s Ratio Perm	0.27						0.33		0.04		c0.35	
v/c Ratio	0.67	0.82		0.80	0.60			0.87	0.11		0.92	0.09
Uniform Delay, d1	22.2	24.1		40.2	14.4			25.9	18.2		26.6	18.0
Progression Factor	1.40	1.36		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	26.1	4.0		26.9	1.1			10.6	0.4		17.0	0.3
Delay (s)	57.2	36.8		67.1	15.5			36.5	18.6		43.6	18.3
Level of Service	E	D		E	B			D	B		D	B
Approach Delay (s)	37.8		19.2				33.6				41.3	
Approach LOS	D		B				C				D	

Intersection Summary

HCM Average Control Delay	31.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: 6th St & Western Ave

2/9/2010

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00
Frbp, ped/bikes		0.99			0.97			0.99			1.00	0.75
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.99			0.98			0.99			1.00	0.85
Flt Protected		1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)		3106			3007			3082			3167	1066
Flt Permitted		1.00			1.00			1.00			1.00	1.00
Satd. Flow (perm)		3106			3007			3082			3167	1066
Volume (vph)	0	983	75	0	1013	127	0	1038	97	0	1181	103
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1024	78	0	1055	132	0	1081	101	0	1230	107
RTOR Reduction (vph)	0	6	0	0	11	0	0	8	0	0	0	11
Lane Group Flow (vph)	0	1096	0	0	1176	0	0	1174	0	0	1230	96
Conf. Peds. (#/hr)	136		73	73		136	120		104	120		104
Conf. Bikes (#/hr)			5			7			19			15
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1415			1370			1404			1443	486
v/s Ratio Prot		0.35			c0.39			0.38			c0.39	
v/s Ratio Perm												0.09
v/c Ratio		0.77			0.86			0.84			0.85	0.20
Uniform Delay, d1		20.6			21.9			21.6			21.8	14.7
Progression Factor		1.00			1.00			0.62			1.00	1.00
Incremental Delay, d2		4.2			7.2			0.6			6.6	0.9
Delay (s)		24.8			29.1			14.0			28.4	15.6
Level of Service		C			C			B			C	B
Approach Delay (s)		24.8			29.1			14.0			27.3	
Approach LOS		C			C			B			C	

Intersection Summary

HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
3: Wilshire Blvd & Western Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.97		1.00	0.97		1.00	0.97		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1579	4384		1567	4345		1576	3031		1583	3051	
Flt Permitted	0.13	1.00		0.20	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	214	4384		329	4345		229	3031		230	3051	
Volume (vph)	48	754	58	154	1199	103	90	1198	102	105	832	64
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	820	63	167	1303	112	98	1302	111	114	904	70
RTOR Reduction (vph)	0	9	0	0	10	0	0	7	0	0	6	0
Lane Group Flow (vph)	52	874	0	167	1405	0	98	1406	0	114	968	0
Conf. Peds. (#/hr)	663		371	371		663	453		618	618		453
Conf. Bikes (#/hr)			12			12			20			20
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	33.9	29.6		40.5	32.9		34.2	27.8		34.2	27.8	
Effective Green, g (s)	35.3	31.0		41.9	34.3		35.4	29.0		35.4	29.0	
Actuated g/C Ratio	0.39	0.34		0.47	0.38		0.39	0.32		0.39	0.32	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	149	1510		258	1656		186	977		187	983	
v/s Ratio Prot	0.02	0.20		c0.05	c0.32		0.04	c0.46		c0.04	0.32	
v/s Ratio Perm	0.12			0.25			0.17			0.20		
v/c Ratio	0.35	0.58		0.65	0.85		0.53	1.44		0.61	0.98	
Uniform Delay, d1	18.7	24.2		15.6	25.5		20.3	30.5		22.5	30.3	
Progression Factor	1.02	0.72		0.50	0.71		0.84	1.02		1.66	1.49	
Incremental Delay, d2	1.0	1.1		4.7	4.9		2.3	202.8		2.8	17.0	
Delay (s)	20.0	18.5		12.6	22.9		19.5	233.9		40.2	62.1	
Level of Service	B	B		B	C		B	F		D	E	
Approach Delay (s)		18.6			21.8			220.0			59.8	
Approach LOS		B			C			F			E	

Intersection Summary

HCM Average Control Delay	87.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
4: 8th St & Western Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3148		1583	3121		1583	3141		1583	3149	
Flt Permitted	0.31	1.00		0.40	1.00		0.10	1.00		0.16	1.00	
Satd. Flow (perm)	524	3148		662	3121		163	3141		259	3149	
Volume (vph)	51	482	20	95	578	62	40	932	54	90	1194	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	54	513	21	101	615	66	43	991	57	96	1270	48
RTOR Reduction (vph)	0	3	0	0	9	0	0	4	0	0	3	0
Lane Group Flow (vph)	54	531	0	101	672	0	43	1044	0	96	1315	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	40.4	40.4		40.4	40.4		40.3	40.3		40.3	40.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	239	1434		302	1422		74	1431		118	1435	
v/s Ratio Prot		0.17			c0.22			0.33			c0.42	
v/s Ratio Perm	0.10			0.15			0.26			0.37		
v/c Ratio	0.23	0.37		0.33	0.47		0.58	0.73		0.81	0.92	
Uniform Delay, d1	14.9	16.0		15.7	17.0		18.1	20.0		21.2	22.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.48	0.49	
Incremental Delay, d2	2.2	0.7		3.0	1.1		29.2	3.3		32.0	7.6	
Delay (s)	17.1	16.8		18.7	18.1		47.4	23.3		42.2	18.9	
Level of Service	B	B		B	B		D	C		D	B	
Approach Delay (s)		16.8			18.2			24.2			20.5	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗↖↗	↖	↗	↗↖↗	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4531		1583	4484		1583	3167	1417	1583	3167	1417
Flt Permitted	0.12	1.00		0.12	1.00		0.12	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	196	4531		196	4484		195	3167	1417	290	3167	1417
Volume (vph)	116	1588	46	109	1223	131	121	811	93	167	1067	120
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	117	1604	46	110	1235	132	122	819	94	169	1078	121
RTOR Reduction (vph)	0	3	0	0	13	0	0	0	27	0	0	37
Lane Group Flow (vph)	117	1647	0	110	1354	0	122	819	67	169	1078	84
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	40.9	33.1		40.7	33.0		41.0	33.2	40.9	41.4	33.4	41.2
Effective Green, g (s)	41.9	34.1		41.7	34.0		42.0	34.2	41.9	42.4	34.4	42.2
Actuated g/C Ratio	0.42	0.34		0.42	0.34		0.42	0.34	0.42	0.42	0.34	0.42
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	190	1545		189	1525		190	1083	650	226	1089	655
v/s Ratio Prot	c0.05	c0.36		0.04	0.30		0.05	0.26	0.01	c0.06	c0.34	0.01
v/s Ratio Perm	0.21			0.20			0.22		0.04	0.26		0.05
v/c Ratio	0.62	1.07		0.58	0.89		0.64	0.76	0.10	0.75	0.99	0.13
Uniform Delay, d1	21.2	33.0		22.9	31.2		22.2	29.2	17.6	20.6	32.6	17.7
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	5.8	42.9		4.5	8.1		7.2	4.9	0.1	12.7	25.0	0.1
Delay (s)	27.0	75.8		27.4	39.2		29.4	34.1	17.7	33.3	57.6	17.7
Level of Service	C	E		C	D		C	C	B	C	E	B
Approach Delay (s)		72.6			38.4			32.1			51.1	
Approach LOS		E			D			C			D	

Intersection Summary

HCM Average Control Delay	51.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4502		1583	4520		1583	3141		1583	3137	
Flt Permitted	0.17	1.00		0.09	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	283	4502		158	4520		185	3141		199	3137	
Volume (vph)	183	1438	109	112	1136	53	115	980	56	73	1261	83
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	187	1467	111	114	1159	54	117	1000	57	74	1287	85
RTOR Reduction (vph)	0	6	0	0	5	0	0	5	0	0	5	0
Lane Group Flow (vph)	187	1572	0	114	1208	0	117	1052	0	74	1367	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
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)	145	2301		81	2310		74	1256		80	1255	
v/s Ratio Prot		0.35			0.27			0.33			0.44	
v/s Ratio Perm	0.66			c0.72			c0.63			0.37		
v/c Ratio	1.29	0.68		1.41	0.52		1.58	0.84		0.93	1.09	
Uniform Delay, d1	22.0	16.5		22.0	14.7		27.0	24.4		25.7	27.0	
Progression Factor	1.46	1.47		1.52	1.57		1.00	1.00		1.00	1.00	
Incremental Delay, d2	167.8	1.5		221.3	0.5		316.2	6.8		81.4	53.2	
Delay (s)	200.0	25.7		254.7	23.6		343.2	31.1		107.1	80.2	
Level of Service	F	C		F	C		F	C		F	F	
Approach Delay (s)		44.2			43.4			62.2			81.6	
Approach LOS		D			D			E			F	
Intersection Summary												
HCM Average Control Delay			57.2			HCM Level of Service		E				
HCM Volume to Capacity ratio			1.49									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			105.7%			ICU Level of Service		G				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)	1583	4537		1583	4530			1641	1417		1595	
Flt Permitted	0.19	1.00		0.11	1.00			0.82	1.00		0.95	
Satd. Flow (perm)	314	4537		184	4530			1360	1417		1522	
Volume (vph)	38	1553	30	71	1153	34	27	58	70	26	106	48
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	1688	33	77	1253	37	29	63	76	28	115	52
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	16	0	18	0
Lane Group Flow (vph)	41	1720	0	77	1288	0	0	92	60	0	177	0
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases	6			2			8		8		4	
Permitted Phases	6			2			8		8		4	
Actuated Green, G (s)	65.8	65.8		65.8	65.8			15.7	15.7		15.7	
Effective Green, g (s)	65.8	65.8		65.8	65.8			16.2	16.2		16.2	
Actuated g/C Ratio	0.73	0.73		0.73	0.73			0.18	0.18		0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	230	3317		135	3312			245	255		274	
v/s Ratio Prot		0.38			0.28							
v/s Ratio Perm	0.13			c0.42				0.07	0.04		c0.12	
v/c Ratio	0.18	0.52		0.57	0.39			0.38	0.23		0.65	
Uniform Delay, d1	3.7	5.2		5.6	4.5			32.5	31.6		34.2	
Progression Factor	1.00	1.00		1.71	1.29			1.00	1.00		1.00	
Incremental Delay, d2	1.7	0.6		12.6	0.3			1.0	0.5		5.2	
Delay (s)	5.4	5.8		22.1	6.1			33.4	32.1		39.4	
Level of Service	A	A		C	A			C	C		D	
Approach Delay (s)		5.8			7.0			32.8			39.4	
Approach LOS		A			A			C			D	

Intersection Summary

HCM Average Control Delay	9.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.95		1.00	1.00	0.99	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.96		1.00	1.00	0.96	0.85
Flt Protected	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	4154		1583	4550	2974	1258
Flt Permitted	1.00		0.09	1.00	0.96	1.00
Satd. Flow (perm)	4154		151	4550	2974	1258
Volume (vph)	1195	462	289	1042	546	554
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1219	471	295	1063	557	565
RTOR Reduction (vph)	78	0	0	0	39	5
Lane Group Flow (vph)	1612	0	295	1063	707	371
Conf. Peds. (#/hr)		159	159			5
Conf. Bikes (#/hr)		4				5
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	39.0		51.0	51.0	29.3	37.3
Effective Green, g (s)	40.0		52.0	52.0	30.0	38.0
Actuated g/C Ratio	0.44		0.58	0.58	0.33	0.42
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	1846		215	2629	991	587
v/s Ratio Prot	0.39		c0.12	0.23	c0.24	0.06
v/s Ratio Perm			c0.67			0.24
v/c Ratio	0.87		1.37	0.40	0.71	0.63
Uniform Delay, d1	22.7		23.5	10.5	26.2	20.5
Progression Factor	1.00		1.00	1.00	0.46	0.24
Incremental Delay, d2	6.1		194.1	0.5	1.6	1.3
Delay (s)	28.8		217.6	10.9	13.7	6.2
Level of Service	C		F	B	B	A
Approach Delay (s)	28.8			55.8	11.1	
Approach LOS	C			E	B	
Intersection Summary						
HCM Average Control Delay			32.8		HCM Level of Service	C
HCM Volume to Capacity ratio			1.11			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			91.3%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	2930		1583	1667	1417	1583	3108		1583	3162	
Flt Permitted	0.70	1.00		0.49	1.00	1.00	0.35	1.00		0.16	1.00	
Satd. Flow (perm)	1162	2930		820	1667	1417	589	3108		268	3162	
Volume (vph)	20	165	164	169	90	59	43	1064	150	20	673	7
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	20	168	167	172	92	60	44	1086	153	20	687	7
RTOR Reduction (vph)	0	0	0	0	0	42	0	12	0	0	1	0
Lane Group Flow (vph)	20	335	0	172	92	18	44	1227	0	20	693	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	349	879		246	500	425	360	1899		164	1932	
v/s Ratio Prot		0.11			0.06			c0.39			0.22	
v/s Ratio Perm	0.02			c0.21		0.01	0.07			0.07		
v/c Ratio	0.06	0.38		0.70	0.18	0.04	0.12	0.65		0.12	0.36	
Uniform Delay, d1	22.4	24.9		27.9	23.3	22.3	7.4	11.2		7.4	8.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.85	1.59		0.21	0.23	
Incremental Delay, d2	0.3	1.3		15.3	0.8	0.2	0.1	0.2		0.1	0.0	
Delay (s)	22.7	26.2		43.2	24.1	22.5	6.3	18.1		1.7	2.0	
Level of Service	C	C		D	C	C	A	B		A	A	
Approach Delay (s)		26.0			34.0			17.7			2.0	
Approach LOS		C			C			B			A	

Intersection Summary

HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4531		1583	4494		1583	3119		1583	3167	1417
Flt Permitted	0.15	1.00		0.95	1.00		0.13	1.00		0.15	1.00	1.00
Satd. Flow (perm)	248	4531		1583	4494		223	3119		245	3167	1417
Volume (vph)	84	1717	48	143	1153	103	121	1061	119	74	906	81
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	88	1807	51	151	1214	108	127	1117	125	78	954	85
RTOR Reduction (vph)	0	4	0	0	11	0	0	9	0	0	0	59
Lane Group Flow (vph)	88	1854	0	151	1311	0	127	1233	0	78	954	26
Turn Type	pm+pt			Prot			pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		7	4		3	8	8
Permitted Phases	2						4			8		8
Actuated Green, G (s)	31.3	26.0		11.1	30.9		38.2	28.9		32.8	26.2	26.2
Effective Green, g (s)	32.6	26.9		10.6	31.8		39.2	29.9		33.8	27.2	27.2
Actuated g/C Ratio	0.36	0.30		0.12	0.35		0.44	0.33		0.38	0.30	0.30
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1354		186	1588		238	1036		190	957	428
v/s Ratio Prot	0.03	c0.41		c0.10	0.29		c0.06	c0.40		0.03	0.30	
v/s Ratio Perm	0.15						0.18			0.12		0.02
v/c Ratio	0.51	1.37		0.81	0.83		0.53	1.19		0.41	1.00	0.06
Uniform Delay, d1	20.5	31.6		38.7	26.6		19.0	30.1		22.6	31.4	22.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.90	0.87	0.82
Incremental Delay, d2	2.3	171.1		22.9	5.0		2.3	95.5		1.4	27.5	0.3
Delay (s)	22.8	202.7		61.6	31.6		21.3	125.5		21.7	54.9	18.6
Level of Service	C			E			C			C		D
Approach Delay (s)	194.5			34.7			115.8			49.8		
Approach LOS	F			C			F			D		

Intersection Summary

HCM Average Control Delay	109.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↖	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			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			0.97	1.00		0.98	1.00
Satd. Flow (prot)	1583	4506		1583	4529			1623	1417		1641	1417
Flt Permitted	0.09	1.00		0.09	1.00			0.97	1.00		0.98	1.00
Satd. Flow (perm)	152	4506		147	4529			1623	1417		1641	1417
Volume (vph)	45	1487	103	6	1405	44	80	68	42	64	144	29
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	49	1634	113	7	1544	48	88	75	46	70	158	32
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	36	0	0	28
Lane Group Flow (vph)	49	1747	0	7	1589	0	0	163	10	0	228	4
Turn Type	Perm		Perm		Split		Perm		Split		Perm	
Protected Phases	6		2		4		4		3		3	
Permitted Phases	6		2				4				3	
Actuated Green, G (s)	43.6	43.6		43.6	43.6			19.0	19.0		10.5	10.5
Effective Green, g (s)	45.5	45.5		45.5	45.5			20.5	20.5		12.0	12.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.23	0.23		0.13	0.13
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	77	2278		74	2290			370	323		219	189
v/s Ratio Prot	c0.39		0.35		c0.10		c0.14					
v/s Ratio Perm	0.32		0.05		0.01		0.00					
v/c Ratio	0.64	0.77		0.09	0.69			0.44	0.03		1.04	0.02
Uniform Delay, d1	16.2	18.0		11.6	16.9			29.8	27.0		39.0	33.9
Progression Factor	0.81	0.77		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	32.8	2.4		2.5	1.8			0.8	0.0		72.0	0.0
Delay (s)	45.9	16.3		14.1	18.7			30.7	27.1		111.0	34.0
Level of Service	D	B		B	B			C	C		F	C
Approach Delay (s)	17.1		18.7		29.9		101.5					
Approach LOS	B		B		C		F					

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	1.00
Satd. Flow (prot)	1583	4545		1583	4535			1608			1633	1417
Flt Permitted	0.24	1.00		0.17	1.00			0.99			0.98	1.00
Satd. Flow (perm)	396	4545		288	4535			1608			1633	1417
Volume (vph)	239	1250	9	22	995	22	4	23	8	10	13	174
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	249	1302	9	23	1036	23	4	24	8	10	14	181
RTOR Reduction (vph)	0	0	0	0	2	0	0	7	0	0	0	159
Lane Group Flow (vph)	249	1311	0	23	1057	0	0	29	0	0	24	22
Turn Type	Perm			Perm			Split			Split		Perm
Protected Phases	6			2			3	3		4	4	
Permitted Phases	6			2								4
Actuated Green, G (s)	56.9	56.9		56.9	56.9			7.2			10.0	10.0
Effective Green, g (s)	58.4	58.4		58.4	58.4			8.6			11.0	11.0
Actuated g/C Ratio	0.65	0.65		0.65	0.65			0.10			0.12	0.12
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	257	2949		187	2943			154			200	173
v/s Ratio Prot		0.29			0.23			c0.02			0.01	
v/s Ratio Perm	c0.63			0.08								c0.02
v/c Ratio	0.97	0.44		0.12	0.36			0.19			0.12	0.13
Uniform Delay, d1	14.9	7.8		6.0	7.2			37.5			35.2	35.2
Progression Factor	1.00	1.00		1.41	1.39			1.00			1.00	1.00
Incremental Delay, d2	48.7	0.5		1.0	0.3			0.6			0.3	0.3
Delay (s)	63.6	8.3		9.5	10.3			38.1			35.5	35.6
Level of Service	E	A		A	B			D			D	D
Approach Delay (s)		17.1			10.3			38.1			35.5	
Approach LOS		B			B			D			D	

Intersection Summary

HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			0.98			0.99	
Flpb, ped/bikes		1.00		0.98	1.00			1.00			1.00	
Frt		1.00		1.00	1.00			0.96			0.95	
Flt Protected		1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)		4272		1468	4263			1462			1435	
Flt Permitted		1.00		0.13	1.00			0.97			0.92	
Satd. Flow (perm)		4272		199	4263			1425			1346	
Volume (vph)	0	1455	10	30	1216	22	10	40	25	10	10	14
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	1599	11	33	1336	24	11	44	27	11	11	15
RTOR Reduction (vph)	0	1	0	0	1	0	0	15	0	0	13	0
Lane Group Flow (vph)	0	1609	0	33	1359	0	0	67	0	0	24	0
Conf. Peds. (#/hr)	34		71	71		34	15		9	9		15
Conf. Bikes (#/hr)			8			12			4			2
Turn Type				Perm			Perm				Perm	
Protected Phases		6			2			8				4
Permitted Phases				2			8			4		
Actuated Green, G (s)		67.7		67.7	67.7			14.8			14.8	
Effective Green, g (s)		67.2		67.2	67.2			14.8			14.8	
Actuated g/C Ratio		0.75		0.75	0.75			0.16			0.16	
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		3190		149	3183			234			221	
v/s Ratio Prot		c0.38			0.32							
v/s Ratio Perm				0.17				c0.05			0.02	
v/c Ratio		0.50		0.22	0.43			0.29			0.11	
Uniform Delay, d1		4.6		3.5	4.2			33.0			32.0	
Progression Factor		0.29		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.2		3.4	0.4			0.7			0.2	
Delay (s)		1.6		6.9	4.7			33.6			32.2	
Level of Service		A		A	A			C			C	
Approach Delay (s)		1.6			4.7			33.6			32.2	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay			4.2					HCM Level of Service			A	
HCM Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			90.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			52.6%					ICU Level of Service			A	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1490	2980	1333	1490	2948		1490	4225		1490	4211	
Flt Permitted	0.13	1.00	1.00	0.13	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	202	2980	1333	202	2948		216	4225		216	4211	
Volume (vph)	119	1162	102	133	1062	83	133	1376	136	181	1522	191
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	123	1198	105	137	1095	86	137	1419	140	187	1569	197
RTOR Reduction (vph)	0	0	31	0	7	0	0	13	0	0	18	0
Lane Group Flow (vph)	123	1198	74	137	1174	0	137	1546	0	187	1748	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	37.0	30.0	37.0	37.0	30.0		35.0	28.0		35.0	28.0	
Effective Green, g (s)	38.0	31.0	38.0	38.0	31.0		36.0	29.0		36.0	29.0	
Actuated g/C Ratio	0.42	0.34	0.42	0.42	0.34		0.40	0.32		0.40	0.32	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	185	1026	622	185	1015		185	1361		185	1357	
v/s Ratio Prot	0.05	c0.40	0.01	c0.06	0.40		0.06	0.37		c0.08	c0.42	
v/s Ratio Perm	0.23		0.05	0.25			0.24			0.32		
v/c Ratio	0.66	1.17	0.12	0.74	1.16		0.74	1.14		1.01	1.29	
Uniform Delay, d1	20.8	29.5	15.8	21.2	29.5		42.1	30.5		23.8	30.5	
Progression Factor	0.88	0.75	0.57	1.00	1.00		1.74	1.50		1.71	1.43	
Incremental Delay, d2	3.6	80.0	0.0	14.7	82.0		8.7	66.9		59.1	133.9	
Delay (s)	21.9	102.2	9.1	35.9	111.5		81.9	112.7		99.8	177.7	
Level of Service	C	F	A	D	F		F	F		F	F	
Approach Delay (s)		88.4			103.6			110.3			170.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	122.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	108.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑		↙	↑↑↑		↙	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		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)	1490	2980	1333	1490	2928		1490	4235		1490	4235	
Flt Permitted	0.24	1.00	1.00	0.30	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	379	2980	1333	472	2928		165	4235		165	4235	
Volume (vph)	50	598	79	123	853	113	106	1441	115	79	1477	118
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	51	604	80	124	862	114	107	1456	116	80	1492	119
RTOR Reduction (vph)	0	0	37	0	5	0	0	10	0	0	10	0
Lane Group Flow (vph)	51	604	43	124	971	0	107	1562	0	80	1601	0
Turn Type	Perm		Perm	pm+pt			Perm			Perm		
Protected Phases		8		7	4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	35.0	35.0	35.0	43.0	43.0		37.0	37.0		37.0	37.0	
Effective Green, g (s)	36.0	36.0	36.0	44.0	44.0		38.0	38.0		38.0	38.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.49	0.49		0.42	0.42		0.42	0.42	
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	152	1192	533	276	1431		70	1788		70	1788	
v/s Ratio Prot		0.20		0.02	c0.33			0.37			0.38	
v/s Ratio Perm	0.13		0.03	0.20			c0.65			0.48		
v/c Ratio	0.34	0.51	0.08	0.45	0.68		1.53	0.87		1.14	0.90	
Uniform Delay, d1	18.7	20.3	16.7	14.0	17.6		26.0	23.8		26.0	24.2	
Progression Factor	1.37	1.41	2.28	1.00	1.00		1.00	1.00		0.36	0.32	
Incremental Delay, d2	0.5	0.1	0.0	1.2	2.6		297.3	6.3		79.3	0.8	
Delay (s)	26.2	28.8	38.2	15.2	20.2		323.3	30.1		88.7	8.5	
Level of Service	C	C	D	B	C		F	C		F	A	
Approach Delay (s)		29.7			19.6			48.8			12.3	
Approach LOS		C			B			D			B	

Intersection Summary

HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.99			0.98		1.00	1.00		1.00	0.99	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2947			2928		1490	4263		1490	4247	
Flt Permitted		1.00			1.00		0.17	1.00		0.17	1.00	
Satd. Flow (perm)		2947			2928		263	4263		263	4247	
Volume (vph)	0	1012	81	0	748	100	71	1553	47	73	1518	87
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1033	83	0	763	102	72	1585	48	74	1549	89
RTOR Reduction (vph)	0	1	0	0	1	0	0	5	0	0	10	0
Lane Group Flow (vph)	0	1115	0	0	864	0	72	1628	0	74	1628	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	8		4		4		6		6		2	
Permitted Phases	8		4		4		6		6		2	
Actuated Green, G (s)	27.2		27.2		27.2		23.2		23.2		23.2	
Effective Green, g (s)	28.1		28.1		28.1		23.9		23.9		23.9	
Actuated g/C Ratio	0.47		0.47		0.47		0.40		0.40		0.40	
Clearance Time (s)	4.9		4.9		4.9		4.7		4.7		4.7	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	1380		1371		1371		105		1698		105	
v/s Ratio Prot	c0.38		0.30		0.30		0.38		0.38		c0.38	
v/s Ratio Perm							0.27		0.27		0.28	
v/c Ratio	0.81		0.63		0.63		0.69		0.96		0.70	
Uniform Delay, d1	13.6		12.0		12.0		14.9		17.6		15.1	
Progression Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	3.6		1.0		1.0		30.7		14.1		32.8	
Delay (s)	17.2		13.0		13.0		45.7		31.6		47.9	
Level of Service	B		B		B		D		C		D	
Approach Delay (s)	17.2		13.0		13.0		32.2		32.2		32.9	
Approach LOS	B		B		B		C		C		C	

Intersection Summary

HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		1.00	0.98		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	0.98		1.00	0.98		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1487	4129		1488	4133		1488	4197		1490	4119	
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	221	4129		221	4133		198	4197		1490	4119	
Volume (vph)	246	1202	144	183	939	118	100	1285	111	105	1266	157
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	251	1227	147	187	958	120	102	1311	113	107	1292	160
RTOR Reduction (vph)	0	16	0	0	18	0	0	11	0	0	16	0
Lane Group Flow (vph)	251	1358	0	187	1060	0	102	1413	0	107	1436	0
Conf. Peds. (#/hr)	135		153	153		135	164		79	79		164
Conf. Bikes (#/hr)			13			8			6			17
Turn Type	pm+pt			pm+pt			pm+pt			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					
Actuated Green, G (s)	35.8	28.3		35.8	28.3		37.6	31.7		7.5	33.3	
Effective Green, g (s)	35.3	28.3		35.3	28.3		37.1	31.7		7.0	33.3	
Actuated g/C Ratio	0.39	0.31		0.39	0.31		0.41	0.35		0.08	0.37	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	185	1298		185	1300		159	1478		116	1524	
v/s Ratio Prot	c0.11	0.33		0.08	0.26		0.04	0.34		c0.07	c0.35	
v/s Ratio Perm	c0.43			0.32			0.23					
v/c Ratio	1.36	1.05		1.01	0.82		0.64	0.96		0.92	0.94	
Uniform Delay, d1	22.3	30.9		23.5	28.4		19.0	28.5		41.2	27.4	
Progression Factor	1.59	0.67		1.36	0.83		1.85	0.84		1.00	1.00	
Incremental Delay, d2	185.5	35.1		66.4	5.3		6.8	12.7		58.8	12.9	
Delay (s)	221.0	55.7		98.4	28.8		42.1	36.6		100.1	40.3	
Level of Service	F	E		F	C		D	D		F	D	
Approach Delay (s)		81.3			39.1			36.9			44.4	
Approach LOS		F			D			D			D	

Intersection Summary

HCM Average Control Delay	51.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		0.99	1.00	
Frt		0.96			0.99		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1475			1516		1477	4262		1482	4210	
Flt Permitted		0.91			0.75		0.10	1.00		0.13	1.00	
Satd. Flow (perm)		1355			1151		152	4262		200	4210	
Volume (vph)	79	206	126	57	92	16	49	1384	28	19	1505	80
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	81	210	129	58	94	16	50	1412	29	19	1536	82
RTOR Reduction (vph)	0	5	0	0	5	0	0	2	0	0	5	0
Lane Group Flow (vph)	0	415	0	0	163	0	50	1439	0	19	1613	0
Confl. Peds. (#/hr)	10		12	12		10	57		25	25		57
Confl. Bikes (#/hr)			2						1			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		31.3			31.3		49.2	49.2		49.2	49.2	
Effective Green, g (s)		32.3			32.3		49.7	49.7		49.7	49.7	
Actuated g/C Ratio		0.36			0.36		0.55	0.55		0.55	0.55	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		486			413		84	2354		110	2325	
v/s Ratio Prot								0.34			c0.38	
v/s Ratio Perm		c0.31			0.14		0.33			0.09		
v/c Ratio		0.85			0.39		0.60	0.61		0.17	0.69	
Uniform Delay, d1		26.7			21.5		13.4	13.6		10.0	14.6	
Progression Factor		1.00			1.00		1.00	1.00		0.54	0.49	
Incremental Delay, d2		13.6			0.6		27.4	1.2		1.1	0.6	
Delay (s)		40.3			22.2		40.8	14.8		6.5	7.8	
Level of Service		D			C		D	B		A	A	
Approach Delay (s)		40.3			22.2		15.7			7.7		
Approach LOS		D			C		B			A		
Intersection Summary												
HCM Average Control Delay			15.3				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			86.1%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91		
Frt	1.00	0.99		1.00	0.98		1.00	1.00		1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1490	4259		1490	4211		1490	4267		1490	4233		
Flt Permitted	0.23	1.00		0.10	1.00		0.95	1.00		0.11	1.00		
Satd. Flow (perm)	356	4259		164	4211		1490	4267		180	4233		
Volume (vph)	120	1567	58	67	982	122	53	1457	37	140	1573	132	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	124	1615	60	69	1012	126	55	1502	38	144	1622	136	
RTOR Reduction (vph)	0	3	0	0	15	0	0	3	0	0	9	0	
Lane Group Flow (vph)	124	1672	0	69	1123	0	55	1537	0	144	1749	0	
Turn Type	Perm		pm+pt			Prot		pm+pt					
Protected Phases	8		7		4		5		1			6	
Permitted Phases	8		4			2				6			
Actuated Green, G (s)	32.9	32.9		43.9	43.9		7.9	29.5		45.2	33.4		
Effective Green, g (s)	34.3	34.3		45.3	45.3		7.9	30.9		46.6	34.8		
Actuated g/C Ratio	0.34	0.34		0.45	0.45		0.08	0.31		0.47	0.35		
Clearance Time (s)	5.4	5.4		4.0	5.4		4.0	5.4		4.0	5.4		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		4.0	3.0		
Lane Grp Cap (vph)	122	1461		167	1908		118	1319		238	1473		
v/s Ratio Prot	c0.39		0.03			c0.27		0.04		c0.07			c0.41
v/s Ratio Perm	0.35		0.16			0.36				0.21			
v/c Ratio	1.02	1.14		0.41	0.59		0.47	1.17		0.61	1.19		
Uniform Delay, d1	32.9	32.9		21.7	20.4		44.0	34.5		21.1	32.6		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	85.9	73.5		1.7	1.3		2.9	83.1		5.0	91.4		
Delay (s)	118.8	106.4		23.4	21.7		46.9	117.6		26.1	124.0		
Level of Service	F		C			D		F		C			F
Approach Delay (s)	107.2		21.8			115.2				116.6			
Approach LOS	F		C			F				F			

Intersection Summary

HCM Average Control Delay	96.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑			↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	0.96			0.99			1.00	0.96		0.96	
Flpb, ped/bikes	0.97	1.00			1.00			0.98	1.00		0.99	
Frt	1.00	0.98			0.99			1.00	0.85		0.94	
Flt Protected	0.95	1.00			1.00			0.99	1.00		0.98	
Satd. Flow (prot)	1440	4049			4184			1515	1280		1375	
Flt Permitted	0.18	1.00			1.00			0.90	1.00		0.87	
Satd. Flow (perm)	280	4049			4184			1389	1280		1223	
Volume (vph)	207	1395	202	0	1084	65	63	164	134	13	5	15
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	230	1550	224	0	1204	72	70	182	149	14	6	17
RTOR Reduction (vph)	0	16	0	0	5	0	0	0	12	0	13	0
Lane Group Flow (vph)	230	1758	0	0	1271	0	0	252	137	0	24	0
Conf. Peds. (#/hr)	95		113	113		95	73		22	22		73
Conf. Bikes (#/hr)			13			15			3			3
Turn Type	Perm			Perm			Perm		Perm		Perm	
Protected Phases	6			2			8		8		4	
Permitted Phases	6						8		8		4	
Actuated Green, G (s)	61.6	61.6			61.6			20.9	20.9		20.9	
Effective Green, g (s)	61.1	61.1			61.1			20.9	20.9		20.9	
Actuated g/C Ratio	0.68	0.68			0.68			0.23	0.23		0.23	
Clearance Time (s)	3.5	3.5			3.5			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)	190	2749			2840			323	297		284	
v/s Ratio Prot		0.43			0.30							
v/s Ratio Perm	c0.82						c0.18		0.11		0.02	
v/c Ratio	1.21	0.64			0.45			0.78	0.46		0.08	
Uniform Delay, d1	14.4	8.2			6.7			32.4	29.7		27.1	
Progression Factor	1.48	1.44			0.32			1.00	1.00		1.00	
Incremental Delay, d2	129.2	1.0			0.3			11.5	1.1		0.1	
Delay (s)	150.6	12.8			2.5			43.9	30.8		27.2	
Level of Service	F	B			A			D	C		C	
Approach Delay (s)		28.6			2.5			39.1			27.2	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.95			0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1583	4533		1583	4300	1218		1568			1586	
Flt Permitted	0.19	1.00		0.12	1.00	1.00		0.90			0.80	
Satd. Flow (perm)	316	4533		192	4300	1218		1423			1284	
Volume (vph)	97	1392	35	66	1040	126	36	152	125	67	186	106
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	107	1530	38	73	1143	138	40	167	137	74	204	116
RTOR Reduction (vph)	0	3	0	0	0	55	0	21	0	0	17	0
Lane Group Flow (vph)	107	1565	0	73	1143	83	0	323	0	0	377	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	6			2			2	8			4	
Permitted Phases	6			2			2	8			4	
Actuated Green, G (s)	54.3	54.3		54.3	54.3	54.3		27.7			27.7	
Effective Green, g (s)	54.3	54.3		54.3	54.3	54.3		27.7			27.7	
Actuated g/C Ratio	0.60	0.60		0.60	0.60	0.60		0.31			0.31	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	191	2735		116	2594	735		438			395	
v/s Ratio Prot		0.35			0.27							
v/s Ratio Perm	0.34			c0.38		0.07		0.23			c0.29	
v/c Ratio	0.56	0.57		0.63	0.44	0.11		0.74			0.95	
Uniform Delay, d1	10.7	10.8		11.4	9.6	7.6		27.9			30.5	
Progression Factor	2.02	2.18		1.10	0.89	1.00		1.00			1.00	
Incremental Delay, d2	9.7	0.7		21.3	0.5	0.3		6.4			33.3	
Delay (s)	31.3	24.4		33.9	9.1	7.9		34.3			63.8	
Level of Service	C	C		C	A	A		C			E	
Approach Delay (s)		24.8			10.3			34.3			63.8	
Approach LOS		C			B			C			E	

Intersection Summary

HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 22: Wilshire Blvd & Spaulding Ave



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.93	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	4533		1583	4550	1517	
Flt Permitted	1.00		0.11	1.00	0.98	
Satd. Flow (perm)	4533		188	4550	1517	
Volume (vph)	1477	38	48	1109	70	69
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1555	40	51	1167	74	73
RTOR Reduction (vph)	2	0	0	0	15	0
Lane Group Flow (vph)	1593	0	51	1167	132	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2785		116	2796	450	
v/s Ratio Prot	c0.35			0.26	c0.09	
v/s Ratio Perm			0.27			
v/c Ratio	0.57		0.44	0.42	0.29	
Uniform Delay, d1	10.3		9.2	9.0	24.4	
Progression Factor	1.00		1.75	1.84	1.00	
Incremental Delay, d2	0.9		10.3	0.4	0.4	
Delay (s)	11.2		26.3	17.0	24.8	
Level of Service	B		C	B	C	
Approach Delay (s)	11.2			17.4	24.8	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑	↘	↘	↑↑	↘	↘	↑↑	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3119	3119
Flt Permitted	0.21	1.00	1.00	0.10	1.00	1.00	0.18	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	356	3167	1417	167	3167	1417	301	3167	1417	215	3119	3119
Volume (vph)	106	1233	115	175	1023	145	118	935	283	128	901	100
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	110	1284	120	182	1066	151	123	974	295	133	939	104
RTOR Reduction (vph)	0	0	35	0	0	6	0	0	123	0	9	0
Lane Group Flow (vph)	110	1284	85	182	1066	145	123	974	173	133	1034	0
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt		
Protected Phases		6		5		2	7		8		7	4
Permitted Phases	6		6	2		2	8		8		4	
Actuated Green, G (s)	35.0	35.0	35.0	44.0	44.0	49.7	27.1	27.1	27.1	36.0	36.0	36.0
Effective Green, g (s)	36.0	36.0	36.0	45.0	45.0	51.0	27.0	27.0	27.0	37.0	37.0	37.0
Actuated g/C Ratio	0.40	0.40	0.40	0.50	0.50	0.57	0.30	0.30	0.30	0.41	0.41	0.41
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	5.0
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	4.5
Lane Grp Cap (vph)	142	1267	567	162	1584	866	90	950	425	180	1282	1282
v/s Ratio Prot		0.41		c0.06	0.34	0.01		0.31		0.05	c0.33	
v/s Ratio Perm	0.31		0.06	c0.50		0.09	c0.41		0.12	0.26		
v/c Ratio	0.77	1.01	0.15	1.12	0.67	0.17	1.37	1.03	0.41	0.74	0.81	0.81
Uniform Delay, d1	23.5	27.0	17.2	20.2	17.0	9.3	31.5	31.5	25.1	21.0	23.3	23.3
Progression Factor	1.00	1.00	1.00	2.23	0.32	0.39	0.58	0.57	0.19	1.11	1.13	1.13
Incremental Delay, d2	32.9	28.7	0.6	63.5	0.2	0.0	192.5	25.9	1.2	12.4	4.6	4.6
Delay (s)	56.4	55.7	17.8	108.6	5.7	3.6	210.6	43.8	6.0	35.7	31.1	31.1
Level of Service	E	E	B	F	A	A	F	D	A	D	C	C
Approach Delay (s)		52.7			18.9			50.5			31.6	
Approach LOS		D			B			D			C	

Intersection Summary

HCM Average Control Delay	39.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗	↖	↕		↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3142		1583	3167	1417	1583	3118		1583	3127	
Flt Permitted	0.27	1.00		0.12	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	446	3142		196	3167	1417	238	3118		208	3127	
Volume (vph)	211	1036	58	130	683	194	72	932	106	215	1031	95
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	215	1057	59	133	697	198	73	951	108	219	1052	97
RTOR Reduction (vph)	0	4	0	0	0	39	0	10	0	0	8	0
Lane Group Flow (vph)	215	1112	0	133	697	159	73	1049	0	219	1141	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	40.1	32.3		39.7	32.1	37.9	26.1	26.1		35.1	35.1	
Effective Green, g (s)	41.2	34.2		40.8	34.0	39.0	28.0	28.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.38		0.45	0.38	0.43	0.31	0.31		0.41	0.41	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	293	1194		194	1196	677	74	970		162	1286	
v/s Ratio Prot	c0.06	c0.35		0.05	0.22	0.01		0.34		c0.08	0.37	
v/s Ratio Perm	0.28			0.26		0.10	0.31			c0.48		
v/c Ratio	0.73	0.93		0.69	0.58	0.24	0.99	1.08		1.35	0.89	
Uniform Delay, d1	17.0	26.8		18.4	22.3	16.1	30.8	31.0		25.3	24.6	
Progression Factor	1.00	1.00		1.70	0.89	0.55	1.48	1.49		0.84	0.65	
Incremental Delay, d2	9.2	14.0		5.8	1.2	0.1	97.6	52.8		183.3	6.6	
Delay (s)	26.2	40.8		37.1	21.1	9.0	143.3	99.0		204.4	22.5	
Level of Service	C	D		D	C	A	F	F		F	C	
Approach Delay (s)		38.4			20.9			101.9			51.6	
Approach LOS		D			C			F			D	

Intersection Summary

HCM Average Control Delay	53.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.75	1.00	1.00	0.64	1.00	0.99	
Flpb, ped/bikes	0.85	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.90	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1346	1637		3072	1667	1060	1583	3167	901	1431	3110	
Flt Permitted	0.55	1.00		0.95	1.00	1.00	0.15	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	786	1637		3072	1667	1060	251	3167	901	406	3110	
Volume (vph)	19	382	18	75	329	120	3	787	102	7	1062	38
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	20	398	19	78	343	125	3	820	106	7	1106	40
RTOR Reduction (vph)	0	1	0	0	0	34	0	0	0	0	3	0
Lane Group Flow (vph)	20	416	0	78	343	91	3	820	106	7	1143	0
Confl. Peds. (#/hr)	152		159	159		152	117		165	165		117
Confl. Bikes (#/hr)			5			9			7			6
Turn Type	Perm			Prot		Perm	Perm		pm+ov		Perm	
Protected Phases		8		7	4			6	7			2
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	23.0	23.0		8.0	35.0	35.0	45.4	45.4	53.4	45.4	45.4	
Effective Green, g (s)	23.8	23.8		8.0	35.8	35.8	46.2	46.2	54.2	46.2	46.2	
Actuated g/C Ratio	0.26	0.26		0.09	0.40	0.40	0.51	0.51	0.60	0.51	0.51	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	208	433		273	663	422	129	1626	583	208	1596	
v/s Ratio Prot		c0.25		0.03	c0.21			0.26	0.02		c0.37	
v/s Ratio Perm	0.03					0.09	0.01		0.10	0.02		
v/c Ratio	0.10	0.96		0.29	0.52	0.22	0.02	0.50	0.18	0.03	0.72	
Uniform Delay, d1	25.0	32.6		38.3	20.5	17.9	10.8	14.4	8.0	10.8	16.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.51	0.44	0.43	0.38	0.79	
Incremental Delay, d2	0.9	34.3		0.6	2.9	1.2	0.0	0.1	0.0	0.1	1.3	
Delay (s)	25.9	66.9		38.9	23.4	19.0	5.6	6.4	3.4	4.3	14.6	
Level of Service	C	E		D	C	B	A	A	A	A	B	
Approach Delay (s)		65.0			24.6			6.0			14.5	
Approach LOS		E			C			A			B	

Intersection Summary		
HCM Average Control Delay	21.0	HCM Level of Service C
HCM Volume to Capacity ratio	0.78	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 12.0
Intersection Capacity Utilization	76.7%	ICU Level of Service D
Analysis Period (min)	15	
c Critical Lane Group		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕	↗	↖	↕	↗	↖	↕	↗	↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.96		1.00	0.98		1.00	1.00	0.86
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1578	4354		1583	4281		1583	3067		1583	3167	1220
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	233	4354		238	4281		222	3067		1583	3167	1220
Volume (vph)	318	1663	232	85	828	151	159	926	67	225	1331	109
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	335	1751	244	89	872	159	167	975	71	237	1401	115
RTOR Reduction (vph)	0	20	0	0	29	0	0	6	0	0	0	68
Lane Group Flow (vph)	335	1975	0	89	1002	0	167	1040	0	237	1401	47
Confl. Peds. (#/hr)	152		159	159		152	117		165	165		117
Confl. Bikes (#/hr)			5			9			7			6
Turn Type	pm+pt			pm+pt			pm+pt			Prot		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					4
Actuated Green, G (s)	35.2	28.4		32.4	27.0		35.8	29.0		10.8	33.0	33.0
Effective Green, g (s)	35.4	29.4		32.6	28.0		36.0	30.0		10.0	34.0	34.0
Actuated g/C Ratio	0.39	0.33		0.36	0.31		0.40	0.33		0.11	0.38	0.38
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	181	1422		155	1332		180	1022		176	1196	461
v/s Ratio Prot	c0.12	0.45		0.03	0.23		0.06	0.34		c0.15	c0.44	
v/s Ratio Perm	c0.60			0.18			0.31					0.04
v/c Ratio	1.85	1.39		0.57	0.75		0.93	1.02		1.35	1.17	0.10
Uniform Delay, d1	22.9	30.3		23.7	27.9		43.8	30.0		40.0	28.0	18.1
Progression Factor	1.21	1.14		1.00	1.00		1.41	0.84		0.91	1.52	3.29
Incremental Delay, d2	400.9	179.0		5.1	4.0		44.8	32.0		186.0	85.5	0.4
Delay (s)	428.7	213.4		28.8	31.8		106.6	57.0		222.3	128.0	60.0
Level of Service	F	F		C	C		F	E		F	F	E
Approach Delay (s)		244.4			31.6			63.8			136.3	
Approach LOS		F			C			E			F	

Intersection Summary

HCM Average Control Delay	143.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 27: Del Valle Dr & Fairfax Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.98	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		0.99	1.00	
Frt			0.86	1.00	0.93	0.85		0.98		1.00	1.00	
Flt Protected			1.00	0.95	0.98	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1412	1501	1346	1300		3090		1560	3167	
Flt Permitted			1.00	0.95	0.98	1.00		1.00		0.27	1.00	
Satd. Flow (perm)			1412	1501	1346	1300		3090		436	3167	
Volume (vph)	0	0	86	125	0	137	0	822	93	171	957	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	88	128	0	140	0	839	95	174	977	0
RTOR Reduction (vph)	0	0	83	0	40	79	0	7	0	0	0	0
Lane Group Flow (vph)	0	0	5	79	56	14	0	927	0	174	977	0
Conf. Peds. (#/hr)	10		1	1		10	18		29	29		18
Conf. Bikes (#/hr)			1			2			3			3
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			4.7	12.7	12.7	12.7		58.2		58.2	58.2	
Effective Green, g (s)			5.6	13.6	13.6	13.6		58.8		58.8	58.8	
Actuated g/C Ratio			0.06	0.15	0.15	0.15		0.65		0.65	0.65	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			88	227	203	196		2019		285	2069	
v/s Ratio Prot								0.30			0.31	
v/s Ratio Perm			c0.00	c0.05	0.04	0.01				c0.40		
v/c Ratio			0.06	0.35	0.28	0.07		0.46		0.61	0.47	
Uniform Delay, d1			39.7	34.2	33.8	32.8		7.7		9.0	7.8	
Progression Factor			1.00	1.00	1.00	1.00		1.00		1.05	0.71	
Incremental Delay, d2			0.3	0.9	0.7	0.2		0.8		0.9	0.1	
Delay (s)			40.0	35.2	34.6	32.9		8.5		10.4	5.6	
Level of Service			D	D	C	C		A		B	A	
Approach Delay (s)		40.0			34.2			8.5			6.3	
Approach LOS		D			C			A			A	
Intersection Summary												
HCM Average Control Delay			11.4									B
HCM Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			90.0							12.0		
Intersection Capacity Utilization			62.2%									B
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↔	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.98			0.97		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4440			4406		1583	5733			5733	
Flt Permitted		1.00			1.00		0.17	1.00			1.00	
Satd. Flow (perm)		4440			4406		284	5733			5733	
Volume (vph)	0	1474	284	0	1019	273	130	562	0	0	1026	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1504	290	0	1040	279	133	573	0	0	1047	0
RTOR Reduction (vph)	0	28	0	0	49	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1766	0	0	1270	0	133	573	0	0	1047	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1021			1013		67	1347			1347	
v/s Ratio Prot		c0.40			0.29			0.10			0.18	
v/s Ratio Perm							c0.47					
v/c Ratio		1.73			1.25		1.99	0.43			0.78	
Uniform Delay, d1		38.5			38.5		38.2	32.5			35.8	
Progression Factor		0.71			1.00		1.00	1.00			0.43	
Incremental Delay, d2		328.5			122.6		492.1	1.0			2.7	
Delay (s)		355.8			161.1		530.3	33.5			17.9	
Level of Service		F			F		F	C			B	
Approach Delay (s)		355.8			161.1			127.1			17.9	
Approach LOS		F			F			F			B	
Intersection Summary												
HCM Average Control Delay		197.1					HCM Level of Service				F	
HCM Volume to Capacity ratio		1.86										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)			53.5		
Intersection Capacity Utilization		73.9%					ICU Level of Service			D		
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↗		↘	↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3165		1583	3147	
Flt Permitted	0.23	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	375	5733	1417		4550	1417		3165		1583	3147	
Volume (vph)	26	984	34	0	704	113	0	784	3	91	1004	44
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	27	1004	35	0	718	115	0	800	3	93	1024	45
RTOR Reduction (vph)	0	0	27	0	0	88	0	0	0	0	3	0
Lane Group Flow (vph)	27	1004	8	0	718	27	0	803	0	93	1066	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	88	1347	333		1069	333		1029		79	1023	
v/s Ratio Prot	c0.18				0.16		0.25		c0.06		c0.34	
v/s Ratio Perm	0.07		0.01		0.02							
v/c Ratio	0.31	0.75	0.02		0.67	0.08		0.78		1.18	1.04	
Uniform Delay, d1	31.5	35.5	29.4		34.7	29.8		30.5		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.63	0.43		0.28		1.00	1.00	
Incremental Delay, d2	8.8	3.8	0.1		2.4	0.3		3.4		156.7	39.6	
Delay (s)	40.3	39.3	29.6		24.5	13.2		11.8		204.2	73.3	
Level of Service	D	D	C		C	B		B		F	E	
Approach Delay (s)	39.0				22.9		11.8				83.8	
Approach LOS	D				C		B				F	

Intersection Summary

HCM Average Control Delay	43.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 30: Olympic Blvd & Fairfax Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶↶			↶↶	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.99			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4538		1583	4544		1583	3148			3077	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4538		290	4544		1583	3148			3077	
Volume (vph)	122	1761	32	63	1069	9	33	622	25	0	849	197
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	124	1797	33	64	1091	9	34	635	26	0	866	201
RTOR Reduction (vph)	0	2	0	0	1	0	0	3	0	0	20	0
Lane Group Flow (vph)	124	1828	0	64	1099	0	34	658	0	0	1047	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1044		67	1045		79	1023			1000	
v/s Ratio Prot		0.40			0.24		c0.02	0.21			c0.34	
v/s Ratio Perm	c0.43			0.22								
v/c Ratio	1.85	1.75		0.96	1.05		0.43	0.64			1.05	
Uniform Delay, d1	38.5	38.5		38.0	38.5		46.1	28.8			33.8	
Progression Factor	1.00	1.00		0.69	0.68		1.00	1.00			0.24	
Incremental Delay, d2	434.3	342.1		23.7	26.2		3.7	3.1			24.2	
Delay (s)	472.8	380.6		49.8	52.3		49.9	31.9			32.2	
Level of Service	F	F		D	D		D	C			C	
Approach Delay (s)		386.5			52.1			32.8			32.2	
Approach LOS		F			D			C			C	

Intersection Summary

HCM Average Control Delay	178.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↗	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3139		1583	3150		1583	3167	1417	1583	3167	1417
Flt Permitted	0.24	1.00		0.13	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	394	3139		222	3150		1583	3167	1417	1583	3167	1417
Volume (vph)	60	1132	70	71	652	24	97	625	177	79	828	80
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	62	1179	73	74	679	25	101	651	184	82	862	83
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	63	0	0	46
Lane Group Flow (vph)	62	1247	0	74	701	0	101	651	121	82	862	37
Turn Type	Perm			Perm			Prot		Perm	Prot		Perm
Protected Phases	6			2			3	8		7		4
Permitted Phases	6			2					8			4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		7.8	39.3	39.3	7.7	39.2	39.2
Effective Green, g (s)	30.0	30.0		30.0	30.0		7.8	40.3	40.3	7.7	40.2	40.2
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.09	0.45	0.45	0.09	0.45	0.45
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	131	1046		74	1050		137	1418	635	135	1415	633
v/s Ratio Prot	c0.40			0.22			c0.06	0.21		0.05	c0.27	
v/s Ratio Perm	0.16			0.33					0.09			0.03
v/c Ratio	0.47	1.19		1.00	0.67		0.74	0.46	0.19	0.61	0.61	0.06
Uniform Delay, d1	23.7	30.0		30.0	25.7		40.1	17.3	15.0	39.7	18.9	14.1
Progression Factor	0.89	0.83		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	87.6		104.6	3.4		18.5	1.1	0.7	7.5	2.0	0.2
Delay (s)	22.3	112.6		134.6	29.1		58.6	18.3	15.7	47.2	20.9	14.3
Level of Service	C			F			E	B	B	D	C	B
Approach Delay (s)	108.3			39.1			22.2			22.5		
Approach LOS	F			D			C			C		

Intersection Summary

HCM Average Control Delay	53.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 32: Wilshire Blvd & Crescent Heights Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑			↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4498		1583	4478			3104			3100	
Flt Permitted	0.21	1.00		0.09	1.00			1.00			0.73	
Satd. Flow (perm)	353	4498		143	4478			3104			2260	
Volume (vph)	163	1545	128	152	961	113	0	624	94	64	551	76
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	166	1577	131	155	981	115	0	637	96	65	562	78
RTOR Reduction (vph)	0	9	0	0	14	0	0	8	0	0	12	0
Lane Group Flow (vph)	166	1699	0	155	1082	0	0	725	0	0	693	0
Turn Type	Perm		Perm						Perm			
Protected Phases	6		2		2		8		4			
Permitted Phases	6		2						4			
Actuated Green, G (s)	48.6	48.6		48.6	48.6			29.7			29.7	
Effective Green, g (s)	50.3	50.3		50.3	50.3			31.7			31.7	
Actuated g/C Ratio	0.56	0.56		0.56	0.56			0.35			0.35	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	197	2514		80	2503			1093			796	
v/s Ratio Prot	0.38				0.24		0.23					
v/s Ratio Perm	0.47		c1.09								c0.31	
v/c Ratio	0.84	0.68		1.94	0.43			0.66			0.87	
Uniform Delay, d1	16.6	14.1		19.9	11.5			24.6			27.2	
Progression Factor	0.65	0.39		0.75	0.49			1.00			1.00	
Incremental Delay, d2	4.2	0.1		453.6	0.4			1.5			10.3	
Delay (s)	15.0	5.6		468.5	6.0			26.2			37.5	
Level of Service	B	A		F	A			C			D	
Approach Delay (s)	6.4		63.3		26.2		37.5					
Approach LOS	A		E		C		D					

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.97		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4439		1583	4409		1583	4538		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	215	4439		215	4409		1583	4538		1583	4550	1417
Volume (vph)	77	1491	290	59	1037	270	272	647	12	242	1605	160
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	80	1553	302	61	1080	281	283	674	12	252	1672	167
RTOR Reduction (vph)	0	32	0	0	52	0	0	2	0	0	0	31
Lane Group Flow (vph)	80	1823	0	61	1309	0	283	684	0	252	1672	136
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	29.0	29.0		29.0	29.0		14.0	31.0		15.0	31.0	31.0
Effective Green, g (s)	31.0	31.0		31.0	31.0		15.0	32.0		15.0	32.0	32.0
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.17	0.36		0.17	0.36	0.36
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1529		74	1519		264	1614		264	1618	504
v/s Ratio Prot	c0.41			0.30			c0.18			0.16		c0.37
v/s Ratio Perm	0.37			0.28			0.15					0.10
v/c Ratio	1.08	1.19		0.82	0.86		1.07	0.42		0.95	1.03	0.27
Uniform Delay, d1	29.5	29.5		27.0	27.5		37.5	22.0		37.2	29.0	20.7
Progression Factor	1.00	1.00		0.52	0.51		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	128.5	93.3		61.4	6.4		75.8	0.8		42.4	31.5	1.3
Delay (s)	158.0	122.8		75.5	20.3		113.3	22.8		79.6	60.5	22.0
Level of Service	F	F		E	C		F	C		E	E	C
Approach Delay (s)	124.2			22.7			49.2			59.7		
Approach LOS	F			C			D			E		

Intersection Summary

HCM Average Control Delay	69.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99			0.99			1.00	0.92
Flpb, ped/bikes	0.98	1.00		0.99	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1551	4537		1567	4504			1584			1645	1306
Flt Permitted	0.18	1.00		0.11	1.00			0.96			0.92	1.00
Satd. Flow (perm)	289	4537		185	4504			1532			1523	1306
Volume (vph)	80	1545	14	25	1188	39	25	182	50	23	116	196
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	1644	15	27	1264	41	27	194	53	24	123	209
RTOR Reduction (vph)	0	1	0	0	4	0	0	8	0	0	0	54
Lane Group Flow (vph)	85	1658	0	27	1301	0	0	266	0	0	147	155
Conf. Peds. (#/hr)	67		64	64		67	46		45	45		46
Conf. Bikes (#/hr)			7			5			5			6
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	197	3085		126	3063			368			366	313
v/s Ratio Prot		c0.37			0.29							
v/s Ratio Perm	0.29			0.15				c0.17			0.10	0.12
v/c Ratio	0.43	0.54		0.21	0.42			0.72			0.40	0.50
Uniform Delay, d1	7.2	8.1		6.0	7.2			34.9			32.0	32.8
Progression Factor	0.40	0.28		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	0.6	0.1		3.9	0.4			11.6			3.3	5.5
Delay (s)	3.5	2.3		9.8	7.6			46.5			35.2	38.3
Level of Service	A	A		A	A			D			D	D
Approach Delay (s)		2.3			7.7			46.5			37.0	
Approach LOS		A			A			D			D	

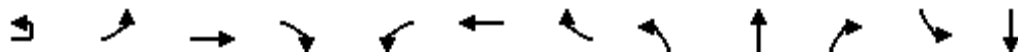
Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑↑↗		↘↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.75	1.00	0.92		1.00	0.95		1.00	0.97	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.99		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)	1569	3167	1060	1583	2816		3072	4279		3072	4370	
Flt Permitted	0.18	1.00	1.00	0.11	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	293	3167	1060	185	2816		3072	4279		3072	4370	
Volume (vph)	206	892	119	186	520	169	66	1393	150	140	1134	98
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	219	949	127	198	553	180	70	1482	160	149	1206	104
RTOR Reduction (vph)	0	0	84	0	26	0	0	11	0	0	8	0
Lane Group Flow (vph)	219	949	43	198	707	0	70	1631	0	149	1302	0
Confl. Peds. (#/hr)	211		160	160		211	310		128	128		310
Confl. Bikes (#/hr)			10			8			9			7
Turn Type	pm+pt		Perm	pm+pt			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2								
Actuated Green, G (s)	49.1	34.8	34.8	48.9	34.7		9.6	44.2		9.4	44.0	
Effective Green, g (s)	49.5	36.2	36.2	49.3	36.1		9.6	45.2		9.4	45.0	
Actuated g/C Ratio	0.41	0.30	0.30	0.41	0.30		0.08	0.38		0.08	0.38	
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	262	955	320	230	847		246	1612		241	1639	
v/s Ratio Prot	0.09	c0.30		c0.09	0.25		0.02	c0.38		0.05	c0.30	
v/s Ratio Perm	0.25		0.04	0.26								
v/c Ratio	0.84	0.99	0.14	0.86	0.83		0.28	1.01		0.62	0.79	
Uniform Delay, d1	26.4	41.8	30.5	29.7	39.2		52.0	37.4		53.6	33.4	
Progression Factor	1.63	0.97	1.51	1.00	1.00		0.83	0.75		1.09	0.49	
Incremental Delay, d2	15.2	23.1	0.1	26.4	9.5		0.5	23.3		2.8	2.5	
Delay (s)	58.3	63.7	46.2	56.2	48.7		43.6	51.2		61.4	18.8	
Level of Service	E	E	D	E	D		D	D		E	B	
Approach Delay (s)		61.1			50.3			50.9			23.2	
Approach LOS		E			D			D			C	

Intersection Summary

HCM Average Control Delay	45.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97	
Frt	1.00		1.00		1.00	0.97	0.85	1.00		0.85	1.00	
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1583		4535		1583	4153	1218	1583		1417	3072	
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (perm)	1583		4535		1583	4153	1218	1583		1417	3072	
Volume (vph)	17	0	950	21	14	722	619	26	0	46	868	0
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	0	1011	22	15	768	659	28	0	49	923	0
RTOR Reduction (vph)	0	0	1	0	0	31	197	0	0	46	0	0
Lane Group Flow (vph)	18	0	1032	0	15	964	235	28	0	3	923	0
Turn Type	Prot				Prot		Perm	Prot		custom	custom	
Protected Phases	5		2		1	6		7				
Permitted Phases							6			7	8	
Actuated Green, G (s)	6.4		67.5		3.2	63.4	63.4	6.5		6.5	21.0	
Effective Green, g (s)	8.3		68.5		5.1	65.3	65.3	7.5		7.5	22.9	
Actuated g/C Ratio	0.07		0.57		0.04	0.54	0.54	0.06		0.06	0.19	
Clearance Time (s)	5.9		5.0		5.9	5.9	5.9	5.0		5.0	5.9	
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	109		2589		67	2260	663	99		89	586	
v/s Ratio Prot	0.01		c0.23		0.01	c0.23		c0.02				
v/s Ratio Perm							0.19			0.00	c0.30	
v/c Ratio	0.17		0.40		0.22	0.43	0.35	0.28		0.03	1.58	
Uniform Delay, d1	52.6		14.3		55.5	16.2	15.4	53.7		52.8	48.5	
Progression Factor	1.31		1.69		0.87	1.61	7.54	1.00		1.00	0.90	
Incremental Delay, d2	0.1		0.0		1.3	0.5	1.2	1.6		0.2	264.3	
Delay (s)	69.1		24.2		49.5	26.6	117.6	55.3		53.0	307.9	
Level of Service	E		C		D	C	F	E		D	F	
Approach Delay (s)			24.9			54.1			53.8			288.6
Approach LOS			C			D			D			F

Intersection Summary

HCM Average Control Delay	111.2	HCM Level of Service	F
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	8
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	72
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	77
RTOR Reduction (vph)	53
Lane Group Flow (vph)	24
Turn Type	custom
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	21.0
Effective Green, g (s)	22.9
Actuated g/C Ratio	0.19
Clearance Time (s)	5.9
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	270
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.09
Uniform Delay, d1	40.0
Progression Factor	1.43
Incremental Delay, d2	0.4
Delay (s)	57.4
Level of Service	E
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
 37: Burton Way & La Cienega Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.98	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4549			4470	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4549			4470	
Volume (vph)	0	1452	339	0	969	385	190	1349	2	0	1425	188
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1497	349	0	999	397	196	1391	2	0	1469	194
RTOR Reduction (vph)	0	0	7	0	0	27	0	0	0	0	14	0
Lane Group Flow (vph)	0	1497	342	0	999	370	196	1393	0	0	1649	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		41.0	51.0		41.0	41.0	10.0	67.0			51.5	
Effective Green, g (s)		43.0	54.5		43.0	43.0	11.5	69.0			53.5	
Actuated g/C Ratio		0.36	0.45		0.36	0.36	0.10	0.58			0.45	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		2054	691		2054	508	152	2616			1993	
v/s Ratio Prot		0.26	0.05		0.17		c0.12	0.31			c0.37	
v/s Ratio Perm			0.19			c0.26						
v/c Ratio		0.73	0.50		0.49	0.73	1.29	0.53			0.83	
Uniform Delay, d1		33.4	23.1		29.9	33.4	54.2	15.6			29.2	
Progression Factor		1.48	1.03		1.00	1.00	1.09	0.76			0.31	
Incremental Delay, d2		0.8	0.2		0.8	8.9	165.4	0.7			3.0	
Delay (s)		50.5	24.0		30.7	42.3	224.4	12.5			12.0	
Level of Service		D	C		C	D	F	B			B	
Approach Delay (s)		45.5			34.0			38.6			12.0	
Approach LOS		D			C			D			B	

Intersection Summary

HCM Average Control Delay	32.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.98			0.97		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1593			1598		1583	4523		1583	4497	
Flt Permitted		0.83			0.91		0.13	1.00		0.15	1.00	
Satd. Flow (perm)		1357			1471		210	4523		254	4497	
Volume (vph)	181	176	79	12	40	17	40	1339	56	136	1419	120
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	180	81	12	41	17	41	1366	57	139	1448	122
RTOR Reduction (vph)	0	7	0	0	10	0	0	4	0	0	8	0
Lane Group Flow (vph)	0	439	0	0	60	0	41	1419	0	139	1562	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		8		8		2		2		6	
Permitted Phases	4		8		8		2		2		6	
Actuated Green, G (s)	30.0		30.0		30.0		83.4		83.4		83.4	
Effective Green, g (s)	29.0		29.0		29.0		83.0		83.0		83.0	
Actuated g/C Ratio	0.24		0.24		0.24		0.69		0.69		0.69	
Clearance Time (s)	3.0		3.0		3.0		3.6		3.6		3.6	
Vehicle Extension (s)	3.0		3.0		3.0		5.0		5.0		5.0	
Lane Grp Cap (vph)	328		328		355		145		3128		176	
v/s Ratio Prot							0.31				0.35	
v/s Ratio Perm	c0.32		c0.32		0.04		0.19		0.19		c0.55	
v/c Ratio	1.34		1.34		0.17		0.28		0.45		0.79	
Uniform Delay, d1	45.5		45.5		36.0		7.1		8.3		12.6	
Progression Factor	1.00		1.00		1.00		1.00		1.00		0.63	
Incremental Delay, d2	171.8		171.8		1.0		4.8		0.5		19.7	
Delay (s)	217.3		217.3		37.0		11.9		8.8		27.7	
Level of Service	F		F		D		B		A		C	
Approach Delay (s)	217.3		217.3		37.0		8.9		8.9		5.4	
Approach LOS	F		F		D		A		A		A	

Intersection Summary

HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 39: Wilshire Blvd & La Cienega Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		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	
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4378		1583	4470		1583	4423		1583	4378	
Flt Permitted	0.11	1.00		0.11	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	190	4378		190	4470		196	4423		196	4378	
Volume (vph)	162	1411	172	211	1167	86	175	1265	140	136	1270	177
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	172	1501	183	224	1241	91	186	1346	149	145	1351	188
RTOR Reduction (vph)	0	15	0	0	8	0	0	13	0	0	18	0
Lane Group Flow (vph)	172	1669	0	224	1324	0	186	1482	0	145	1521	0
Conf. Peds. (#/hr)	63		133	133		63	103		84	84		103
Conf. Bikes (#/hr)			6			13			4			11
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.5	35.5		44.5	35.5		42.1	34.1		41.9	34.0	
Effective Green, g (s)	43.0	35.0		43.0	35.0		41.1	34.1		40.9	34.0	
Actuated g/C Ratio	0.43	0.35		0.43	0.35		0.41	0.34		0.41	0.34	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	193	1532		193	1565		178	1508		176	1489	
v/s Ratio Prot	0.07	0.38		c0.09	0.30		c0.07	0.34		0.06	0.35	
v/s Ratio Perm	0.31			c0.40			c0.36			0.28		
v/c Ratio	0.89	1.09		1.16	0.85		1.04	0.98		0.82	1.02	
Uniform Delay, d1	21.5	32.5		24.0	30.0		25.1	32.7		23.1	33.0	
Progression Factor	0.83	1.06		1.58	0.87		1.77	0.71		1.00	1.00	
Incremental Delay, d2	30.6	49.7		112.1	5.4		72.6	17.0		24.7	28.9	
Delay (s)	48.5	84.3		150.0	31.4		117.0	40.1		47.7	61.9	
Level of Service	D	F		F	C		F	D		D	E	
Approach Delay (s)		80.9			48.5			48.6			60.7	
Approach LOS		F			D			D			E	

Intersection Summary

HCM Average Control Delay	60.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.96			1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00		0.98	1.00		0.99	1.00	
Frt		0.95			0.99		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1512			1604		1557	4462		1573	4479	
Flt Permitted		0.94			0.32		0.11	1.00		0.10	1.00	
Satd. Flow (perm)		1422			528		184	4462		173	4479	
Volume (vph)	56	269	203	116	106	19	57	1472	116	27	1478	60
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	59	283	214	122	112	20	60	1549	122	28	1556	63
RTOR Reduction (vph)	0	19	0	0	3	0	0	9	0	0	4	0
Lane Group Flow (vph)	0	537	0	0	251	0	60	1662	0	28	1615	0
Conf. Peds. (#/hr)	29		64	64		29	102		42	42		102
Conf. Bikes (#/hr)			4			5			5			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		398			148		118	2856		111	2867	
v/s Ratio Prot								c0.37				0.36
v/s Ratio Perm		0.38			c0.48		0.33			0.16		
v/c Ratio		1.35			1.70		0.51	0.58		0.25	0.56	
Uniform Delay, d1		36.0			36.0		9.6	10.3		7.7	10.1	
Progression Factor		1.00			1.00		1.00	1.00		1.35	1.63	
Incremental Delay, d2		173.3			340.8		14.8	0.9		0.5	0.1	
Delay (s)		209.3			376.8		24.4	11.2		10.9	16.6	
Level of Service		F			F		C	B		B	B	
Approach Delay (s)		209.3			376.8			11.7			16.5	
Approach LOS		F			F			B			B	

Intersection Summary

HCM Average Control Delay	62.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4493		1583	4523		1583	4506		1583	4452	
Flt Permitted	0.16	1.00		0.13	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	271	4493		222	4523		196	4506		196	4452	
Volume (vph)	138	1792	163	128	1177	49	133	1415	98	142	1344	224
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	148	1927	175	138	1266	53	143	1522	105	153	1445	241
RTOR Reduction (vph)	0	12	0	0	5	0	0	9	0	0	25	0
Lane Group Flow (vph)	148	2090	0	138	1314	0	143	1618	0	153	1661	0
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	6		5		2		3		8		7	
Permitted Phases	6		2		8		4					
Actuated Green, G (s)	25.0	25.0	36.0	36.0	39.9	33.0	40.1	33.1				
Effective Green, g (s)	26.0	26.0	37.0	37.0	40.9	34.0	41.1	34.1				
Actuated g/C Ratio	0.29	0.29	0.41	0.41	0.45	0.38	0.46	0.38				
Clearance Time (s)	5.0	5.0	3.5	5.0	4.0	5.0	4.0	5.0				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	78	1298	197	1859	195	1702	197	1687				
v/s Ratio Prot	0.47		0.05		c0.29		0.06		0.36		c0.06	
v/s Ratio Perm	c0.55		0.23		0.28		0.29					
v/c Ratio	1.90	1.61	0.70	0.71	0.73	0.95	0.78	0.98				
Uniform Delay, d1	32.0	32.0	41.9	22.0	19.0	27.2	18.8	27.7				
Progression Factor	1.40	1.39	1.00	1.00	1.82	0.39	1.00	1.00				
Incremental Delay, d2	408.2	274.9	10.7	2.3	7.4	8.0	17.3	18.5				
Delay (s)	452.9	319.4	52.6	24.3	42.0	18.7	36.1	46.2				
Level of Service	F	F	D	C	D	B	D	D				
Approach Delay (s)	328.2		27.0		20.6		45.3					
Approach LOS	F		C		C		D					

Intersection Summary

HCM Average Control Delay	122.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3104		1583	3138		1583	4474		1583	4504	
Flt Permitted	0.37	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	609	3104		221	3138		202	4474		230	4504	
Volume (vph)	120	1027	157	151	658	43	207	1506	189	65	1565	113
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	129	1104	169	162	708	46	223	1619	203	70	1683	122
RTOR Reduction (vph)	0	13	0	0	5	0	0	18	0	0	9	0
Lane Group Flow (vph)	129	1260	0	162	749	0	223	1804	0	70	1796	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4		6		2					
Actuated Green, G (s)	25.2	25.2	38.0		38.0	42.0		42.0	28.0		28.0	
Effective Green, g (s)	26.2	26.2	39.0		39.0	43.0		43.0	29.0		29.0	
Actuated g/C Ratio	0.29	0.29	0.43		0.43	0.48		0.48	0.32		0.32	
Clearance Time (s)	5.0	5.0	3.0		5.0	4.0		5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	177	904	229		1360	250		2138	74		1451	
v/s Ratio Prot	c0.41		c0.07		0.24	0.10		c0.40	c0.40			
v/s Ratio Perm	0.21		0.24			0.33			0.30			
v/c Ratio	0.73	1.39	0.71		0.55	0.89		0.84	0.95		1.24	
Uniform Delay, d1	28.7	31.9	40.8		19.0	41.4		20.6	29.7		30.5	
Progression Factor	1.00	1.00	1.84		1.83	1.00		1.00	0.86		0.78	
Incremental Delay, d2	23.0	183.8	8.0		1.3	30.2		4.3	45.4		109.0	
Delay (s)	51.7	215.7	82.9		36.0	71.6		24.9	70.9		132.9	
Level of Service	D		F		D	E		C	E		F	
Approach Delay (s)	200.6				44.3	30.0			130.6			
Approach LOS	F				D	C			F			

Intersection Summary

HCM Average Control Delay	100.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.98		1.00	0.97		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	0.94	1.00		0.99	1.00		0.97	1.00		0.95	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1491	3047		1562	2990		1531	3071		1510	3025	
Flt Permitted	0.32	1.00		0.14	1.00		0.16	1.00		0.34	1.00	
Satd. Flow (perm)	504	3047		236	2990		262	3071		542	3025	
Volume (vph)	166	958	158	27	560	109	86	511	60	169	819	111
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	171	988	163	28	577	112	89	527	62	174	844	114
RTOR Reduction (vph)	0	11	0	0	13	0	0	8	0	0	9	0
Lane Group Flow (vph)	171	1140	0	28	676	0	89	581	0	174	949	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	59.6	59.6		59.6	59.6		49.1	49.1		49.1	49.1	
Effective Green, g (s)	61.5	61.5		61.5	61.5		50.5	50.5		50.5	50.5	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.42	0.42		0.42	0.42	
Clearance Time (s)	5.9	5.9		5.9	5.9		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	258	1562		121	1532		110	1292		228	1273	
v/s Ratio Prot		c0.37			0.23			0.19			0.31	
v/s Ratio Perm	0.34			0.12			c0.34			0.32		
v/c Ratio	0.66	0.73		0.23	0.44		0.81	0.45		0.76	0.75	
Uniform Delay, d1	21.6	22.8		16.2	18.4		30.5	24.8		29.6	29.3	
Progression Factor	1.00	1.00		0.40	0.37		1.09	1.15		1.00	1.00	
Incremental Delay, d2	12.7	3.0		2.7	0.6		42.3	1.0		21.2	4.0	
Delay (s)	34.3	25.8		9.2	7.3		75.7	29.5		50.9	33.3	
Level of Service	C	C		A	A		E	C		D	C	
Approach Delay (s)		26.9			7.4			35.5			36.0	
Approach LOS		C			A			D			D	

Intersection Summary

HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1583	4527		1583	4540			1608			1640	
Flt Permitted	0.14	1.00		0.09	1.00			0.73			0.98	
Satd. Flow (perm)	229	4527		146	4540			1196			1618	
Volume (vph)	46	1641	57	71	1370	21	42	101	31	14	269	33
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	49	1765	61	76	1473	23	45	109	33	15	289	35
RTOR Reduction (vph)	0	4	0	0	2	0	0	8	0	0	5	0
Lane Group Flow (vph)	49	1822	0	76	1494	0	0	180	0	0	335	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	68.0	68.0		68.0	68.0			26.0			26.0	
Effective Green, g (s)	67.0	67.0		67.0	67.0			25.0			25.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	153	3033		98	3042			299			405	
v/s Ratio Prot		0.40			0.33							
v/s Ratio Perm	0.21			c0.52				0.15			c0.21	
v/c Ratio	0.32	0.60		0.78	0.49			0.60			0.83	
Uniform Delay, d1	6.9	9.1		11.3	8.1			33.1			35.4	
Progression Factor	0.20	0.20		0.85	0.37			1.00			1.00	
Incremental Delay, d2	1.5	0.2		22.5	0.2			8.6			17.3	
Delay (s)	2.9	2.1		32.1	3.2			41.7			52.7	
Level of Service	A	A		C	A			D			D	
Approach Delay (s)		2.1			4.6			41.7			52.7	
Approach LOS		A			A			D			D	

Intersection Summary

HCM Average Control Delay	9.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑↑	↘	↘	↑	↘	↘	↘	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	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)	1583	3167	1417	1583	4550	1417	1583	1667	1417	1583	1645	
Flt Permitted	0.27	1.00	1.00	0.27	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	444	3167	1417	444	4550	1417	1583	1667	1417	1583	1645	
Volume (vph)	144	920	97	111	892	58	89	584	42	59	664	63
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	153	979	103	118	949	62	95	621	45	63	706	67
RTOR Reduction (vph)	0	0	77	0	0	47	0	0	23	0	6	0
Lane Group Flow (vph)	153	979	26	118	949	16	95	621	22	63	767	0
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			4		1	2			1	6
Permitted Phases	4		4	4		4			2			
Actuated Green, G (s)	14.0	14.0	14.0	14.0	14.0	14.0	4.0	28.2	28.2	4.0	28.2	
Effective Green, g (s)	15.0	15.0	15.0	15.0	15.0	15.0	4.0	29.0	29.0	4.0	29.0	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25	0.25	0.07	0.48	0.48	0.07	0.48	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.8	4.8	4.0	4.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	792	354	111	1138	354	106	806	685	106	795	
v/s Ratio Prot		0.31			0.21		c0.06	0.37		0.04	c0.47	
v/s Ratio Perm	c0.34		0.02	0.27		0.01			0.02			
v/c Ratio	1.38	1.24	0.07	1.06	0.83	0.04	0.90	0.77	0.03	0.59	0.97	
Uniform Delay, d1	22.5	22.5	17.2	22.5	21.3	17.1	27.8	12.8	8.1	27.2	15.0	
Progression Factor	1.00	1.00	1.00	1.64	1.59	2.50	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	216.7	117.1	0.4	102.0	7.0	0.2	55.3	7.0	0.1	8.6	24.5	
Delay (s)	239.2	139.6	17.6	138.9	40.9	42.8	83.1	19.8	8.2	35.9	39.5	
Level of Service	F	F	B	F	D	D	F	B	A	D	D	
Approach Delay (s)		141.7			51.3			27.0			39.2	
Approach LOS		F			D			C			D	

Intersection Summary

HCM Average Control Delay	72.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4482		1583	4529		1583	3083		1583	3111	
Flt Permitted	0.10	1.00		0.10	1.00		0.13	1.00		0.23	1.00	
Satd. Flow (perm)	161	4482		160	4529		218	3083		388	3111	
Volume (vph)	131	1681	185	152	1331	43	166	550	118	73	694	91
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	135	1733	191	157	1372	44	171	567	122	75	715	94
RTOR Reduction (vph)	0	13	0	0	4	0	0	17	0	0	10	0
Lane Group Flow (vph)	135	1911	0	157	1412	0	171	672	0	75	799	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	50.2	42.4		50.6	42.6		39.6	31.6		35.6	29.6	
Effective Green, g (s)	48.2	41.4		48.6	41.6		37.6	30.6		33.6	28.6	
Actuated g/C Ratio	0.48	0.41		0.49	0.42		0.38	0.31		0.34	0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	174	1856		177	1884		178	943		190	890	
v/s Ratio Prot	0.05	c0.43		c0.06	0.31		c0.07	0.22		0.02	0.26	
v/s Ratio Perm	0.32			0.37			c0.29			0.11		
v/c Ratio	0.78	1.03		0.89	0.75		0.96	0.71		0.39	0.90	
Uniform Delay, d1	18.1	29.3		21.7	24.8		25.9	30.8		23.9	34.3	
Progression Factor	1.91	1.40		1.77	1.79		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.4	25.9		33.3	2.5		55.5	4.6		0.5	13.7	
Delay (s)	47.8	66.8		71.6	46.9		81.3	35.4		24.4	48.0	
Level of Service	D	E		E	D		F	D		C	D	
Approach Delay (s)		65.6			49.4			44.5			46.0	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM Average Control Delay	54.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↓		↔	↑↑↓		↔	↑↓		↔	↑↓	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4506		1583	4524		1583	3107		1583	3102	
Flt Permitted	0.11	1.00		0.10	1.00		0.15	1.00		0.17	1.00	
Satd. Flow (perm)	182	4506		173	4524		257	3107		282	3102	
Volume (vph)	92	1903	130	152	1282	52	162	759	108	60	721	113
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	98	2024	138	162	1364	55	172	807	115	64	767	120
RTOR Reduction (vph)	0	8	0	0	5	0	0	12	0	0	14	0
Lane Group Flow (vph)	98	2154	0	162	1414	0	172	910	0	64	873	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.5	37.6		47.3	39.5		34.9	26.9		30.3	24.6	
Effective Green, g (s)	41.5	36.6		45.3	38.5		32.9	25.9		28.3	23.6	
Actuated g/C Ratio	0.46	0.41		0.50	0.43		0.37	0.29		0.31	0.26	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	160	1832		194	1935		197	894		157	813	
v/s Ratio Prot	0.03	c0.48		c0.06	0.31		c0.07	c0.29		0.02	0.28	
v/s Ratio Perm	0.25			0.36			0.25			0.11		
v/c Ratio	0.61	1.18		0.84	0.73		0.87	1.02		0.41	1.07	
Uniform Delay, d1	15.8	26.7		20.6	21.4		23.2	32.0		23.8	33.2	
Progression Factor	1.00	1.00		1.24	0.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.8	85.1		17.0	1.6		31.2	34.6		0.6	53.3	
Delay (s)	20.6	111.8		42.6	19.0		54.4	66.7		24.5	86.5	
Level of Service	C	F		D	B		D	E		C	F	
Approach Delay (s)		107.9			21.4			64.7			82.3	
Approach LOS		F			C			E			F	

Intersection Summary			
HCM Average Control Delay	72.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑	↗	↗	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.99			0.99		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	
Satd. Flow (prot)	1583	4522			4513		1583	1667	1417	1583	3103	
Flt Permitted	0.09	1.00			1.00		0.27	1.00	1.00	0.35	1.00	
Satd. Flow (perm)	147	4522			4513		451	1667	1417	587	3103	
Volume (vph)	142	1635	70	0	1465	84	123	327	95	88	482	75
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	151	1739	74	0	1559	89	131	348	101	94	513	80
RTOR Reduction (vph)	0	4	0	0	6	0	0	0	69	0	12	0
Lane Group Flow (vph)	151	1809	0	0	1642	0	131	348	32	94	581	0
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	52.5	52.5			42.5		39.7	32.9	32.9	37.3	31.7	
Effective Green, g (s)	51.5	51.5			41.5		37.7	31.9	31.9	35.3	30.7	
Actuated g/C Ratio	0.52	0.52			0.42		0.38	0.32	0.32	0.35	0.31	
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	2.0	5.0			5.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	162	2329			1873		236	532	452	253	953	
v/s Ratio Prot	0.06	c0.40			0.36		c0.03	c0.21		0.02	0.19	
v/s Ratio Perm	c0.43						0.18		0.02	0.11		
v/c Ratio	0.93	0.78			0.88		0.56	0.65	0.07	0.37	0.61	
Uniform Delay, d1	20.5	19.6			26.9		22.0	29.3	23.7	22.9	29.5	
Progression Factor	1.27	1.32			1.91		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	47.8	2.4			3.9		1.6	6.2	0.3	0.3	2.9	
Delay (s)	73.9	28.4			55.3		23.6	35.5	24.0	23.3	32.4	
Level of Service	E	C			E		C	D	C	C	C	
Approach Delay (s)		31.9			55.3			30.8			31.2	
Approach LOS		C			E			C			C	

Intersection Summary

HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2224		1118	2219		1118	2192		1118	2207	
Flt Permitted	0.12	1.00		0.08	1.00		0.51	1.00		0.32	1.00	
Satd. Flow (perm)	136	2224		92	2219		604	2192		382	2207	
Volume (vph)	13	1627	56	51	1406	72	51	395	58	100	254	23
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	13	1677	58	53	1449	74	53	407	60	103	262	24
RTOR Reduction (vph)	0	3	0	0	4	0	0	13	0	0	8	0
Lane Group Flow (vph)	13	1732	0	53	1519	0	53	454	0	103	278	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	60.5	60.5		60.5	60.5		20.8	20.8		20.8	20.8	
Effective Green, g (s)	61.0	61.0		61.0	61.0		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	92	1507		62	1504		141	511		89	515	
v/s Ratio Prot	c0.78		0.68		0.68		0.21		0.21		0.13	
v/s Ratio Perm	0.10		0.57		0.57		0.09		0.09		c0.27	
v/c Ratio	0.14	1.15		0.85	1.01		0.38	0.89		1.16	0.54	
Uniform Delay, d1	5.2	14.5		11.1	14.5		29.0	33.4		34.5	30.3	
Progression Factor	0.56	0.37		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	68.1		77.9	25.6		7.5	20.0		144.0	4.0	
Delay (s)	3.2	73.5		89.1	40.1		36.5	53.4		178.5	34.3	
Level of Service	A	E		F	D		D	D		F	C	
Approach Delay (s)	72.9		41.8		41.8		51.7		51.7		72.5	
Approach LOS	E		D		D		D		D		E	

Intersection Summary

HCM Average Control Delay	58.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	113.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			0.99	
Frt		0.98						0.97			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3009						3042			3111	
Flt Permitted		0.99						1.00			0.83	
Satd. Flow (perm)		3009						3042			2604	
Volume (vph)	103	298	76	0	0	0	0	240	51	71	295	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	324	83	0	0	0	0	261	55	77	321	0
RTOR Reduction (vph)	0	14	0	0	0	0	0	30	0	0	0	0
Lane Group Flow (vph)	0	505		0	0	0	0	286	0	0	398	
Conf. Peds. (#/hr)	5		38					63		59	59	63
Conf. Bikes (#/hr)			5							1		1
Turn Type	Perm						Perm					
Protected Phases		2						8			4	
Permitted Phases	2								4			
Actuated Green, G (s)		37.0						17.0			17.0	
Effective Green, g (s)		36.0						16.0			16.0	
Actuated g/C Ratio		0.60						0.27			0.27	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1805						811			694	
v/s Ratio Prot								0.09				
v/s Ratio Perm		0.17									c0.15	
v/c Ratio		0.28						0.35			0.57	
Uniform Delay, d1		5.8						17.8			19.0	
Progression Factor		1.05						1.00			1.00	
Incremental Delay, d2		0.3						1.2			3.4	
Delay (s)		6.3						19.0			22.5	
Level of Service		A						B			C	
Approach Delay (s)		6.3			0.0			19.0			22.5	
Approach LOS		A			A			B			C	
Intersection Summary												
HCM Average Control Delay		14.8			HCM Level of Service				B			
HCM Volume to Capacity ratio		0.37										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)				8.0			
Intersection Capacity Utilization		52.4%			ICU Level of Service				A			
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑				↗		↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99				0.94		1.00	0.92
Flpb, ped/bikes	1.00	1.00		0.99	1.00				1.00		0.95	1.00
Frt	1.00	1.00		1.00	0.99				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (prot)	1583	4511		1565	4454				1355		1516	1301
Flt Permitted	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (perm)	1583	4511		1565	4454				1355		1516	1301
Volume (vph)	148	1422	46	4	1341	134	0	0	70	165	8	229
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	154	1481	48	4	1397	140	0	0	73	172	8	239
RTOR Reduction (vph)	0	2	0	0	12	0	0	0	56	0	0	184
Lane Group Flow (vph)	154	1527	0	4	1525	0	0	0	17	0	180	55
Confl. Peds. (#/hr)	26		44	44		26	50		36	36		50
Confl. Bikes (#/hr)			5			6						3
Turn Type	Prot			Prot				custom	Perm		Perm	Perm
Protected Phases	5	2		1	6						4	
Permitted Phases								8	4			4
Actuated Green, G (s)	12.6	65.9		1.1	54.4			24.0		24.0	24.0	
Effective Green, g (s)	11.6	64.9		0.1	53.4			23.0		23.0	23.0	
Actuated g/C Ratio	0.12	0.65		0.00	0.53			0.23		0.23	0.23	
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	184	2928		2	2378			312		349	299	
v/s Ratio Prot	c0.10	0.34		0.00	c0.34							
v/s Ratio Perm								0.01		0.12	0.04	
v/c Ratio	0.84	0.52		2.00	0.64			0.05		0.52	0.18	
Uniform Delay, d1	43.3	9.3		50.0	16.5			30.0		33.6	31.0	
Progression Factor	1.00	1.00		0.60	1.80			1.00		1.00	1.00	
Incremental Delay, d2	25.8	0.7		916.8	0.7			0.3		5.4	1.4	
Delay (s)	69.1	10.0		946.9	30.4			30.3		39.0	32.3	
Level of Service	E	A		F	C			C		D	C	
Approach Delay (s)		15.4			32.8			30.3			35.2	
Approach LOS		B			C			C			D	
Intersection Summary												
HCM Average Control Delay			25.1			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			75.5%			ICU Level of Service		D				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2225		1118	2225		1118	2161		1118	2188	
Flt Permitted	0.11	1.00		0.09	1.00		0.32	1.00		0.15	1.00	
Satd. Flow (perm)	127	2225		106	2225		372	2161		181	2188	
Volume (vph)	51	1460	44	68	1378	42	81	667	189	57	442	72
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	53	1521	46	71	1435	44	84	695	197	59	460	75
RTOR Reduction (vph)	0	2	0	0	2	0	0	29	0	0	14	0
Lane Group Flow (vph)	53	1565	0	71	1477	0	84	863	0	59	521	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			4		
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8		25.8	25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	1384		66	1384		107	624		52	632	
v/s Ratio Prot	c0.70			0.66			c0.40			0.24		
v/s Ratio Perm	0.42			0.67			0.23			0.33		
v/c Ratio	0.67	1.13		1.08	1.07		0.79	1.38		1.13	0.82	
Uniform Delay, d1	11.0	17.0		17.0	17.0		29.4	32.0		32.0	29.9	
Progression Factor	1.00	1.00		0.65	0.58		0.56	0.49		1.00	1.00	
Incremental Delay, d2	37.1	68.4		81.7	35.4		5.2	173.2		166.6	11.6	
Delay (s)	48.2	85.4		92.7	45.1		21.7	188.7		198.6	41.5	
Level of Service	D	F		F	D		C	F		F	D	
Approach Delay (s)	84.2			47.3			174.3			57.1		
Approach LOS	F			D			F			E		

Intersection Summary

HCM Average Control Delay	87.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	131.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00		0.95	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1118	2189		1118	2220		1118	2235	1000		2195	
Flt Permitted	0.31	1.00		0.13	1.00		0.26	1.00	1.00		1.00	
Satd. Flow (perm)	364	2189		158	2220		309	2235	1000		2195	
Volume (vph)	119	1110	180	70	726	35	82	755	192	0	507	69
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	125	1168	189	74	764	37	86	795	202	0	534	73
RTOR Reduction (vph)	0	14	0	0	4	0	0	0	64	0	12	0
Lane Group Flow (vph)	125	1343	0	74	797	0	86	795	138	0	595	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			8		4
Permitted Phases	2			6			8			8		
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8	25.8		25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0	26.0		26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29	0.29		0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2	4.2		4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	226	1362		98	1381		89	646	289		634	
v/s Ratio Prot	c0.61			0.36			c0.36			0.27		
v/s Ratio Perm	0.34			0.47			0.28			0.14		
v/c Ratio	0.55	0.99		0.76	0.58		0.97	1.23	0.48		0.94	
Uniform Delay, d1	9.8	16.6		12.1	10.0		31.6	32.0	26.4		31.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.43	
Incremental Delay, d2	9.4	21.2		41.2	1.8		86.5	117.0	5.6		14.6	
Delay (s)	19.2	37.8		53.3	11.8		118.1	149.0	32.0		28.1	
Level of Service	B	D		D	B		F	F	C		C	
Approach Delay (s)	36.3			15.3			124.7			28.1		
Approach LOS	D			B			F			C		
Intersection Summary												
HCM Average Control Delay	54.2			HCM Level of Service			D					
HCM Volume to Capacity ratio	1.06											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	112.2%			ICU Level of Service			H					
Analysis Period (min)	15											
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		1.00						0.97			1.00	
Flpb, ped/bikes		0.98						1.00			1.00	
Frt		1.00						0.98			1.00	
Flt Protected		0.98						1.00			0.99	
Satd. Flow (prot)		3044						2989			3131	
Flt Permitted		0.98						1.00			0.63	
Satd. Flow (perm)		3044						2989			1972	
Volume (vph)	159	251	0	0	0	0	0	753	146	97	620	0
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	185	292	0	0	0	0	0	876	170	113	721	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	27	0	0	0	0
Lane Group Flow (vph)	0	477	0	0	0	0	0	1019	0	0	834	0
Conf. Peds. (#/hr)	60								223	223		
Conf. Bikes (#/hr)			1							3		
Turn Type	Perm						Perm					
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		27.0						27.0			27.0	
Effective Green, g (s)		26.0						26.0			26.0	
Actuated g/C Ratio		0.43						0.43			0.43	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1319						1295			855	
v/s Ratio Prot								0.34				
v/s Ratio Perm		0.16									c0.42	
v/c Ratio		0.36						0.79			1.02dl	
Uniform Delay, d1		11.4						14.6			16.7	
Progression Factor		0.65						1.00			1.00	
Incremental Delay, d2		0.7						4.9			25.4	
Delay (s)		8.2						19.5			42.1	
Level of Service		A						B			D	
Approach Delay (s)		8.2			0.0			19.5			42.1	
Approach LOS		A			A			B			D	

Intersection Summary			
HCM Average Control Delay	25.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕	↖		↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00		0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00	0.80		1.00	0.84
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1581	4358		1583	4371		1583	3167	1133		3167	1189
Flt Permitted	0.12	1.00		0.09	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	202	4358		148	4371		1583	3167	1133		3167	1189
Volume (vph)	133	1471	153	316	1145	137	150	640	117	0	529	122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	141	1565	163	336	1218	146	160	681	124	0	563	130
RTOR Reduction (vph)	0	13	0	0	15	0	0	0	81	0	0	101
Lane Group Flow (vph)	141	1715	0	336	1349	0	160	681	43	0	563	29
Confl. Peds. (#/hr)	158		220	220		158	112		142	142		112
Confl. Bikes (#/hr)			9			5			5			3
Turn Type	pm+pt			pm+pt			Prot		Perm			Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6					8			4
Actuated Green, G (s)	53.1	45.0		54.9	45.9		8.9	34.9	34.9		22.9	22.9
Effective Green, g (s)	51.1	44.0		52.9	44.9		8.0	34.0	34.0		22.0	22.0
Actuated g/C Ratio	0.52	0.45		0.54	0.46		0.08	0.35	0.35		0.22	0.22
Clearance Time (s)	3.0	3.0		3.0	3.0		3.1	3.1	3.1		3.1	3.1
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	205	1957		197	2003		129	1099	393		711	267
v/s Ratio Prot	0.05	0.39		c0.14	0.31		c0.10	0.22			c0.18	
v/s Ratio Perm	0.31			c0.78					0.04			0.02
v/c Ratio	0.69	0.88		1.71	0.67		1.24	0.62	0.11		0.79	0.11
Uniform Delay, d1	14.6	24.5		24.8	20.8		45.0	26.6	21.7		35.8	30.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	7.4	5.9		338.2	1.8		157.6	2.6	0.6		8.8	0.8
Delay (s)	22.0	30.4		363.1	22.6		202.6	29.2	22.3		44.6	31.0
Level of Service	C	C		F	C		F	C	C		D	C
Approach Delay (s)		29.8			89.9			57.1			42.1	
Approach LOS		C			F			E			D	

Intersection Summary

HCM Average Control Delay	56.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.96			0.96		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3011			2994		1583	3123		1583	3139	
Flt Permitted		0.85			0.69		0.21	1.00		0.24	1.00	
Satd. Flow (perm)		2581			2109		347	3123		406	3139	
Volume (vph)	62	230	114	81	115	72	84	728	75	68	822	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	68	253	125	89	126	79	92	800	82	75	903	55
RTOR Reduction (vph)	0	45	0	0	41	0	0	8	0	0	4	0
Lane Group Flow (vph)	0	401	0	0	253	0	92	874	0	75	954	0
Turn Type	Perm		Perm		pm+pt		pm+pt					
Protected Phases	4		8		5		2		1		6	
Permitted Phases	4		8		2		6					
Actuated Green, G (s)	29.0		29.0		52.4		46.6		51.6		46.2	
Effective Green, g (s)	28.0		28.0		50.4		45.6		49.6		45.2	
Actuated g/C Ratio	0.31		0.31		0.56		0.51		0.55		0.50	
Clearance Time (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Vehicle Extension (s)	3.0		3.0		2.0		5.0		2.0		5.0	
Lane Grp Cap (vph)	803		656		260		1582		281		1576	
v/s Ratio Prot					c0.02		0.28		0.01		c0.30	
v/s Ratio Perm	c0.16		0.12		0.18				0.13			
v/c Ratio	0.50		0.39		0.35		0.55		0.27		0.61	
Uniform Delay, d1	25.3		24.3		10.6		15.2		10.3		16.0	
Progression Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	2.2		0.4		0.3		1.4		0.2		1.7	
Delay (s)	27.5		24.6		10.9		16.6		10.5		17.7	
Level of Service	C		C		B		B		B		B	
Approach Delay (s)	27.5		24.6		16.1		17.2					
Approach LOS	C		C		B		B					

Intersection Summary

HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4531		1583	4550		1583	3057			3075	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1583	4531		1583	4550		1583	3057			3075	
Volume (vph)	57	2128	61	57	1777	0	98	233	70	0	462	110
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	59	2217	64	59	1851	0	102	243	73	0	481	115
RTOR Reduction (vph)	0	3	0	0	0	0	0	32	0	0	23	0
Lane Group Flow (vph)	59	2278	0	59	1851	0	102	284	0	0	573	0
Turn Type	Prot			Prot			Split					
Protected Phases	1!	2!		5!	6!		8	8			7	
Permitted Phases												
Actuated Green, G (s)	5.8	34.8		7.3	32.3		12.4	12.4			22.0	
Effective Green, g (s)	5.3	34.3		7.3	32.3		12.4	12.4			22.0	
Actuated g/C Ratio	0.06	0.38		0.08	0.36		0.14	0.14			0.24	
Clearance Time (s)	3.5	3.5		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			3.0	
Lane Grp Cap (vph)	93	1727		128	1633		218	421			752	
v/s Ratio Prot	c0.04	c0.50		0.04	0.41		0.06	c0.09			c0.19	
v/s Ratio Perm												
v/c Ratio	0.63	1.32		0.46	1.13		0.47	0.67			0.76	
Uniform Delay, d1	41.4	27.9		39.5	28.9		35.8	36.9			31.6	
Progression Factor	1.26	0.44		1.52	0.36		1.00	1.00			1.00	
Incremental Delay, d2	1.3	143.9		0.2	60.9		1.6	4.2			7.2	
Delay (s)	53.6	156.2		60.4	71.4		37.3	41.1			38.7	
Level of Service	D	F		E	E		D	D			D	
Approach Delay (s)		153.6			71.0			40.2			38.7	
Approach LOS		F			E			D			D	

Intersection Summary

HCM Average Control Delay	101.6	HCM Level of Service	F
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

- ! Phase conflict between lane groups.
- c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑		↑	↑↑		↑	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt		0.99		1.00	0.99		1.00	0.98		1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4516		1583	4514		1583	3106		1583	3167	
Flt Permitted		1.00		0.95	1.00		0.29	1.00		0.39	1.00	
Satd. Flow (perm)		4516		1583	4514		476	3106		655	3167	
Volume (vph)	0	2094	111	62	1701	95	97	343	50	107	507	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2159	114	64	1754	98	100	354	52	110	523	0
RTOR Reduction (vph)	0	6	0	0	6	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	2267	0	64	1846	0	100	393	0	110	523	0
Turn Type				Prot			Perm			Perm		
Protected Phases		2!		5!	6			7			7	
Permitted Phases							7			7		
Actuated Green, G (s)		34.8		7.3	32.3		22.0	22.0		22.0	22.0	
Effective Green, g (s)		34.3		7.3	32.3		22.0	22.0		22.0	22.0	
Actuated g/C Ratio		0.38		0.08	0.36		0.24	0.24		0.24	0.24	
Clearance Time (s)		3.5		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	3.0	
Lane Grp Cap (vph)		1721		128	1620		116	759		160	774	
v/s Ratio Prot		c0.50		c0.04	0.41			0.13			0.17	
v/s Ratio Perm							c0.21			0.17		
v/c Ratio		1.32		0.50	1.14		0.86	0.52		0.69	0.68	
Uniform Delay, d1		27.9		39.6	28.9		32.5	29.4		30.9	30.8	
Progression Factor		0.22		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		143.3		3.1	70.7		52.5	2.5		21.5	4.7	
Delay (s)		149.3		42.7	99.6		85.1	31.9		52.3	35.5	
Level of Service		F		D	F		F	C		D	D	
Approach Delay (s)		149.3			97.7			42.4			38.4	
Approach LOS		F			F			D			D	

Intersection Summary

HCM Average Control Delay	107.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕		↘	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frbp, ped/bikes		0.97						0.93		1.00	1.00	
Flpb, ped/bikes		0.95						1.00		0.80	1.00	
Frt		0.98						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		2850						2859		1270	3167	
Flt Permitted		0.99						1.00		0.51	1.00	
Satd. Flow (perm)		2850						2859		681	3167	
Volume (vph)	44	216	31	0	0	0	0	263	67	89	362	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	46	227	33	0	0	0	0	277	71	94	381	0
RTOR Reduction (vph)	0	15	0	0	0	0	0	38	0	0	0	0
Lane Group Flow (vph)	0	291	0	0	0	0	0	310	0	94	381	0
Conf. Peds. (#/hr)	173		248	248			173	221		404	404	221
Conf. Bikes (#/hr)			3				2			1		4
Turn Type		Perm									Perm	
Protected Phases		2						4			4	
Permitted Phases		2									4	
Actuated Green, G (s)		17.0						17.0		17.0	17.0	
Effective Green, g (s)		16.0						16.0		16.0	16.0	
Actuated g/C Ratio		0.27						0.27		0.27	0.27	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Vehicle Extension (s)		5.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		760						762		182	845	
v/s Ratio Prot								0.11			0.12	
v/s Ratio Perm		0.10								c0.14		
v/c Ratio		0.38						0.41		0.52	0.45	
Uniform Delay, d1		18.0						18.1		18.7	18.3	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		1.5						1.6		10.1	1.7	
Delay (s)		19.4						19.7		28.8	20.1	
Level of Service		B						B		C	C	
Approach Delay (s)		19.4			0.0			19.7			21.8	
Approach LOS		B			A			B			C	
Intersection Summary												
HCM Average Control Delay			20.5					HCM Level of Service			C	
HCM Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		28.0		
Intersection Capacity Utilization			83.0%					ICU Level of Service		E		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖			↖↖↖		↖	↖		↖	↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.99			0.98		1.00	0.87		1.00	1.00	0.78
Flpb, ped/bikes	0.98	1.00			1.00		0.81	1.00		1.00	1.00	1.00
Frt	1.00	1.00			0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1546	4509			4383		1277	1353		1583	1667	1102
Flt Permitted	0.11	1.00			1.00		0.71	1.00		0.95	1.00	1.00
Satd. Flow (perm)	176	4509			4383		956	1353		1583	1667	1102
Volume (vph)	100	1583	29	0	1378	121	111	97	82	127	70	146
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	102	1615	30	0	1406	123	113	99	84	130	71	149
RTOR Reduction (vph)	0	2	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	102	1643	0	0	1518	0	113	183	0	130	71	149
Confl. Peds. (#/hr)	244		131	131		244	166		211	211		166
Confl. Bikes (#/hr)			3			5			2			3
Turn Type	Perm					Perm			Prot		custom	
Protected Phases		2			6			8		7		
Permitted Phases	2						8				4	4
Actuated Green, G (s)	49.0	49.0			49.0		21.0	21.0		11.0	35.0	35.0
Effective Green, g (s)	48.0	48.0			48.0		20.0	20.0		10.0	34.0	34.0
Actuated g/C Ratio	0.53	0.53			0.53		0.22	0.22		0.11	0.38	0.38
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	94	2405			2338		212	301		176	630	416
v/s Ratio Prot		0.36			0.35			c0.14		c0.08		
v/s Ratio Perm	c0.58						0.12				0.04	0.14
v/c Ratio	1.09	0.68			0.65		0.53	0.61		0.74	0.11	0.36
Uniform Delay, d1	21.0	15.4			15.0		30.9	31.5		38.7	18.2	20.1
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	117.7	1.6			1.4		9.3	8.8		14.9	0.4	2.4
Delay (s)	138.7	17.0			16.4		40.2	40.3		53.7	18.6	22.5
Level of Service	F	B			B		D	D		D	B	C
Approach Delay (s)		24.1			16.4			40.3			33.3	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBR2
Lane Configurations		↔	↔↔↔		↔	↔↔↔			↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0
Lane Util. Factor		1.00	0.91		1.00	0.91			1.00
Frbp, ped/bikes		1.00	0.98		1.00	0.93			1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00
Frt		1.00	0.99		1.00	0.97			0.86
Flt Protected		0.95	1.00		0.95	1.00			1.00
Satd. Flow (prot)		1583	4396		1583	4081			1442
Flt Permitted		0.95	1.00		0.95	1.00			1.00
Satd. Flow (perm)		1583	4396		1583	4081			1442
Volume (vph)	220	229	1578	121	110	1007	225	69	140
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	227	236	1627	125	113	1038	232	71	144
RTOR Reduction (vph)	0	0	7	0	0	6	0	0	127
Lane Group Flow (vph)	0	463	1745	0	113	1335	0	0	17
Confl. Peds. (#/hr)	99	154		137	137		99	154	155
Confl. Bikes (#/hr)				6			7	10	2
Turn Type	Prot	Prot			Prot				custom
Protected Phases	1	1	2		8	6			1
Permitted Phases									
Actuated Green, G (s)		13.0	63.6		14.4	81.0			13.0
Effective Green, g (s)		12.0	62.6		13.4	80.0			12.0
Actuated g/C Ratio		0.12	0.63		0.13	0.80			0.12
Clearance Time (s)		3.0	3.0		3.0	3.0			3.0
Vehicle Extension (s)		2.5	5.0		3.0	5.0			2.5
Lane Grp Cap (vph)		190	2752		212	3265			173
v/s Ratio Prot		c0.29	c0.40		c0.07	0.33			0.01
v/s Ratio Perm									
v/c Ratio		2.44	0.63		0.53	0.41			0.10
Uniform Delay, d1		44.0	11.6		40.4	3.0			39.2
Progression Factor		1.19	1.81		1.00	1.00			1.00
Incremental Delay, d2		654.5	0.6		2.6	0.4			0.2
Delay (s)		706.7	21.5		42.9	3.4			39.4
Level of Service		F	C		D	A			D
Approach Delay (s)			164.8			6.4			
Approach LOS			F			A			
Intersection Summary									
HCM Average Control Delay			99.6			HCM Level of Service			F
HCM Volume to Capacity ratio			0.86						
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0
Intersection Capacity Utilization			65.2%			ICU Level of Service			C
Analysis Period (min)			15						
c Critical Lane Group									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↖↗↘		↗	↖↗↘			↕	↗		↖↗↘	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	0.86	0.86		1.00	0.91			0.95	1.00		0.86	0.86
Frt	1.00	1.00		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	961	3019		1118	3207			2235	1000		3029	860
Flt Permitted	0.95	0.82		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)	961	2489		1118	3207			2235	1000		3029	860
Volume (vph)	368	1141	24	120	1209	12	0	804	54	0	1036	623
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	418	1297	27	136	1374	14	0	914	61	0	1177	708
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	43	0	1	321
Lane Group Flow (vph)	346	1394	0	136	1387	0	0	914	18	0	1193	370
Turn Type	Prot		Prot				Perm				Over	
Protected Phases	7	4		3	8			2			6	7
Permitted Phases							2					
Actuated Green, G (s)	20.9	36.4		20.9	36.4			28.4	28.4		28.4	20.9
Effective Green, g (s)	22.0	37.0		22.0	37.0			29.0	29.0		29.0	22.0
Actuated g/C Ratio	0.22	0.37		0.22	0.37			0.29	0.29		0.29	0.22
Clearance Time (s)	5.1	4.6		5.1	4.6			4.6	4.6		4.6	5.1
Vehicle Extension (s)	3.0	3.0		5.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	211	1038		246	1187			648	290		878	189
v/s Ratio Prot	0.36	0.30		0.12	c0.43			c0.41			0.39	c0.43
v/s Ratio Perm	c0.20						0.02					
v/c Ratio	1.64	1.34		0.55	1.17			1.41	0.06		1.36	1.96
Uniform Delay, d1	39.0	31.5		34.6	31.5			35.5	25.7		35.5	39.0
Progression Factor	1.00	1.00		1.04	0.44			1.00	1.00		1.00	1.00
Incremental Delay, d2	308.3	160.9		2.8	81.7			193.8	0.4		168.7	448.8
Delay (s)	347.3	192.4		38.7	95.4			229.3	26.1		204.2	487.8
Level of Service	F	F		D	F			F	C		F	F
Approach Delay (s)	223.2		90.4				216.6				308.1	
Approach LOS	F		F				F				F	

Intersection Summary

HCM Average Control Delay	215.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	122.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔		↔	↔↔↔		↔	↔↔	↔	↔	↔↔	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt		1.00		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3180		1118	3202		1118	2235	1000	1118	2110	
Flt Permitted		0.71		0.95	1.00		0.21	1.00	1.00	0.14	1.00	
Satd. Flow (perm)		2272		1118	3202		252	2235	1000	166	2110	
Volume (vph)	181	1097	26	226	1005	21	47	775	334	28	412	246
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	1119	27	231	1026	21	48	791	341	29	420	251
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	242	0	89	0
Lane Group Flow (vph)	0	1329	0	231	1045	0	48	791	99	29	582	0
Turn Type		Prot		Prot			Perm		Perm	Perm		
Protected Phases		7	4	3	8			2				6
Permitted Phases							2		2		6	
Actuated Green, G (s)		36.4		20.9	36.4		28.4	28.4	28.4	28.4	28.4	
Effective Green, g (s)		37.0		22.0	37.0		29.0	29.0	29.0	29.0	29.0	
Actuated g/C Ratio		0.37		0.22	0.37		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)		4.6		5.1	4.6		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		5.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1040		246	1185		73	648	290	48	612	
v/s Ratio Prot		c0.28		0.21	c0.33			c0.35			0.28	
v/s Ratio Perm		c0.19					0.19		0.10	0.17		
v/c Ratio		1.28		0.94	0.88		0.66	1.22	0.34	0.60	0.95	
Uniform Delay, d1		31.5		38.3	29.5		31.1	35.5	28.0	30.6	34.8	
Progression Factor		0.59		0.95	1.34		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		125.8		40.6	9.3		38.0	112.8	3.2	45.6	26.2	
Delay (s)		144.4		77.2	48.8		69.1	148.3	31.1	76.1	61.0	
Level of Service		F		E	D		E	F	C	E	E	
Approach Delay (s)		144.4			53.9			111.2			61.6	
Approach LOS		F			D			F			E	

Intersection Summary

HCM Average Control Delay	97.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	131.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.86	1.00	0.97	0.86	0.97	0.88
Frbp, ped/bikes		1.00	0.94	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	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		4047	939	2168	4047	2168	1760
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		4047	939	2168	4047	2168	1760
Volume (vph)	0	1734	263	391	1134	385	756
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1788	271	403	1169	397	779
RTOR Reduction (vph)	0	0	86	0	0	0	589
Lane Group Flow (vph)	0	1788	185	403	1169	397	190
Conf. Peds. (#/hr)			60	60		1	4
Conf. Bikes (#/hr)			23				4
Turn Type	Prot		pm+ov	Prot			Over
Protected Phases	1	6	4	3	2 3	4	3
Permitted Phases			6				
Actuated Green, G (s)		48.6	73.9	30.2	84.8	25.3	30.2
Effective Green, g (s)		50.6	78.8	29.2	83.8	28.2	29.2
Actuated g/C Ratio		0.42	0.66	0.24	0.70	0.23	0.24
Clearance Time (s)		6.0	6.9	3.0		6.9	3.0
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1706	648	528	2826	509	428
v/s Ratio Prot		c0.44	0.07	c0.19	0.29	c0.18	0.11
v/s Ratio Perm			0.13				
v/c Ratio		1.05	0.29	0.76	0.41	0.78	0.44
Uniform Delay, d1		34.7	8.7	42.2	7.7	43.0	38.5
Progression Factor		0.79	3.86	1.00	1.00	1.00	1.00
Incremental Delay, d2		32.0	0.2	6.5	0.1	7.4	0.7
Delay (s)		59.5	33.8	48.7	7.8	50.4	39.2
Level of Service		E	C	D	A	D	D
Approach Delay (s)		56.1			18.3	43.0	
Approach LOS		E			B	D	
Intersection Summary							
HCM Average Control Delay			40.5		HCM Level of Service		D
HCM Volume to Capacity ratio			0.90				
Actuated Cycle Length (s)			120.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			88.8%		ICU Level of Service		E
Analysis Period (min)			15				
c Critical Lane Group							



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖↖			↖	↖	↑↑↑		↖	↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88				1.00	0.91			0.95	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1504	1504	2493				1583	4550			3167	1417
Flt Permitted	0.95	0.95	1.00				0.13	1.00			1.00	1.00
Satd. Flow (perm)	1504	1504	2493				219	4550			3167	1417
Volume (vph)	399	0	483	0	0	0	108	359	0	0	955	147
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	453	0	549	0	0	0	123	408	0	0	1085	167
RTOR Reduction (vph)	0	0	441	0	0	0	0	0	0	0	0	135
Lane Group Flow (vph)	227	226	108	0	0	0	123	408	0	0	1085	32
Turn Type	Split		custom				pm+pt			Perm		Over
Protected Phases	4	4	7 1			3	5	2			6	4
Permitted Phases							2			6		
Actuated Green, G (s)	16.5	16.5	17.1				43.0	38.0			38.0	16.5
Effective Green, g (s)	17.1	17.1	17.7				44.2	39.2			39.2	17.1
Actuated g/C Ratio	0.19	0.19	0.20				0.49	0.44			0.44	0.19
Clearance Time (s)	4.6	4.6					4.0	5.2			5.2	4.6
Vehicle Extension (s)	3.0	3.0					3.0	3.2			3.4	3.0
Lane Grp Cap (vph)	286	286	490				183	1982			1379	269
v/s Ratio Prot	c0.15	0.15	c0.04				c0.04	0.09			c0.34	0.02
v/s Ratio Perm							0.29					
v/c Ratio	0.79	0.79	0.22				0.67	0.21			0.79	0.12
Uniform Delay, d1	34.8	34.7	30.4				15.6	15.7			21.8	30.2
Progression Factor	0.85	0.85	1.75				1.57	0.79			1.00	1.00
Incremental Delay, d2	19.7	19.4	0.2				7.0	0.2			4.6	0.9
Delay (s)	49.1	48.8	53.4				31.5	12.6			26.4	31.1
Level of Service	D	D	D				C	B			C	C
Approach Delay (s)		51.4			0.0			17.0			27.0	
Approach LOS		D			A			B			C	

Intersection Summary

HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑	↑↑↑		↑↑	↑↑	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		0.91	1.00		0.86		0.97	0.91		0.97	0.95	0.88
Frt		1.00	0.85		0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		4550	1417		5618		3072	4471		3072	3167	2493
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		4550	1417		5618		3072	4471		3072	3167	2493
Volume (vph)	0	2108	481	0	2140	332	57	588	77	196	368	221
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2173	496	0	2206	342	59	606	79	202	379	228
RTOR Reduction (vph)	0	0	111	0	31	0	0	10	0	0	0	114
Lane Group Flow (vph)	0	2173	385	0	2517	0	59	675	0	202	379	114
Turn Type		pm+ov					Prot			Prot		Perm
Protected Phases		6	3		2		3	8		7	4	
Permitted Phases		6										4
Actuated Green, G (s)		38.7	46.1		38.7		7.4	27.7		8.8	29.1	29.1
Effective Green, g (s)		40.2	47.6		40.2		7.4	29.0		8.8	30.4	30.4
Actuated g/C Ratio		0.45	0.53		0.45		0.08	0.32		0.10	0.34	0.34
Clearance Time (s)		5.5	4.0		5.5		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)		4.9	3.0		5.2		3.0	5.1		3.0	5.1	5.1
Lane Grp Cap (vph)		2032	812		2509		253	1441		300	1070	842
v/s Ratio Prot		c0.48	0.04		0.45		0.02	c0.15		c0.07	0.12	
v/s Ratio Perm			0.23									0.05
v/c Ratio		1.07	0.47		1.00		0.23	0.47		0.67	0.35	0.14
Uniform Delay, d1		24.9	13.3		24.9		38.6	24.3		39.2	22.4	20.7
Progression Factor		1.00	1.00		0.90		1.00	1.00		1.16	1.15	1.81
Incremental Delay, d2		41.5	0.4		13.3		0.5	1.1		4.0	0.3	0.1
Delay (s)		66.4	13.8		35.6		39.1	25.4		49.6	26.0	37.6
Level of Service		E	B		D		D	C		D	C	D
Approach Delay (s)		56.6			35.6			26.5			35.2	
Approach LOS		E			D			C			D	

Intersection Summary

HCM Average Control Delay	42.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	0.97	0.91	0.94	0.88
Frbp, 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	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1118	4047	1000	2168	3212	3152	1760
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1118	4047	1000	2168	3212	3152	1760
Volume (vph)	12	1388	290	283	1221	624	600
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	12	1402	293	286	1233	630	606
RTOR Reduction (vph)	0	0	217	0	0	0	483
Lane Group Flow (vph)	12	1402	76	286	1233	630	123
Conf. Peds. (#/hr)			86	86		1	139
Conf. Bikes (#/hr)			19				3
Turn Type	Prot		Over	Prot		Over	
Protected Phases	1	6	8	5	2	8	5
Permitted Phases							
Actuated Green, G (s)	2.6	49.8	28.3	24.3	70.5	28.3	24.3
Effective Green, g (s)	3.6	52.5	31.2	24.3	73.2	31.2	24.3
Actuated g/C Ratio	0.03	0.44	0.26	0.20	0.61	0.26	0.20
Clearance Time (s)	5.0	6.7	6.9	4.0	6.7	6.9	4.0
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	34	1771	260	439	1959	820	356
v/s Ratio Prot	0.01	c0.35	0.08	0.13	c0.38	c0.20	0.07
v/s Ratio Perm							
v/c Ratio	0.35	0.79	0.29	0.65	0.63	0.77	0.34
Uniform Delay, d1	57.1	29.0	35.6	44.0	14.8	41.1	41.0
Progression Factor	0.87	1.48	2.23	0.95	0.78	1.00	1.00
Incremental Delay, d2	3.7	2.2	0.4	3.0	1.4	4.4	0.6
Delay (s)	53.4	45.3	79.7	44.7	12.9	45.4	41.6
Level of Service	D	D	E	D	B	D	D
Approach Delay (s)		51.2			18.9	43.5	
Approach LOS		D			B	D	

Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↘↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.90	1.00	1.00	0.88	1.00	1.00	0.87	1.00	0.92	
Flpb, ped/bikes	0.99	1.00	1.00	0.91	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	0.94	
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)	1565	3167	1275	1445	3167	1243	3072	4550	1231	3072	3924	
Flt Permitted	0.31	1.00	1.00	0.63	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	506	3167	1275	957	3167	1243	3072	4550	1231	3072	3924	
Volume (vph)	126	179	262	251	476	224	265	536	154	220	456	301
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	137	195	285	273	517	243	288	583	167	239	496	327
RTOR Reduction (vph)	0	0	7	0	0	166	0	0	124	0	127	0
Lane Group Flow (vph)	137	195	278	273	517	77	288	583	43	239	696	0
Confl. Peds. (#/hr)	114		119	119		114	155		101	101		155
Confl. Bikes (#/hr)			4			5			4			3
Turn Type	pm+pt		pm+ov	Perm		Perm	Prot		Perm	Prot		
Protected Phases	1	6	3		2		3	8		7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	39.6	39.6	50.2	27.2	27.2	27.2	10.6	22.8	22.8	13.6	25.8	
Effective Green, g (s)	41.1	41.1	51.7	28.7	28.7	28.7	10.6	23.3	23.3	13.6	26.3	
Actuated g/C Ratio	0.46	0.46	0.57	0.32	0.32	0.32	0.12	0.26	0.26	0.15	0.29	
Clearance Time (s)	3.5	5.5	4.0	5.5	5.5	5.5	4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	3.0	4.0	2.0	4.0	4.0	4.0	2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	330	1446	789	305	1010	396	362	1178	319	464	1147	
v/s Ratio Prot	c0.04	0.06	0.04		0.16		c0.09	0.13		0.08	c0.18	
v/s Ratio Perm	0.15		0.18	c0.29		0.06			0.04			
v/c Ratio	0.42	0.13	0.35	0.90	0.51	0.20	0.80	0.49	0.14	0.52	0.61	
Uniform Delay, d1	15.4	14.2	10.2	29.2	24.9	22.3	38.6	28.3	25.6	35.2	27.4	
Progression Factor	1.04	1.04	1.08	1.03	1.03	1.33	0.98	1.14	1.76	1.00	1.00	
Incremental Delay, d2	0.8	0.1	0.1	27.0	0.6	0.3	10.7	1.5	0.9	0.4	2.4	
Delay (s)	16.9	14.8	11.1	57.0	26.2	30.0	48.4	33.8	45.8	35.6	29.8	
Level of Service	B	B	B	E	C	C	D	C	D	D	C	
Approach Delay (s)		13.6			35.2			39.8			31.1	
Approach LOS		B			D			D			C	

Intersection Summary

HCM Average Control Delay	31.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕	↗	↘	↑↑↑	↗	↘	↑↑↑		
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)					4.0	4.0	4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor					1.00	1.00	1.00	0.91	1.00	1.00	0.91		
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00		
Flt Protected					0.95	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)					1583	1417	1583	4550	1417	1583	4550		
Flt Permitted					0.76	1.00	0.22	1.00	1.00	0.42	1.00		
Satd. Flow (perm)					1262	1417	364	4550	1417	708	4550		
Volume (vph)	0	0	0	125	0	182	1	530	95	120	1071	0	
Peak-hour factor, PHF	0.92	0.92	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	136	0	198	1	576	103	130	1164	0	
RTOR Reduction (vph)	0	0	0	0	0	162	0	0	28	0	0	0	
Lane Group Flow (vph)	0	0	0	0	136	36	1	576	75	130	1164	0	
Turn Type	Perm			Perm			Perm	Perm	Perm		Perm		
Protected Phases	4			4			4		2		2		
Permitted Phases	4			4			2		2		2		
Actuated Green, G (s)				15.5			15.5	64.5	64.5	64.5	64.5	64.5	
Effective Green, g (s)				16.5			16.5	65.5	65.5	65.5	65.5	65.5	
Actuated g/C Ratio				0.18			0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)				5.0			5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)				3.0			3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)				231			260	265	3311	1031	515	3311	
v/s Ratio Prot								0.13		c0.26			
v/s Ratio Perm				c0.11			0.03	0.00	0.05		0.18		
v/c Ratio				0.59			0.14	0.00	0.17		0.07	0.25	0.35
Uniform Delay, d1				33.6			30.8	3.3	3.8		3.5	4.1	4.5
Progression Factor				1.00			1.00	2.29	1.83		4.39	1.16	1.17
Incremental Delay, d2				3.8			0.2	0.0	0.1		0.1	1.0	0.3
Delay (s)				37.4			31.0	7.7	7.1		15.6	5.8	5.5
Level of Service				D			C	A	A		B	A	A
Approach Delay (s)	0.0			33.7			8.4		5.5				
Approach LOS	A			C			A		A				

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕	↗	↖	↕↕↕		↖↖	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	0.95	1.00	0.91		0.97	0.91	
Frt		0.96			1.00	0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.97			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2961			1531	1346	1583	4498		3072	4536	
Flt Permitted		0.79			0.73	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2404			1162	1346	1583	4498		3072	4536	
Volume (vph)	84	31	42	33	16	69	11	484	40	132	1019	22
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	86	32	43	34	16	70	11	494	41	135	1040	22
RTOR Reduction (vph)	0	36	0	0	0	52	0	5	0	0	1	0
Lane Group Flow (vph)	0	125	0	0	50	18	11	530	0	135	1061	0
Turn Type		Perm		Perm		pm+ov	Prot			Prot		
Protected Phases		8		4	4	5	1	6		5	2	
Permitted Phases		8		4		4						
Actuated Green, G (s)		12.6			12.6	21.7	1.4	54.1		9.1	61.8	
Effective Green, g (s)		14.1			14.1	23.2	1.4	54.8		9.1	62.5	
Actuated g/C Ratio		0.16			0.16	0.26	0.02	0.61		0.10	0.69	
Clearance Time (s)		5.5			5.5	4.0	4.0	4.7		4.0	4.7	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		377			182	407	25	2739		311	3150	
v/s Ratio Prot						0.00	0.01	0.12		c0.04	c0.23	
v/s Ratio Perm		c0.05			0.04	0.01						
v/c Ratio		0.33			0.27	0.04	0.44	0.19		0.43	0.34	
Uniform Delay, d1		33.8			33.4	25.1	43.9	7.8		38.0	5.5	
Progression Factor		1.00			1.00	1.00	0.80	1.82		0.81	1.04	
Incremental Delay, d2		0.5			0.8	0.0	11.7	0.2		0.9	0.3	
Delay (s)		34.3			34.3	25.1	46.7	14.4		31.6	6.0	
Level of Service		C			C	C	D	B		C	A	
Approach Delay (s)		34.3			28.9			15.0			8.8	
Approach LOS		C			C			B			A	

Intersection Summary

HCM Average Control Delay	13.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔	↔		↔	↔↔	↔↔↔		↔	↔↔↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3072		1417	1583		1417	3072	4502		1583	4541	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3072		1417	1583		1417	3072	4502		1583	4541	
Volume (vph)	128	0	179	23	0	50	19	387	29	59	1040	15
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	141	0	197	25	0	55	21	425	32	65	1143	16
RTOR Reduction (vph)	0	0	154	0	0	42	0	7	0	0	1	0
Lane Group Flow (vph)	141	0	43	25	0	13	21	450	0	65	1158	0
Turn Type	Prot		custom	Prot		custom	Prot			Prot		
Protected Phases	3		3 5	4		1 4	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.2		19.4	9.9		22.3	6.2	41.5		7.5	42.8	
Effective Green, g (s)	14.1		19.5	10.8		21.5	5.4	42.4		6.7	43.7	
Actuated g/C Ratio	0.16		0.22	0.12		0.24	0.06	0.47		0.07	0.49	
Clearance Time (s)	4.9			4.9			3.2	4.9		3.2	4.9	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	481		307	190		339	184	2121		118	2205	
v/s Ratio Prot	c0.05		0.03	c0.02		0.01	0.01	0.10		c0.04	c0.26	
v/s Ratio Perm												
v/c Ratio	0.29		0.14	0.13		0.04	0.11	0.21		0.55	0.53	
Uniform Delay, d1	33.5		28.5	35.4		26.3	40.0	14.0		40.2	16.0	
Progression Factor	1.00		1.00	1.00		1.00	1.43	0.31		0.77	1.04	
Incremental Delay, d2	0.3		0.2	0.3		0.0	0.2	0.2		5.3	0.9	
Delay (s)	33.9		28.7	35.7		26.4	57.4	4.5		36.1	17.5	
Level of Service	C		C	D		C	E	A		D	B	
Approach Delay (s)		30.9			29.3			6.9			18.5	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM Average Control Delay			18.2									HCM Level of Service B
HCM Volume to Capacity ratio			0.41									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			48.6%									ICU Level of Service A
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↖	↑↑↑	↑↑↑↗		↘↘	↘↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.91	0.91		0.97	0.88
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)	3072	4550	4517		3072	2493
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3072	4550	4517		3072	2493
Volume (vph)	306	1583	1431	74	337	871
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	333	1721	1555	80	366	947
RTOR Reduction (vph)	0	0	6	0	0	356
Lane Group Flow (vph)	333	1721	1629	0	366	591
Turn Type	Prot					Prot
Protected Phases	5	2 5	6		4	4
Permitted Phases						
Actuated Green, G (s)	12.0	51.9	34.9		27.6	27.6
Effective Green, g (s)	13.0	53.4	36.4		28.6	28.6
Actuated g/C Ratio	0.14	0.59	0.40		0.32	0.32
Clearance Time (s)	5.0		5.5		5.0	5.0
Vehicle Extension (s)	2.0		3.0		3.0	3.0
Lane Grp Cap (vph)	444	2700	1827		976	792
v/s Ratio Prot	c0.11	0.38	c0.36		0.12	c0.24
v/s Ratio Perm						
v/c Ratio	0.75	0.64	0.89		0.38	0.75
Uniform Delay, d1	36.9	12.0	25.0		23.8	27.5
Progression Factor	1.00	1.00	1.00		1.11	1.62
Incremental Delay, d2	11.1	1.2	7.1		0.2	3.4
Delay (s)	48.0	13.1	32.0		26.6	48.0
Level of Service	D	B	C		C	D
Approach Delay (s)		18.8	32.0		42.0	
Approach LOS		B	C		D	

Intersection Summary


















HCM Average Control Delay	29.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 73: Santa Monica Blvd & Century Park West



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	0.91
Frbp, 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	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3212	1000	2168	3212	2168	910
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3212	1000	2168	3212	2168	910
Volume (vph)	1464	134	113	1732	432	215
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1509	138	116	1786	445	222
RTOR Reduction (vph)	0	83	0	0	0	167
Lane Group Flow (vph)	1509	56	116	1786	445	56
Confl. Peds. (#/hr)		145	145		56	
Confl. Bikes (#/hr)		19				
Turn Type		Over	Prot			Perm
Protected Phases	6	4	5	2	4	
Permitted Phases						4
Actuated Green, G (s)	67.2	28.1	9.6	80.8	28.1	28.1
Effective Green, g (s)	68.4	30.0	9.6	82.0	30.0	30.0
Actuated g/C Ratio	0.57	0.25	0.08	0.68	0.25	0.25
Clearance Time (s)	5.2	5.9	4.0	5.2	5.9	5.9
Vehicle Extension (s)	3.7	3.8	1.0	3.5	3.8	3.8
Lane Grp Cap (vph)	1831	250	173	2195	542	228
v/s Ratio Prot	0.47	0.06	0.05	c0.56	c0.21	
v/s Ratio Perm						0.06
v/c Ratio	0.82	0.22	0.67	0.81	0.82	0.24
Uniform Delay, d1	20.9	35.7	53.7	13.6	42.5	35.9
Progression Factor	1.35	1.01	0.96	0.77	1.00	1.00
Incremental Delay, d2	0.4	0.2	6.0	2.6	13.1	2.5
Delay (s)	28.7	36.3	57.7	13.0	55.6	38.5
Level of Service	C	D	E	B	E	D
Approach Delay (s)	29.3			15.7	49.9	
Approach LOS	C			B	D	

Intersection Summary			
HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 			  
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	0.95	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3072	2493	3167	1417	1583	4550
Flt Permitted	0.95	1.00	1.00	1.00	0.58	1.00
Satd. Flow (perm)	3072	2493	3167	1417	959	4550
Volume (vph)	514	358	189	119	104	215
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	565	393	208	131	114	236
RTOR Reduction (vph)	0	284	0	22	0	0
Lane Group Flow (vph)	565	109	208	109	114	236
Turn Type		Perm		pm+ov	pm+pt	
Protected Phases	4		2	4	1	6
Permitted Phases		4		2	6	
Actuated Green, G (s)	24.4	24.4	48.6	73.0	55.6	55.6
Effective Green, g (s)	24.9	24.9	50.1	75.0	57.1	57.1
Actuated g/C Ratio	0.28	0.28	0.56	0.83	0.63	0.63
Clearance Time (s)	4.5	4.5	5.5	4.5	3.0	5.5
Vehicle Extension (s)	3.0	3.0	5.0	3.0	3.0	5.0
Lane Grp Cap (vph)	850	690	1763	1244	629	2887
v/s Ratio Prot	c0.18		0.07	0.02	c0.01	0.05
v/s Ratio Perm		0.04		0.05	c0.11	
v/c Ratio	0.66	0.16	0.12	0.09	0.18	0.08
Uniform Delay, d1	28.9	24.6	9.5	1.3	6.6	6.3
Progression Factor	1.29	4.21	1.90	0.00	1.00	1.00
Incremental Delay, d2	1.5	0.1	0.1	0.0	0.1	0.1
Delay (s)	38.7	103.8	18.1	0.0	6.7	6.4
Level of Service	D	F	B	A	A	A
Approach Delay (s)	65.4		11.1			6.5
Approach LOS	E		B			A
Intersection Summary						
HCM Average Control Delay			41.7		HCM Level of Service	D
HCM Volume to Capacity ratio			0.33			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			41.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						




























HCM Signalized Intersection Capacity Analysis
75: Olympic Blvd & Century Park West



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔	↔↔	↔↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
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)	3072	4550	4550	1417	3072	2493
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3072	4550	4550	1417	3072	2493
Volume (vph)	154	1769	1994	39	125	622
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	157	1805	2035	40	128	635
RTOR Reduction (vph)	0	0	0	21	0	0
Lane Group Flow (vph)	157	1805	2035	19	128	635
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	9.8	53.1	39.3	39.3	27.0	27.0
Effective Green, g (s)	9.8	54.3	40.5	40.5	27.7	27.7
Actuated g/C Ratio	0.11	0.60	0.45	0.45	0.31	0.31
Clearance Time (s)	4.0	5.2	5.2	5.2	4.7	4.7
Vehicle Extension (s)	3.0	4.8	4.6	4.6	3.0	3.0
Lane Grp Cap (vph)	335	2745	2048	638	945	767
v/s Ratio Prot	0.05	c0.40	c0.45		0.04	
v/s Ratio Perm				0.01		c0.25
v/c Ratio	0.47	0.66	0.99	0.03	0.14	0.83
Uniform Delay, d1	37.7	11.7	24.6	13.8	22.5	28.9
Progression Factor	0.59	2.11	1.00	1.00	0.76	0.64
Incremental Delay, d2	0.4	0.5	18.4	0.1	0.1	6.5
Delay (s)	22.5	25.3	43.1	13.9	17.1	25.2
Level of Service	C	C	D	B	B	C
Approach Delay (s)		25.1	42.5		23.8	
Approach LOS		C	D		C	

Intersection Summary

HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		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)	1583	4550	1417	1583	4527		1583	3090		1583	3127	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.17	1.00		0.32	1.00	
Satd. Flow (perm)	1583	4550	1417	1583	4527		288	3090		540	3127	
Volume (vph)	107	1716	340	100	1461	50	121	578	111	83	480	44
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	110	1769	351	103	1506	52	125	596	114	86	495	45
RTOR Reduction (vph)	0	0	163	0	3	0	0	14	0	0	6	0
Lane Group Flow (vph)	110	1769	188	103	1555	0	125	696	0	86	534	0
Turn Type	Prot		Perm	Prot			pm+pt			Perm		
Protected Phases	1	6		5	2		3	8			4	
Permitted Phases			6				8			4		
Actuated Green, G (s)	11.9	56.9	56.9	11.6	56.6		37.5	37.5		23.9	23.9	
Effective Green, g (s)	11.9	57.9	57.9	11.6	57.6		38.5	38.5		24.9	24.9	
Actuated g/C Ratio	0.10	0.48	0.48	0.10	0.48		0.32	0.32		0.21	0.21	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		3.5	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	157	2195	684	153	2173		196	991		112	649	
v/s Ratio Prot	c0.07	c0.39		0.07	0.34		0.05	c0.23			c0.17	
v/s Ratio Perm			0.13				0.15			0.16		
v/c Ratio	0.70	0.81	0.27	0.67	0.72		0.64	0.70		0.77	0.82	
Uniform Delay, d1	52.3	26.3	18.5	52.4	24.7		31.6	35.7		44.8	45.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.42	1.40		1.00	1.00	
Incremental Delay, d2	10.9	3.3	1.0	8.8	2.1		3.9	1.3		26.5	8.3	
Delay (s)	63.2	29.6	19.5	61.2	26.8		48.8	51.5		71.3	53.8	
Level of Service	E	C	B	E	C		D	D		E	D	
Approach Delay (s)		29.7			28.9			51.1			56.2	
Approach LOS		C			C			D			E	
Intersection Summary												
HCM Average Control Delay			35.9			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			83.5%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Volume (vph)	150	1261	133	140	1674	356	99	535	82	261	1042	57
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	155	1300	137	144	1726	367	102	552	85	269	1074	59
RTOR Reduction (vph)	0	0	92	0	0	61	0	0	59	0	0	34
Lane Group Flow (vph)	155	1300	45	144	1726	306	102	552	26	269	1074	25
Turn Type	Prot		Perm	Prot		pm+ov	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2	7	3	8		7		4
Permitted Phases			6			2			8			4
Actuated Green, G (s)	8.0	30.4	30.4	11.0	33.4	57.3	9.6	34.8	34.8	23.9	49.1	49.1
Effective Green, g (s)	8.0	31.9	31.9	11.0	34.9	58.8	9.6	37.2	37.2	23.9	51.5	51.5
Actuated g/C Ratio	0.07	0.27	0.27	0.09	0.29	0.49	0.08	0.31	0.31	0.20	0.43	0.43
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	4.0	4.0	6.4	6.4	4.0	6.4	6.4
Vehicle Extension (s)	2.0	4.5	4.5	2.0	5.2	2.0	2.0	4.7	4.7	2.0	4.7	4.7
Lane Grp Cap (vph)	145	854	266	199	934	490	173	693	310	432	959	429
v/s Ratio Prot	0.07	c0.40		0.07	c0.54	0.12	0.05	c0.25		0.12	c0.48	
v/s Ratio Perm			0.05			0.18			0.03			0.03
v/c Ratio	1.07	1.52	0.17	0.72	1.85	0.62	0.59	0.80	0.09	0.62	1.12	0.06
Uniform Delay, d1	56.0	44.0	33.9	53.0	42.5	22.5	53.3	37.9	29.3	43.9	34.2	20.1
Progression Factor	1.01	0.36	0.21	0.89	0.84	0.80	1.00	1.00	1.00	0.74	0.63	0.45
Incremental Delay, d2	43.4	235.6	0.1	6.0	383.9	1.0	3.3	7.1	0.2	1.8	66.9	0.1
Delay (s)	99.8	251.4	7.3	53.5	419.6	19.0	56.6	45.1	29.6	34.3	88.4	9.1
Level of Service	F	F	A	D	F	B	E	D	C	C	F	A
Approach Delay (s)		215.7			330.3			44.9			74.7	
Approach LOS		F			F			D			E	

Intersection Summary

HCM Average Control Delay	204.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	121.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	0.86		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		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)	1583	4550	1417	1583	5685		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00	1.00	0.11	1.00		0.28	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)	184	4550	1417	184	5685		470	3167	1417	564	3167	1417
Volume (vph)	163	1671	84	149	2394	144	99	406	42	255	831	207
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	168	1723	87	154	2468	148	102	419	43	263	857	213
RTOR Reduction (vph)	0	0	52	0	9	0	0	0	26	0	0	0
Lane Group Flow (vph)	168	1723	35	154	2607	0	102	419	17	263	857	213
Turn Type	pm+pt		Perm	pm+pt		Perm		pm+ov	pm+pt		pm+ov	
Protected Phases	1	6		5	2			8	5	7	4	1
Permitted Phases	6		6	2		8	8	8	4			4
Actuated Green, G (s)	42.7	35.7	35.7	42.7	35.7		22.3	22.3	29.3	33.3	33.3	40.3
Effective Green, g (s)	43.2	36.2	36.2	43.2	36.2		23.8	23.8	30.8	34.8	34.8	41.8
Actuated g/C Ratio	0.48	0.40	0.40	0.48	0.40		0.26	0.26	0.34	0.39	0.39	0.46
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5		5.5	5.5	4.0	4.0	5.5	4.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		5.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	197	1830	570	197	2287		124	837	548	297	1225	721
v/s Ratio Prot	c0.07	0.38		0.06	c0.46			0.13	0.00	c0.07	0.27	0.02
v/s Ratio Perm	0.34		0.02	0.31		0.22		0.01	c0.27			0.13
v/c Ratio	0.85	0.94	0.06	0.78	1.14		0.82	0.50	0.03	0.89	0.70	0.30
Uniform Delay, d1	20.7	25.9	16.5	18.2	26.9		31.1	28.1	19.7	24.5	23.2	15.0
Progression Factor	2.15	0.72	1.17	1.67	1.52		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	1.4	0.0	7.5	65.3		37.0	1.0	0.0	25.4	2.2	0.2
Delay (s)	47.9	20.0	19.2	37.9	106.3		68.1	29.0	19.7	49.9	25.5	15.2
Level of Service	D	C	B	D	F		E	C	B	D	C	B
Approach Delay (s)		22.4			102.5			35.4			28.6	
Approach LOS		C			F			D			C	

Intersection Summary		
HCM Average Control Delay	58.1	HCM Level of Service E
HCM Volume to Capacity ratio	0.99	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 12.0
Intersection Capacity Utilization	98.9%	ICU Level of Service F
Analysis Period (min)	15	
c Critical Lane Group		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (prot)	1583	3087		1583	3158		1504	1537	1417		1598	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.97	1.00		0.99	
Satd. Flow (perm)	1583	3087		1583	3158		1504	1537	1417		1598	
Volume (vph)	3	947	191	178	1090	21	281	72	489	27	53	21
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	3	986	199	185	1135	22	293	75	509	28	55	22
RTOR Reduction (vph)	0	14	0	0	1	0	0	0	251	0	0	0
Lane Group Flow (vph)	3	1171	0	185	1156	0	179	189	258	0	105	0
Turn Type	Prot		Prot		Split		pm+ov		Split			
Protected Phases	1	6		5	2		3	3	5		4	4
Permitted Phases									3			
Actuated Green, G (s)	1.3	54.9		17.4	71.0		10.0	10.0	27.4		20.0	
Effective Green, g (s)	0.3	55.7		16.4	71.8		10.9	10.9	27.3		21.0	
Actuated g/C Ratio	0.00	0.46		0.14	0.60		0.09	0.09	0.23		0.18	
Clearance Time (s)	3.0	4.8		3.0	4.8		4.9	4.9	3.0		5.0	
Vehicle Extension (s)	3.0	6.0		3.0	6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	4	1433		216	1890		137	140	370		280	
v/s Ratio Prot	0.00	c0.38		c0.12	0.37		0.12	c0.12	0.10		c0.07	
v/s Ratio Perm									0.09			
v/c Ratio	0.75	0.82		0.86	0.61		1.31	1.35	0.70		0.38	
Uniform Delay, d1	59.8	27.8		50.6	15.3		54.5	54.5	42.6		43.7	
Progression Factor	1.18	0.70		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	169.7	2.8		26.7	1.5		180.7	197.1	5.6		0.8	
Delay (s)	240.4	22.1		77.4	16.8		235.3	251.7	48.2		44.6	
Level of Service	F	C		E	B		F	F	D		D	
Approach Delay (s)		22.7			25.1			130.2			44.6	
Approach LOS		C			C			F			D	

Intersection Summary

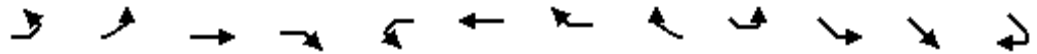
HCM Average Control Delay	51.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1504	1504	1417	1583	1542		1583	1640		1583	1667	1417
Flt Permitted	0.72	0.72	1.00	0.95	1.00		0.42	1.00		0.49	1.00	1.00
Satd. Flow (perm)	1143	1143	1417	1583	1542		707	1640		822	1667	1417
Volume (vph)	376	0	169	20	26	26	64	325	39	27	456	360
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	392	0	176	21	27	27	67	339	41	28	475	375
RTOR Reduction (vph)	0	0	150	0	25	0	0	4	0	0	0	144
Lane Group Flow (vph)	196	196	26	21	29	0	67	376	0	28	475	231
Turn Type	Perm		Perm	Split			Perm			Perm		Perm
Protected Phases		4		3	3			2			2	
Permitted Phases	4		4				2			2		2
Actuated Green, G (s)	10.0	10.0	10.0	4.8	4.8		44.8	44.8		44.8	44.8	44.8
Effective Green, g (s)	11.0	11.0	11.0	5.8	5.8		46.2	46.2		46.2	46.2	46.2
Actuated g/C Ratio	0.15	0.15	0.15	0.08	0.08		0.62	0.62		0.62	0.62	0.62
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	168	168	208	122	119		436	1010		506	1027	873
v/s Ratio Prot				0.01	c0.02			0.23			c0.28	
v/s Ratio Perm	c0.17	0.17	0.02				0.09			0.03		0.16
v/c Ratio	1.17	1.17	0.12	0.17	0.24		0.15	0.37		0.06	0.46	0.26
Uniform Delay, d1	32.0	32.0	27.8	32.4	32.5		6.1	7.2		5.7	7.7	6.6
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	121.4	121.4	0.3	0.7	1.1		0.7	1.1		0.2	1.5	0.7
Delay (s)	153.4	153.4	28.1	33.0	33.6		6.9	8.2		5.9	9.2	7.3
Level of Service	F	F	C	C	C		A	A		A	A	A
Approach Delay (s)		114.5			33.4			8.0			8.3	
Approach LOS		F			C			A			A	

Intersection Summary

HCM Average Control Delay	39.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	SEL2	SEL	SET	SER
Lane Configurations			↕	↗		↕↗				↘	↕↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)			4.0	4.0		4.0				4.0	4.0	
Lane Util. Factor			1.00	1.00		0.95				1.00	0.95	
Frt			1.00	0.85		0.98				1.00	0.98	
Flt Protected			0.98	1.00		0.98				0.95	1.00	
Satd. Flow (prot)			1158	1000		2147				1118	2196	
Flt Permitted			0.66	1.00		0.67				0.55	1.00	
Satd. Flow (perm)			775	1000		1473				652	2196	
Volume (vph)	40	51	195	25	308	286	38	40	11	87	364	48
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	42	53	203	26	321	298	40	42	11	91	379	50
RTOR Reduction (vph)	0	0	0	14	0	6	0	0	0	0	13	0
Lane Group Flow (vph)	0	0	298	12	0	695	0	0	0	102	416	0
Turn Type		Perm		Perm	Perm				Perm	Perm		
Protected Phases			6			2					4	
Permitted Phases		6		6	2				4	4		
Actuated Green, G (s)			34.0	34.0		34.0				30.0	30.0	
Effective Green, g (s)			36.0	36.0		36.0				31.0	31.0	
Actuated g/C Ratio			0.48	0.48		0.48				0.41	0.41	
Clearance Time (s)			6.0	6.0		6.0				5.0	5.0	
Vehicle Extension (s)			3.0	3.0		3.0				3.0	3.0	
Lane Grp Cap (vph)			372	480		707				269	908	
v/s Ratio Prot											0.19	
v/s Ratio Perm			0.38	0.01		c0.47				0.16		
v/c Ratio			0.80	0.03		1.07dl				0.38	0.46	
Uniform Delay, d1			16.5	10.3		19.2				15.3	15.9	
Progression Factor			0.96	1.38		1.00				1.00	1.00	
Incremental Delay, d2			14.5	0.1		29.9				4.0	1.7	
Delay (s)			30.3	14.2		49.1				19.3	17.6	
Level of Service			C	B		D				B	B	
Approach Delay (s)			29.0			49.1					17.9	
Approach LOS			C			D					B	

Intersection Summary

HCM Average Control Delay	30.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		
dl	Defacto Left Lane. Recode with 1 though lane as a left lane.		
c	Critical Lane Group		



Movement	NWL	NWT	NWR	NWR2
Lane Configurations				
Ideal Flow (vphpl)	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1118	1176	1000	
Flt Permitted	0.46	1.00	1.00	
Satd. Flow (perm)	547	1176	1000	
Volume (vph)	60	231	78	186
Peak-hour factor, PHF	0.96	0.96	0.96	0.96
Adj. Flow (vph)	62	241	81	194
RTOR Reduction (vph)	0	0	114	0
Lane Group Flow (vph)	62	241	161	0
Turn Type	Perm		Perm	
Protected Phases		8		
Permitted Phases	8		8	
Actuated Green, G (s)	30.0	30.0	30.0	
Effective Green, g (s)	31.0	31.0	31.0	
Actuated g/C Ratio	0.41	0.41	0.41	
Clearance Time (s)	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	
Lane Grp Cap (vph)	226	486	413	
v/s Ratio Prot		c0.20		
v/s Ratio Perm	0.11		0.16	
v/c Ratio	0.27	0.50	0.39	
Uniform Delay, d1	14.6	16.2	15.4	
Progression Factor	1.07	1.08	1.37	
Incremental Delay, d2	0.3	0.3	0.3	
Delay (s)	15.9	17.9	21.3	
Level of Service	B	B	C	
Approach Delay (s)		19.3		
Approach LOS		B		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99		0.95	1.00	1.00
Satd. Flow (prot)	2168	4031		1118	3975			1106		1118	1176	1000
Flt Permitted	0.95	1.00		0.08	1.00			0.50		0.42	1.00	1.00
Satd. Flow (perm)	2168	4031		100	3975			566		499	1176	1000
Volume (vph)	154	1794	48	80	1803	241	105	136	126	224	323	250
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	162	1888	51	84	1898	254	111	143	133	236	340	263
RTOR Reduction (vph)	0	2	0	0	15	0	0	11	0	0	0	2
Lane Group Flow (vph)	162	1937	0	84	2137	0	0	376	0	236	340	261
Turn Type	Prot		Perm		Perm		Perm		Perm		pm+ov	
Protected Phases	5	2			6			4			4	5
Permitted Phases				6			4			4		4
Actuated Green, G (s)	14.4	92.0		73.6	73.6			49.0		49.0	49.0	63.4
Effective Green, g (s)	14.4	92.0		73.6	73.6			50.0		50.0	50.0	64.4
Actuated g/C Ratio	0.10	0.61		0.49	0.49			0.33		0.33	0.33	0.43
Clearance Time (s)	4.0	4.0		4.0	4.0			5.0		5.0	5.0	4.0
Vehicle Extension (s)	1.5	4.0		4.0	4.0			3.0		3.0	3.0	1.5
Lane Grp Cap (vph)	208	2472		49	1950			189		166	392	456
v/s Ratio Prot	0.07	c0.48			0.54						0.29	0.06
v/s Ratio Perm				c0.84				c0.66		0.47		0.21
v/c Ratio	0.78	0.78		1.71	1.10			1.99		1.42	0.87	0.57
Uniform Delay, d1	66.2	21.6		38.2	38.2			50.0		50.0	46.9	32.4
Progression Factor	1.19	0.41		1.00	1.00			1.00		1.02	1.01	1.04
Incremental Delay, d2	1.6	0.2		393.5	52.0			464.4		215.9	15.1	0.9
Delay (s)	80.5	9.1		431.7	90.2			514.4		266.7	62.5	34.7
Level of Service	F	A		F	F			F		F	E	C
Approach Delay (s)		14.6			103.0			514.4			111.2	
Approach LOS		B			F			F			F	

Intersection Summary

HCM Average Control Delay	99.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.73		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	127.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.96		1.00	0.98		1.00	1.00	0.55	1.00	1.00	0.79
Flpb, ped/bikes	0.94	1.00		0.96	1.00		0.92	1.00	1.00	0.70	1.00	1.00
Frt	1.00	0.97		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1494	1563		1524	1604		1463	3167	776	1101	3167	1122
Flt Permitted	0.53	1.00		0.42	1.00		0.35	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	833	1563		666	1604		541	3167	776	571	3167	1122
Volume (vph)	48	235	54	151	323	56	68	363	170	88	550	200
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	50	245	56	157	336	58	71	378	177	92	573	208
RTOR Reduction (vph)	0	11	0	0	5	0	0	0	54	0	0	130
Lane Group Flow (vph)	50	290	0	157	389	0	71	378	123	92	573	78
Confl. Peds. (#/hr)	117		216	216		117	196		419	419		196
Confl. Bikes (#/hr)			5			6			8			20
Turn Type	Perm			pm+pt			Perm		pm+ov	Perm		Perm
Protected Phases		6		5	2			8	5		4	
Permitted Phases	6			2			8	8	4			4
Actuated Green, G (s)	27.6	27.6		37.6	37.6		27.0	27.0	33.5	27.0	27.0	27.0
Effective Green, g (s)	29.0	29.0		39.0	39.0		28.0	28.0	34.0	28.0	28.0	28.0
Actuated g/C Ratio	0.39	0.39		0.52	0.52		0.37	0.37	0.45	0.37	0.37	0.37
Clearance Time (s)	5.4	5.4		3.5	5.4		5.0	5.0	3.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	322	604		415	834		202	1182	393	213	1182	419
v/s Ratio Prot		0.19		0.03	c0.24			0.12	0.02		c0.18	
v/s Ratio Perm	0.06			0.17			0.13		0.13	0.16		0.07
v/c Ratio	0.16	0.48		0.38	0.47		0.35	0.32	0.31	0.43	0.48	0.19
Uniform Delay, d1	15.0	17.3		10.3	11.4		17.0	16.7	13.1	17.6	18.0	15.8
Progression Factor	0.83	0.87		1.00	1.00		0.82	0.77	1.39	1.00	1.00	1.00
Incremental Delay, d2	1.0	2.7		0.6	1.9		4.3	0.6	0.4	6.3	1.4	1.0
Delay (s)	13.5	17.8		10.9	13.3		18.2	13.6	18.5	23.8	19.4	16.8
Level of Service	B	B		B	B		B	B	B	C	B	B
Approach Delay (s)		17.2			12.6			15.5			19.2	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
84: Weyburn Ave & Westwood Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕			↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95			0.95	1.00
Frbp, ped/bikes		1.00	1.00		0.95		1.00	0.93			1.00	0.30
Flpb, ped/bikes		0.96	1.00		0.93		0.82	1.00			0.99	1.00
Frt		1.00	0.85		0.98		1.00	0.98			1.00	0.85
Flt Protected		0.99	1.00		0.99		0.95	1.00			1.00	1.00
Satd. Flow (prot)		1579	1417		1439		1293	2889			3112	420
Flt Permitted		0.84	1.00		0.92		0.27	1.00			0.90	1.00
Satd. Flow (perm)		1337	1417		1332		365	2889			2807	420
Volume (vph)	54	148	95	67	296	56	146	500	58	41	734	61
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	56	153	98	69	305	58	151	515	60	42	757	63
RTOR Reduction (vph)	0	0	98	0	1	0	0	3	0	0	0	5
Lane Group Flow (vph)	0	209	0	0	431	0	151	572	0	0	799	58
Confl. Peds. (#/hr)	570		715	715		570	814		795	795		814
Confl. Bikes (#/hr)			9			12			43			28
Turn Type	Perm		NA	Perm			Perm			Perm		Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		2
Actuated Green, G (s)		30.5	0.0		30.5		34.1	34.1			34.1	34.1
Effective Green, g (s)		32.0	0.0		32.0		35.0	35.0			35.0	35.0
Actuated g/C Ratio		0.43	0.00		0.43		0.47	0.47			0.47	0.47
Clearance Time (s)		5.5			5.5		4.9	4.9			4.9	4.9
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		570	0		568		170	1348			1310	196
v/s Ratio Prot								0.20				
v/s Ratio Perm		0.16			c0.32		c0.41				0.28	0.14
v/c Ratio		0.37	0.00		0.76		0.89	0.42			0.61	0.30
Uniform Delay, d1		14.6	37.5		18.2		18.2	13.3			14.9	12.4
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.90	2.04
Incremental Delay, d2		1.8	0.0		9.2		44.6	1.0			2.0	3.5
Delay (s)		16.4	37.5		27.4		62.8	14.3			30.3	28.7
Level of Service		B	D		C		E	B			C	C
Approach Delay (s)		23.2			27.4		24.4				30.2	
Approach LOS		C			C		C				C	
Intersection Summary												
HCM Average Control Delay			26.9				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			75.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			104.4%				ICU Level of Service				G	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕	↗		↕↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			0.95	1.00		0.95	
Frbp, ped/bikes		0.91			0.95			1.00	0.54		0.98	
Flpb, ped/bikes		0.97			0.96			1.00	1.00		1.00	
Frt		0.95			0.99			1.00	0.85		0.99	
Flt Protected		1.00			0.99			1.00	1.00		1.00	
Satd. Flow (prot)		1874			1999			2235	540		2164	
Flt Permitted		0.90			0.83			1.00	1.00		0.95	
Satd. Flow (perm)		1691			1685			2235	540		2059	
Volume (vph)	22	138	71	62	238	30	0	774	227	5	782	43
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	141	72	63	243	31	0	790	232	5	798	44
RTOR Reduction (vph)	0	8	0	0	5	0	0	0	73	0	3	0
Lane Group Flow (vph)	0	227	0	0	332	0	0	790	159	0	844	0
Conf. Peds. (#/hr)	238		195	195		238	518		548	548		518
Conf. Bikes (#/hr)			8			5			23			18
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			4			2				2
Permitted Phases	4			4			2		2	2		
Actuated Green, G (s)		55.5			55.5			84.0	84.0		84.0	
Effective Green, g (s)		57.0			57.0			85.0	85.0		85.0	
Actuated g/C Ratio		0.38			0.38			0.57	0.57		0.57	
Clearance Time (s)		5.5			5.5			5.0	5.0		5.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		643			640			1267	306		1167	
v/s Ratio Prot								0.35				
v/s Ratio Perm		0.13			c0.20				0.29		c0.41	
v/c Ratio		0.35			0.52			0.62	0.52		0.72	
Uniform Delay, d1		33.3			35.9			21.8	20.0		23.9	
Progression Factor		0.94			1.04			1.60	3.74		1.00	
Incremental Delay, d2		1.4			1.7			0.7	1.8		3.9	
Delay (s)		32.7			39.2			35.5	76.4		27.8	
Level of Service		C			D			D	E		C	
Approach Delay (s)		32.7			39.2			44.8			27.8	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.97	0.86		0.97	0.86		1.00	0.91		1.00	0.86	0.86
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.93		1.00	0.97	0.78
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.91	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	2168	3852		2168	3946		1107	2886		1017	2919	671
Flt Permitted	0.95	1.00		0.95	1.00		0.17	1.00		0.24	1.00	1.00
Satd. Flow (perm)	2168	3852		2168	3946		193	2886		256	2919	671
Volume (vph)	176	1806	194	151	1813	101	220	719	178	177	603	269
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	183	1881	202	157	1889	105	229	749	185	184	628	280
RTOR Reduction (vph)	0	12	0	0	5	0	0	28	0	0	6	6
Lane Group Flow (vph)	183	2071	0	157	1989	0	229	906	0	184	678	218
Confl. Peds. (#/hr)	237		298	298		237	247		419	419		247
Confl. Bikes (#/hr)			4			3			8			8
Turn Type	Prot			Prot			pm+pt			Perm		pm+ov
Protected Phases	5	2		1	6		3	8			4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	15.0	76.5		13.0	74.5		45.1	45.1		31.1	31.1	46.1
Effective Green, g (s)	15.0	78.0		13.0	76.0		47.0	47.0		33.0	33.0	48.0
Actuated g/C Ratio	0.10	0.52		0.09	0.51		0.31	0.31		0.22	0.22	0.32
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.9		5.9	5.9	4.0
Vehicle Extension (s)	2.0	4.0		2.0	4.0		3.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	217	2003		188	1999		121	904		56	642	233
v/s Ratio Prot	0.08	c0.54		0.07	c0.50		c0.13	0.31			0.23	0.09
v/s Ratio Perm							0.47			c0.72		0.23
v/c Ratio	0.84	1.03		0.84	0.99		1.89	1.00		3.29	1.06	0.94
Uniform Delay, d1	66.3	36.0		67.4	36.8		46.1	51.5		58.5	58.5	49.5
Progression Factor	1.23	0.64		0.81	0.64		1.00	1.00		1.27	1.27	1.44
Incremental Delay, d2	12.5	23.5		2.9	5.0		431.0	30.4		1065.0	47.8	35.7
Delay (s)	94.1	46.5		57.5	28.4		477.1	81.9		1139.4	122.3	106.9
Level of Service	F	D		E	C		F	F		F	F	F
Approach Delay (s)		50.3			30.5			159.7			290.5	
Approach LOS		D			C			F			F	

Intersection Summary			
HCM Average Control Delay	102.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	113.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.95		1.00	0.95	
Frt		0.94			0.99		1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1099			1128		1118	2193		1118	2193	
Flt Permitted		0.85			0.58		0.22	1.00		0.15	1.00	
Satd. Flow (perm)		940			670		255	2193		181	2193	
Volume (vph)	65	142	153	301	193	61	60	978	142	112	678	98
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	76	165	178	350	224	71	70	1137	165	130	788	114
RTOR Reduction (vph)	0	44	0	0	7	0	0	19	0	0	19	0
Lane Group Flow (vph)	0	375	0	0	638	0	70	1283	0	130	883	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		25.0			25.0		25.6	25.6		25.6	25.6	
Effective Green, g (s)		26.0			26.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio		0.43			0.43		0.43	0.43		0.43	0.43	
Clearance Time (s)		5.0			5.0		4.4	4.4		4.4	4.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		407			290		111	950		78	950	
v/s Ratio Prot								0.58			0.40	
v/s Ratio Perm		0.40			c0.95		0.27			c0.72		
v/c Ratio		0.92			2.20		0.63	1.35		1.67	0.93	
Uniform Delay, d1		16.0			17.0		13.3	17.0		17.0	16.1	
Progression Factor		1.00			1.00		0.37	0.49		1.00	1.00	
Incremental Delay, d2		26.0			550.6		2.5	158.3		349.5	16.5	
Delay (s)		42.0			567.6		7.4	166.6		366.5	32.6	
Level of Service		D			F		A	F		F	C	
Approach Delay (s)		42.0			567.6			158.5			74.7	
Approach LOS		D			F			F			E	

Intersection Summary

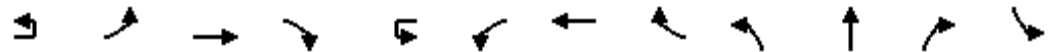
HCM Average Control Delay	195.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.93		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	153.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	1130		1118	1153		1118	2203		1118	2206	
Flt Permitted	0.57	1.00		0.40	1.00		0.15	1.00		0.15	1.00	
Satd. Flow (perm)	676	1130		472	1153		171	2203		171	2206	
Volume (vph)	154	285	101	72	203	31	91	1064	112	44	1053	102
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	157	291	103	73	207	32	93	1086	114	45	1074	104
RTOR Reduction (vph)	0	21	0	0	9	0	0	13	0	0	12	0
Lane Group Flow (vph)	157	373	0	73	230	0	93	1187	0	45	1166	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		4		4		2		2		2	
Permitted Phases	4		4		4		2		2		2	
Actuated Green, G (s)	22.9	22.9		22.9	22.9		27.0	27.0		27.0	27.0	
Effective Green, g (s)	24.5	24.5		24.5	24.5		27.5	27.5		27.5	27.5	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.46	0.46		0.46	0.46	
Clearance Time (s)	5.6	5.6		5.6	5.6		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)	276	461		193	471		78	1010		78	1011	
v/s Ratio Prot	c0.33				0.20		0.54				0.53	
v/s Ratio Perm	0.23		0.15				c0.54		0.26			
v/c Ratio	0.57	0.81		0.38	0.49		1.19	1.18		0.58	1.15	
Uniform Delay, d1	13.7	15.7		12.4	13.1		16.2	16.2		12.0	16.2	
Progression Factor	0.64	0.56		1.00	1.00		1.65	1.77		0.88	0.94	
Incremental Delay, d2	1.9	7.4		1.2	0.8		134.2	84.6		2.8	70.2	
Delay (s)	10.7	16.2		13.7	13.9		161.0	113.4		13.3	85.4	
Level of Service	B		B		B		F		F		B	
Approach Delay (s)	14.7		13.9		116.8		82.8					
Approach LOS	B		B		F		F					

Intersection Summary

HCM Average Control Delay	78.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	113.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↔↔↔	↔		↔↔	↔↔↔	↔	↔	↔↔		↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		0.97	0.91	1.00		0.97	0.91	1.00	1.00	0.95		1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		3072	4550	1417		3072	4550	1417	1583	3125		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.09	1.00		0.08
Satd. Flow (perm)		3072	4550	1417		3072	4550	1417	148	3125		140
Volume (vph)	2	263	1691	123	16	267	1186	286	100	1037	99	202
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	2	266	1708	124	16	270	1198	289	101	1047	100	204
RTOR Reduction (vph)	0	0	0	35	0	0	0	37	0	6	0	0
Lane Group Flow (vph)	0	268	1708	89	0	286	1198	252	101	1141	0	204
Turn Type	Prot	Prot	pm+ov		Prot	Prot		pm+ov	pm+pt			pm+pt
Protected Phases	1	1	6	3	5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		15.1	29.1	38.5		16.4	30.4	42.4	51.7	42.3		56.9
Effective Green, g (s)		15.1	30.6	40.0		16.4	31.9	43.9	54.4	45.0		59.6
Actuated g/C Ratio		0.13	0.26	0.33		0.14	0.27	0.37	0.45	0.38		0.50
Clearance Time (s)		4.0	5.5	4.0		4.0	5.5	4.0	4.0	6.7		4.0
Vehicle Extension (s)		3.0	5.0	3.0		3.0	5.0	3.0	3.0	4.0		3.0
Lane Grp Cap (vph)		387	1160	520		420	1210	566	180	1172		214
v/s Ratio Prot		0.09	c0.38	0.01		c0.09	0.26	0.04	0.04	0.37		c0.10
v/s Ratio Perm				0.05				0.13	0.21			c0.38
v/c Ratio		0.69	1.47	0.17		0.68	0.99	0.44	0.56	0.97		0.95
Uniform Delay, d1		50.2	44.7	28.3		49.3	43.9	28.8	24.1	36.9		34.1
Progression Factor		1.49	0.64	0.05		1.58	0.79	0.04	1.00	1.00		1.34
Incremental Delay, d2		3.4	215.7	0.1		0.4	5.8	0.1	4.0	20.1		26.1
Delay (s)		78.1	244.3	1.6		78.4	40.3	1.2	28.0	57.0		71.9
Level of Service		E	F	A		E	D	A	C	E		E
Approach Delay (s)			208.8				40.1			54.7		
Approach LOS			F				D			D		

Intersection Summary			
HCM Average Control Delay	97.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3167	1417
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3167	1417
Volume (vph)	1141	97
Peak-hour factor, PHF	0.99	0.99
Adj. Flow (vph)	1153	98
RTOR Reduction (vph)	0	51
Lane Group Flow (vph)	1153	47
Turn Type		Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	44.9	44.9
Effective Green, g (s)	47.6	47.6
Actuated g/C Ratio	0.40	0.40
Clearance Time (s)	6.7	6.7
Vehicle Extension (s)	4.0	4.0
Lane Grp Cap (vph)	1256	562
v/s Ratio Prot	0.36	
v/s Ratio Perm		0.03
v/c Ratio	0.92	0.08
Uniform Delay, d1	34.3	22.6
Progression Factor	1.06	1.39
Incremental Delay, d2	4.6	0.0
Delay (s)	41.1	31.5
Level of Service	D	C
Approach Delay (s)	44.7	
Approach LOS	D	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑		↔	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4514		1583	5681		1583	3135		1583	3127	
Flt Permitted	0.12	1.00		0.11	1.00		0.15	1.00		0.13	1.00	
Satd. Flow (perm)	205	4514		183	5681		247	3135		215	3127	
Volume (vph)	71	1555	86	80	2610	169	77	892	63	258	1170	108
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	74	1620	90	83	2719	176	80	929	66	269	1219	112
RTOR Reduction (vph)	0	6	0	0	11	0	0	6	0	0	0	0
Lane Group Flow (vph)	74	1704	0	83	2884	0	80	989	0	269	1331	0
Turn Type	Perm		pm+pt			Perm			pm+pt			
Protected Phases	2		1			6			8			
Permitted Phases	2		6			8			4			
Actuated Green, G (s)	31.5	31.5		41.0	41.0		25.6	25.6		38.6	38.6	
Effective Green, g (s)	32.5	32.5		42.0	42.0		27.0	27.0		40.0	40.0	
Actuated g/C Ratio	0.36	0.36		0.47	0.47		0.30	0.30		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.5	5.0		5.4	5.4		3.5	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1630		171	2651		74	941		232	1390	
v/s Ratio Prot		0.38		0.03	c0.51			0.32		c0.12	0.43	
v/s Ratio Perm	0.36			0.20			0.32			c0.40		
v/c Ratio	1.00	1.05		0.49	1.09		1.08	1.05		1.16	0.96	
Uniform Delay, d1	28.8	28.8		19.1	24.0		31.5	31.5		22.3	24.2	
Progression Factor	1.79	1.83		1.37	0.50		0.91	0.93		1.00	1.00	
Incremental Delay, d2	31.4	22.4		0.5	41.5		120.7	41.8		108.9	15.9	
Delay (s)	83.0	75.0		26.7	53.5		149.4	71.0		131.2	40.1	
Level of Service	F	E		C	D		F	E		F	D	
Approach Delay (s)		75.3			52.7			76.8			55.4	
Approach LOS		E			D			E			E	

Intersection Summary

HCM Average Control Delay	62.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
91: Pico Blvd & Westwood Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	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	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4550	1417	1583	3167	1417	1583	3100	3100
Flt Permitted	0.13	1.00	1.00	0.13	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	218	4550	1417	218	4550	1417	1583	3167	1417	1583	3100	3100
Volume (vph)	182	1314	139	317	1690	287	132	543	88	171	862	142
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	184	1327	140	320	1707	290	133	548	89	173	871	143
RTOR Reduction (vph)	0	0	20	0	0	93	0	0	5	0	14	0
Lane Group Flow (vph)	184	1327	120	320	1707	197	133	548	84	173	1000	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	Prot		pm+ov		Prot	
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	35.2	28.7	35.6	35.2	28.7	35.2	6.9	30.2	36.7	6.5	29.8	
Effective Green, g (s)	36.6	30.6	37.0	36.6	30.6	36.6	6.4	31.4	37.4	6.0	31.0	
Actuated g/C Ratio	0.41	0.34	0.41	0.41	0.34	0.41	0.07	0.35	0.42	0.07	0.34	
Clearance Time (s)	3.5	5.9	3.5	3.5	5.9	3.5	3.5	5.2	3.5	3.5	5.2	
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	
Lane Grp Cap (vph)	180	1547	583	180	1547	639	113	1105	652	106	1068	
v/s Ratio Prot	0.07	0.29	0.01	c0.12	0.38	0.02	c0.08	0.17	0.01	c0.11	c0.32	
v/s Ratio Perm	0.35		0.07	c0.61		0.12			0.05			
v/c Ratio	1.02	0.86	0.21	1.78	1.10	0.31	1.18	0.50	0.13	1.63	0.94	
Uniform Delay, d1	24.7	27.7	17.0	22.7	29.7	18.1	41.8	23.1	16.2	42.0	28.5	
Progression Factor	1.18	0.61	0.62	1.00	1.00	1.00	1.00	1.00	1.00	1.32	1.06	
Incremental Delay, d2	26.0	0.6	0.0	371.5	56.7	0.3	139.9	0.7	0.1	299.4	6.7	
Delay (s)	55.1	17.6	10.6	394.2	86.4	18.4	181.7	23.8	16.3	355.0	36.8	
Level of Service	E	B	B	F	F	B	F	C	B	F	D	
Approach Delay (s)		21.2			120.4			50.2			83.2	
Approach LOS		C			F			D			F	

Intersection Summary

HCM Average Control Delay	76.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 92: Le Conte Ave & Gayley Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.95		1.00	1.00	0.75	1.00	0.86		1.00	0.99	
Flpb, ped/bikes	0.83	1.00		0.66	1.00	1.00	0.95	1.00		0.84	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.92		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1321	1549		1050	1667	1062	1505	2501		1332	3118	
Flt Permitted	0.54	1.00		0.69	1.00	1.00	0.19	1.00		0.57	1.00	
Satd. Flow (perm)	750	1549		764	1667	1062	294	2501		798	3118	
Volume (vph)	14	84	12	287	194	31	72	126	156	139	1060	33
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	15	89	13	305	206	33	77	134	166	148	1128	35
RTOR Reduction (vph)	0	7	0	0	0	24	0	36	0	0	3	0
Lane Group Flow (vph)	15	95	0	305	206	9	77	264	0	148	1160	0
Conf. Peds. (#/hr)	212		207	207		212	177		203	203		177
Conf. Bikes (#/hr)			13			9			15			12
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2			2		
Actuated Green, G (s)	20.2	20.2		20.2	20.2	20.2	45.3	45.3		45.3	45.3	
Effective Green, g (s)	21.0	21.0		21.0	21.0	21.0	46.0	46.0		46.0	46.0	
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.8	4.8		4.8	4.8	4.8	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	210	434		214	467	297	180	1534		489	1912	
v/s Ratio Prot		0.06			0.12			0.11			0.37	
v/s Ratio Perm	0.02			0.40		0.01	0.26			0.19		
v/c Ratio	0.07	0.22		1.43	0.44	0.03	0.43	0.17		0.30	0.61	
Uniform Delay, d1	19.8	20.7		27.0	22.2	19.6	7.6	6.3		6.9	8.9	
Progression Factor	1.00	1.00		0.90	0.89	0.88	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.2		214.5	2.8	0.2	7.3	0.2		1.6	1.4	
Delay (s)	20.5	21.9		238.7	22.5	17.4	14.9	6.5		8.5	10.4	
Level of Service	C	C		F	C	B	B	A		A	B	
Approach Delay (s)		21.7			143.4			8.2			10.2	
Approach LOS		C			F			A			B	

Intersection Summary			
HCM Average Control Delay	41.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕	↕	↕	↕↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes		0.99		1.00	0.86		1.00	1.00	0.72	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		0.97	1.00	1.00	0.90	1.00	
Frt		0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1069		1118	875		1087	2235	722	1002	2234	
Flt Permitted		0.99		0.76	1.00		0.20	1.00	1.00	0.37	1.00	
Satd. Flow (perm)		1069		888	875		234	2235	722	392	2234	
Volume (vph)	1	1	2	218	8	87	3	595	155	79	945	2
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1	1	2	222	8	89	3	607	158	81	964	2
RTOR Reduction (vph)	0	2	0	0	60	0	0	0	82	0	0	0
Lane Group Flow (vph)	0	2	0	222	37	0	3	607	76	81	966	0
Conf. Peds. (#/hr)	82						82	77		239	239	77
Conf. Bikes (#/hr)			2			6			9			5
Turn Type	Split			Perm			Perm			Perm custom		
Protected Phases	3	3			4			6				
Permitted Phases				4			6		6	2	2	
Actuated Green, G (s)		1.3		23.4	23.4		35.7	35.7	35.7	35.7	35.7	
Effective Green, g (s)		2.3		24.4	24.4		36.3	36.3	36.3	36.3	36.3	
Actuated g/C Ratio		0.03		0.33	0.33		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)		5.0		5.0	5.0		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		33		289	285		113	1082	349	190	1081	
v/s Ratio Prot		c0.00			0.04			0.27				
v/s Ratio Perm				c0.25			0.01		0.11	0.21	c0.43	
v/c Ratio		0.06		0.77	0.13		0.03	0.56	0.22	0.43	0.89	
Uniform Delay, d1		35.3		22.8	17.8		10.1	13.7	11.2	12.6	17.6	
Progression Factor		1.00		2.03	4.47		0.94	1.07	2.58	1.00	1.00	
Incremental Delay, d2		0.8		10.3	0.2		0.3	1.4	1.0	6.9	11.3	
Delay (s)		36.1		56.5	79.8		9.8	16.0	29.7	19.4	28.9	
Level of Service		D		E	E		A	B	C	B	C	
Approach Delay (s)		36.1			63.5			18.8			28.2	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔	↑↑↑		↔	↑↑	↔	↔	↑	↔↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86		1.00	0.95	1.00	1.00	1.00	0.88
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00	0.69	1.00	1.00	0.80
Flpb, ped/bikes	1.00	1.00		0.97	1.00		0.98	1.00	1.00	0.79	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3894		1081	3940		1100	2235	691	887	1176	1411
Flt Permitted	0.95	1.00		0.08	1.00		0.19	1.00	1.00	0.58	1.00	1.00
Satd. Flow (perm)	2168	3894		90	3940		217	2235	691	546	1176	1411
Volume (vph)	300	1859	105	44	2014	136	179	260	80	184	334	706
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	312	1936	109	46	2098	142	186	271	83	192	348	735
RTOR Reduction (vph)	0	6	0	0	6	0	0	0	3	0	0	0
Lane Group Flow (vph)	312	2039	0	46	2234	0	186	271	80	192	348	735
Confl. Peds. (#/hr)	150		269	269		150	284		210	210		284
Confl. Bikes (#/hr)			4			9			6			5
Turn Type	Prot			Perm			pm+pt		Perm	Perm		pm+ov
Protected Phases	1	6			2		3	8			4	1
Permitted Phases				2			8		8	4		4
Actuated Green, G (s)	25.0	90.0		61.0	61.0		49.2	49.2	49.2	35.2	35.2	60.2
Effective Green, g (s)	25.0	91.0		62.0	62.0		51.0	51.0	51.0	37.0	37.0	62.0
Actuated g/C Ratio	0.17	0.61		0.41	0.41		0.34	0.34	0.34	0.25	0.25	0.41
Clearance Time (s)	4.0	5.0		5.0	5.0		4.0	5.8	5.8	5.8	5.8	4.0
Vehicle Extension (s)	2.0	4.0		4.0	4.0		2.0	3.0	3.0	3.0	3.0	2.0
Lane Grp Cap (vph)	361	2362		37	1629		133	760	235	135	290	621
v/s Ratio Prot	0.14	0.52			c0.57		c0.09	0.12			0.30	c0.20
v/s Ratio Perm				0.51			c0.38		0.12	0.35		0.32
v/c Ratio	0.86	0.86		1.24	1.37		1.40	0.36	0.34	1.42	1.20	1.18
Uniform Delay, d1	60.8	24.4		44.0	44.0		46.5	37.2	37.0	56.5	56.5	44.0
Progression Factor	0.82	1.53		0.83	0.82		1.00	1.00	1.00	0.92	0.92	1.07
Incremental Delay, d2	2.1	0.4		128.5	167.4		218.3	0.3	0.9	215.7	109.8	93.4
Delay (s)	51.9	37.6		165.2	203.5		264.9	37.5	37.8	267.6	161.9	140.5
Level of Service	D	D		F	F		F	D	D	F	F	F
Approach Delay (s)		39.5			202.7			115.9			165.5	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	128.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↔	↑↑		↔		↔		↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0		4.0			
Lane Util. Factor		0.95		1.00	0.95		1.00		1.00			
Frt		0.98		1.00	1.00		1.00		0.85			
Flt Protected		1.00		0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3116		1583	3167		1583		1417			
Flt Permitted		1.00		0.08	1.00		0.76		1.00			
Satd. Flow (perm)		3116		125	3167		1262		1417			
Volume (vph)	0	1159	140	278	1765	0	379	0	412	0	0	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1195	144	287	1820	0	391	0	425	0	0	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	356	0	0	0
Lane Group Flow (vph)	0	1333	0	287	1820	0	391	0	69	0	0	0
Turn Type				pm+pt		custom		Over	Perm			
Protected Phases		2		1	6			1			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		57.6		81.0	81.0		30.0		19.4			
Effective Green, g (s)		58.6		82.0	82.0		30.0		19.4			
Actuated g/C Ratio		0.49		0.68	0.68		0.25		0.16			
Clearance Time (s)		5.0		4.0	5.0		4.0		4.0			
Vehicle Extension (s)		4.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		1522		321	2164		316		229			
v/s Ratio Prot		0.43		0.14	c0.57				0.05			
v/s Ratio Perm				c0.46		c0.31						
v/c Ratio		0.88		0.89	0.84		1.24		0.30			
Uniform Delay, d1		27.5		35.8	14.1		45.0		44.3			
Progression Factor		1.00		1.03	1.16		1.00		1.00			
Incremental Delay, d2		7.4		23.0	3.7		131.0		0.7			
Delay (s)		34.8		59.8	20.0		176.0		45.1			
Level of Service		C		E	C		F		D			
Approach Delay (s)		34.8			25.4			107.8			0.0	
Approach LOS		C			C			F			A	

Intersection Summary

HCM Average Control Delay	44.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		0.97	0.86		1.00	0.95	1.00	1.00	0.95	0.88
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.93	1.00	1.00	0.92
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3995		2168	4041		1104	2235	927	1103	2235	1616
Flt Permitted	0.95	1.00		0.95	1.00		0.30	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	2168	3995		2168	4041		346	2235	927	216	2235	1616
Volume (vph)	271	2215	78	75	2756	22	266	691	198	40	382	710
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	295	2408	85	82	2996	24	289	751	215	43	415	772
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	1	0	0	6
Lane Group Flow (vph)	295	2490	0	82	3019	0	289	751	214	43	415	766
Confl. Peds. (#/hr)	16		74	74		16	73		33	33		73
Confl. Bikes (#/hr)			14			12			27			14
Turn Type	Prot			Prot		pm+pt		pm+ov	Perm		pm+ov	
Protected Phases	5	2		1	6	3	8	1		4	4	5
Permitted Phases						8		8	4			4
Actuated Green, G (s)	22.0	88.0		5.0	71.0	40.6	40.6	45.6	31.6	31.6	53.6	
Effective Green, g (s)	22.0	89.5		5.0	72.5	43.5	43.5	48.5	34.5	34.5	56.5	
Actuated g/C Ratio	0.15	0.60		0.03	0.48	0.29	0.29	0.32	0.23	0.23	0.38	
Clearance Time (s)	4.0	5.5		4.0	5.5	4.0	6.9	4.0	6.9	6.9	4.0	
Vehicle Extension (s)	1.0	4.0		1.0	4.0	3.0	2.0	1.0	2.0	2.0	1.0	
Lane Grp Cap (vph)	318	2384		72	1953	126	648	324	50	514	609	
v/s Ratio Prot	0.14	0.62		0.04	c0.75	c0.08	0.34	0.02		0.19	c0.18	
v/s Ratio Perm						c0.59		0.21	0.20		0.29	
v/c Ratio	0.93	1.04		1.14	1.55	2.29	1.16	0.66	0.86	0.81	1.26	
Uniform Delay, d1	63.2	30.2		72.5	38.8	55.1	53.2	43.7	55.4	54.6	46.8	
Progression Factor	0.58	0.54		1.22	0.58	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.9	21.5		77.4	246.0	606.5	88.0	3.9	74.2	8.6	129.2	
Delay (s)	41.8	37.7		165.8	268.3	661.5	141.2	47.6	129.6	63.2	176.0	
Level of Service	D	D		F	F	F	F	D	F	E	F	
Approach Delay (s)		38.2			265.6		245.0			136.3		
Approach LOS		D			F		F			F		

Intersection Summary			
HCM Average Control Delay	167.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.72		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	141.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 97: Wilshire Blvd & Sepulveda Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖↖	↑↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86		0.97	0.81		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	4010		2168	4700		1118	2145		1118	2165	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1118	4010		2168	4700		1118	2145		1118	2165	
Volume (vph)	111	2124	138	292	2586	258	124	624	229	115	705	187
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	116	2212	144	304	2694	269	129	650	239	120	734	195
RTOR Reduction (vph)	0	6	0	0	12	0	0	25	0	0	16	0
Lane Group Flow (vph)	116	2350	0	304	2951	0	129	864	0	120	913	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	12.0	62.5		21.0	71.5		17.0	33.0		14.0	30.0	
Effective Green, g (s)	12.0	64.0		21.0	73.0		17.0	35.0		14.0	32.0	
Actuated g/C Ratio	0.08	0.43		0.14	0.49		0.11	0.23		0.09	0.21	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	1.0	4.0		1.0	4.0		1.0	4.0		1.0	4.0	
Lane Grp Cap (vph)	89	1711		304	2287		127	501		104	462	
v/s Ratio Prot	0.10	c0.59		0.14	c0.63		0.12	c0.40		0.11	c0.42	
v/s Ratio Perm												
v/c Ratio	1.30	1.37		1.00	1.29		1.02	1.72		1.15	1.98	
Uniform Delay, d1	69.0	43.0		64.5	38.5		66.5	57.5		68.0	59.0	
Progression Factor	1.04	0.89		0.72	0.54		1.00	1.00		1.00	1.00	
Incremental Delay, d2	164.4	169.5		15.5	131.0		84.1	334.1		135.5	447.3	
Delay (s)	236.4	207.9		62.0	152.0		150.6	391.6		203.5	506.3	
Level of Service	F	F		E	F		F	F		F	F	
Approach Delay (s)		209.2			143.6			361.1			471.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	236.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	130.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 98: Olympic Blvd & Sepulveda Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑	↗	↗	↑↑	↗	↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4498		1583	4550	1417	1583	3167	1417	1583	3097	
Flt Permitted	0.12	1.00		0.95	1.00	1.00	0.24	1.00	1.00	0.11	1.00	
Satd. Flow (perm)	208	4498		1583	4550	1417	393	3167	1417	185	3097	
Volume (vph)	120	1606	132	205	2526	155	101	1148	118	71	657	113
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	122	1639	135	209	2578	158	103	1171	120	72	670	115
RTOR Reduction (vph)	0	10	0	0	0	10	0	0	39	0	1	0
Lane Group Flow (vph)	122	1764	0	209	2578	148	103	1171	81	72	784	0
Turn Type	Perm			Prot		Perm	Perm		Perm	Perm		
Protected Phases	8			7	4			6			2	
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	31.0	31.0		10.5	45.0	45.0	35.0	35.0	35.0	35.0	35.0	
Effective Green, g (s)	32.0	32.0		10.0	46.0	46.0	36.0	36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.36	0.36		0.11	0.51	0.51	0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)	5.0	5.0		3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	74	1599		176	2326	724	157	1267	567	74	1239	
v/s Ratio Prot		0.39		0.13	c0.57			0.37			0.25	
v/s Ratio Perm	c0.59					0.10	0.26		0.06	c0.39		
v/c Ratio	1.65	1.10		1.19	1.11	0.20	0.66	0.92	0.14	0.97	0.63	
Uniform Delay, d1	29.0	29.0		40.0	22.0	12.0	22.0	25.7	17.2	26.5	21.7	
Progression Factor	0.73	0.73		1.07	0.56	0.14	0.70	0.68	0.62	1.00	1.00	
Incremental Delay, d2	338.9	55.3		89.8	49.5	0.1	14.8	9.9	0.4	97.3	2.5	
Delay (s)	360.1	76.5		132.8	61.8	1.8	30.3	27.4	11.1	123.8	24.2	
Level of Service	F	E		F	E	A	C	C	B	F	C	
Approach Delay (s)		94.8			63.6			26.2			32.5	
Approach LOS		F			E			C			C	

Intersection Summary

HCM Average Control Delay	60.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑		↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4489		1583	3099		1583	3167	1417
Flt Permitted	0.18	1.00	1.00	0.15	1.00		0.95	1.00		0.23	1.00	1.00
Satd. Flow (perm)	303	4550	1417	256	4489		1583	3099		377	3167	1417
Volume (vph)	77	1308	196	222	1505	148	207	1009	166	64	951	99
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	78	1321	198	224	1520	149	209	1019	168	65	961	100
RTOR Reduction (vph)	0	0	29	0	13	0	0	15	0	0	0	22
Lane Group Flow (vph)	78	1321	170	224	1656	0	209	1172	0	65	961	78
Turn Type	Perm		pm+ov	pm+pt			Prot			Perm		Perm
Protected Phases		6	3	5	2		3	8			4	
Permitted Phases	6		6	2						4		4
Actuated Green, G (s)	20.5	20.5	32.0	29.5	29.5		11.5	50.5		35.5	35.5	35.5
Effective Green, g (s)	22.0	22.0	33.0	31.0	31.0		11.0	51.0		36.0	36.0	36.0
Actuated g/C Ratio	0.24	0.24	0.37	0.34	0.34		0.12	0.57		0.40	0.40	0.40
Clearance Time (s)	5.5	5.5	3.5	3.0	5.5		3.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	1112	583	162	1546		193	1756		151	1267	567
v/s Ratio Prot		0.29	0.04	c0.08	0.37		c0.13	0.38			c0.30	
v/s Ratio Perm	0.26		0.08	c0.40						0.17		0.06
v/c Ratio	1.05	1.19	0.29	1.38	1.07		1.08	0.67		0.43	0.76	0.14
Uniform Delay, d1	34.0	34.0	20.2	29.3	29.5		39.5	13.6		19.6	23.3	17.1
Progression Factor	1.00	1.00	1.00	1.74	1.62		1.00	1.00		1.44	1.45	1.66
Incremental Delay, d2	120.3	93.8	0.1	175.8	33.5		88.6	2.0		5.9	2.9	0.3
Delay (s)	154.3	127.8	20.3	226.8	81.3		128.1	15.6		34.1	36.7	28.8
Level of Service	F	F	C	F	F		F	B		C	D	C
Approach Delay (s)		115.8			98.5			32.5			35.8	
Approach LOS		F			F			C			D	

Intersection Summary

HCM Average Control Delay	76.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↘		↘	↗↘	↗	↘	↗↘	↗	↗↘	↗↘	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	0.86	0.86	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.97	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	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (prot)	1303	3732		1304	3747	1129	1304	2608	1137	2243	2288	
Flt Permitted	0.08	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (perm)	105	3732		1304	3747	1129	1304	2608	1137	2243	2288	
Volume (vph)	22	1301	26	80	1674	934	95	401	234	857	215	7
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	1328	27	82	1708	953	97	409	239	874	219	7
RTOR Reduction (vph)	0	1	0	0	0	359	0	0	0	0	1	0
Lane Group Flow (vph)	22	1354	0	82	1708	594	97	409	239	583	516	0
Confl. Peds. (#/hr)	11		9	9		11	58		11	11		58
Confl. Bikes (#/hr)			6			8			10			4
Turn Type	Perm			Prot		Perm	Split		pm+ov		Split	
Protected Phases		6		5	2		3	3	5		4	4
Permitted Phases	6					2			3			
Actuated Green, G (s)	56.6	56.6		10.0	70.6	70.6	24.4	24.4	34.4		40.0	40.0
Effective Green, g (s)	57.6	57.6		10.0	71.6	71.6	25.4	25.4	35.4		41.0	41.0
Actuated g/C Ratio	0.38	0.38		0.07	0.48	0.48	0.17	0.17	0.24		0.27	0.27
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	5.0	5.0	4.0		5.0	5.0
Vehicle Extension (s)	4.0	4.0		2.0	4.0	4.0	2.0	2.0	2.0		4.0	4.0
Lane Grp Cap (vph)	40	1433		87	1789	539	221	442	268		613	625
v/s Ratio Prot		0.36		0.06	0.46		0.07	c0.16	0.06		c0.26	0.23
v/s Ratio Perm	0.21					c0.53			0.15			
v/c Ratio	0.55	0.94		0.94	0.95	1.10	0.44	0.93	0.89		0.95	0.90dl
Uniform Delay, d1	36.1	44.7		69.7	37.6	39.2	55.9	61.4	55.4		53.5	51.2
Progression Factor	1.71	1.68		1.14	1.00	3.61	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	38.3	12.0		16.6	1.8	49.3	0.5	24.8	28.1		24.9	9.2
Delay (s)	100.0	87.0		96.1	39.4	190.7	56.4	86.2	83.6		78.4	60.3
Level of Service	F	F		F	D	F	E	F	F		E	E
Approach Delay (s)		87.2			93.6			81.5				69.9
Approach LOS		F			F			F				E

Intersection Summary			
HCM Average Control Delay	86.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.3%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
 c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶	↶		↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00		1.00			0.95	
Frt	1.00	0.98		1.00	1.00	0.85		0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1583	4478		1583	3167	1417		1622			3120	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.68			0.71	
Satd. Flow (perm)	1583	4478		1583	3167	1417		1118			2230	
Volume (vph)	173	921	109	90	857	112	84	260	47	78	354	19
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	182	969	115	95	902	118	88	274	49	82	373	20
RTOR Reduction (vph)	0	13	0	0	0	67	0	4	0	0	4	0
Lane Group Flow (vph)	182	1071	0	95	902	51	0	407	0	0	471	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	12.8	43.4		8.3	38.9	38.9		26.0			26.0	
Effective Green, g (s)	12.8	43.7		8.3	39.2	39.2		26.0			26.0	
Actuated g/C Ratio	0.14	0.49		0.09	0.44	0.44		0.29			0.29	
Clearance Time (s)	4.0	4.3		4.0	4.3	4.3		4.0			4.0	
Vehicle Extension (s)	3.0	5.7		3.0	5.5	5.5		3.0			3.0	
Lane Grp Cap (vph)	225	2174		146	1379	617		323			644	
v/s Ratio Prot	c0.11	0.24		0.06	c0.28							
v/s Ratio Perm						0.04	c0.36					
v/c Ratio	0.81	0.49		0.65	0.65	0.08		1.26			16.40dl	
Uniform Delay, d1	37.4	15.7		39.5	20.0	14.9		32.0			28.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	18.9	0.8		9.9	2.4	0.3		139.3			4.3	
Delay (s)	56.3	16.5		49.4	22.5	15.1		171.3			33.2	
Level of Service	E	B		D	C	B		F			C	
Approach Delay (s)	22.2			24.0				171.3			33.2	
Approach LOS	C			C				F			C	

Intersection Summary

HCM Average Control Delay	43.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
dl	Defacto Left Lane. Recode with 1 though lane as a left lane.		
dr	Defacto Right Lane. Recode with 1 though lane as a right lane.		
c	Critical Lane Group		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.87	1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.91	1.00	1.00	0.93	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1304	3710		1290	3711		1181	2608	1013	1209	2513	
Flt Permitted	0.09	1.00		0.15	1.00		0.37	1.00	1.00	0.51	1.00	
Satd. Flow (perm)	120	3710		202	3711		454	2608	1013	646	2513	
Volume (vph)	14	1289	47	73	1657	46	59	275	11	37	394	39
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	15	1343	49	76	1726	48	61	286	11	39	410	41
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	8	0	5	0
Lane Group Flow (vph)	15	1389	0	76	1772	0	61	286	3	39	446	0
Conf. Peds. (#/hr)	63		61	61		63	79		72	72		79
Conf. Bikes (#/hr)			9			13			4			9
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		6			2			8				4
Permitted Phases	6			2			8		8		4	
Actuated Green, G (s)	95.5	95.5		95.5	95.5		46.0	46.0	46.0	46.0	46.0	
Effective Green, g (s)	96.0	96.0		96.0	96.0		46.0	46.0	46.0	46.0	46.0	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.31	0.31	0.31	0.31	0.31	
Clearance Time (s)	4.5	4.5		4.5	4.5		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	3.0	3.0	3.0	
Lane Grp Cap (vph)	77	2374		129	2375		139	800	311	198	771	
v/s Ratio Prot		0.37			c0.48			0.11				c0.18
v/s Ratio Perm	0.12			0.38			0.13		0.00	0.06		
v/c Ratio	0.19	0.59		0.59	0.75		0.44	0.36	0.01	0.20	0.58	
Uniform Delay, d1	11.1	15.5		15.6	18.6		41.7	40.5	36.2	38.4	43.8	
Progression Factor	1.00	1.00		1.54	1.68		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.6	1.1		7.7	0.9		9.8	1.2	0.1	2.2	3.2	
Delay (s)	16.7	16.6		31.7	32.2		51.4	41.7	36.2	40.6	47.0	
Level of Service	B	B		C	C		D	D	D	D	D	
Approach Delay (s)		16.6			32.1			43.2			46.5	
Approach LOS		B			C			D			D	

Intersection Summary

HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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
Frt		0.97			0.96		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1610			1584		1583	1656		1583	1667	1417
Flt Permitted		0.94			0.90		0.37	1.00		0.37	1.00	1.00
Satd. Flow (perm)		1528			1430		621	1656		610	1667	1417
Volume (vph)	66	343	105	19	65	38	93	486	21	93	498	76
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	69	357	109	20	68	40	97	506	22	97	519	79
RTOR Reduction (vph)	0	15	0	0	27	0	0	3	0	0	0	36
Lane Group Flow (vph)	0	520	0	0	101	0	97	525	0	97	519	43
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		6
Actuated Green, G (s)		18.5			18.5		32.7	32.7		32.7	32.7	32.7
Effective Green, g (s)		19.0			19.0		33.0	33.0		33.0	33.0	33.0
Actuated g/C Ratio		0.32			0.32		0.55	0.55		0.55	0.55	0.55
Clearance Time (s)		4.5			4.5		4.3	4.3		4.3	4.3	4.3
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		484			453		342	911		336	917	779
v/s Ratio Prot							c0.32				0.31	
v/s Ratio Perm		c0.34			0.07		0.16			0.16		0.03
v/c Ratio		1.07			0.22		0.28	0.58		0.29	0.57	0.06
Uniform Delay, d1		20.5			15.1		7.2	8.9		7.2	8.8	6.3
Progression Factor		1.00			1.00		0.94	0.83		1.00	1.00	1.00
Incremental Delay, d2		62.3			0.2		1.4	1.8		2.2	2.5	0.1
Delay (s)		82.8			15.3		8.1	9.2		9.4	11.3	6.4
Level of Service		F			B		A	A		A	B	A
Approach Delay (s)		82.8			15.3			9.0			10.5	
Approach LOS		F			B			A			B	

Intersection Summary

HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑	↖	↖	↑	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1304	3668		1304	3697		1304	1373	1167	1304	1361	
Flt Permitted	0.22	1.00		0.18	1.00		0.28	1.00	1.00	0.36	1.00	
Satd. Flow (perm)	298	3668		247	3697		389	1373	1167	487	1361	
Volume (vph)	73	915	150	88	873	85	98	483	85	88	533	32
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	74	934	153	90	891	87	100	493	87	90	544	33
RTOR Reduction (vph)	0	38	0	0	19	0	0	0	21	0	4	0
Lane Group Flow (vph)	74	1049	0	90	959	0	100	493	66	90	573	0
Turn Type	Perm		Perm		Perm		Perm		Perm	Perm		
Protected Phases	2		2		2		4		4	4	4	
Permitted Phases	2		2		4		4		4	4		
Actuated Green, G (s)	22.4	22.4		22.4	22.4		28.0	28.0	28.0	28.0	28.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		29.0	29.0	29.0	29.0	29.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)	4.6	4.6		4.6	4.6		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	114	1406		95	1417		188	664	564	235	658	
v/s Ratio Prot		0.29			0.26			0.36			c0.42	
v/s Ratio Perm	0.25			c0.37			0.26		0.06	0.18		
v/c Ratio	0.65	0.75		0.95	0.68		0.53	0.74	0.12	0.38	0.87	
Uniform Delay, d1	15.2	16.0		17.9	15.4		10.8	12.5	8.5	9.8	13.8	
Progression Factor	1.00	1.00		1.18	0.83		1.00	1.00	1.00	0.65	0.78	
Incremental Delay, d2	25.2	3.7		75.5	2.4		10.4	7.3	0.4	3.7	12.0	
Delay (s)	40.4	19.6		96.7	15.3		21.1	19.8	8.9	10.1	22.8	
Level of Service	D	B		F	B		C	B	A	B	C	
Approach Delay (s)		21.0			22.1			18.6			21.1	
Approach LOS		C			C			B			C	

Intersection Summary

HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖	↖	↑↑		↖	↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.86	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4397		1583	5733	1417	1583	3091		1583	3167	1417
Flt Permitted	0.10	1.00		0.13	1.00	1.00	0.12	1.00		0.20	1.00	1.00
Satd. Flow (perm)	167	4397		211	5733	1417	208	3091		341	3167	1417
Volume (vph)	77	980	282	200	1643	253	163	638	121	193	1125	63
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	80	1021	294	208	1711	264	170	665	126	201	1172	66
RTOR Reduction (vph)	0	58	0	0	0	44	0	17	0	0	0	16
Lane Group Flow (vph)	80	1257	0	208	1711	220	170	774	0	201	1172	50
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		Perm
Protected Phases	6			2		7	3	8		7	4	
Permitted Phases	6			2		2	8			4		4
Actuated Green, G (s)	39.0	39.0		39.0	39.0	45.0	36.1	30.1		36.1	30.1	30.1
Effective Green, g (s)	40.0	40.0		40.0	40.0	46.0	38.0	32.0		38.0	32.0	32.0
Actuated g/C Ratio	0.44	0.44		0.44	0.44	0.51	0.42	0.36		0.42	0.36	0.36
Clearance Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	5.9		4.0	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	1954		94	2548	787	179	1099		227	1126	504
v/s Ratio Prot		0.29			0.30	0.02	c0.06	0.25		0.06	c0.37	
v/s Ratio Perm	0.48			c0.98		0.14	0.34			0.32		0.04
v/c Ratio	1.08	0.64		2.21	0.67	0.28	0.95	0.70		0.89	1.04	0.10
Uniform Delay, d1	25.0	19.5		25.0	19.8	12.5	22.0	24.9		21.4	29.0	19.4
Progression Factor	1.00	1.00		1.02	0.97	1.56	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	128.5	1.6		548.9	0.1	0.0	52.0	3.8		30.9	38.1	0.4
Delay (s)	153.5	21.1		574.4	19.3	19.5	74.1	28.7		52.4	67.1	19.8
Level of Service	F	C		F	B	B	E	C		D	E	B
Approach Delay (s)		28.7			72.2			36.7			62.8	
Approach LOS		C			E			D			E	

Intersection Summary

HCM Average Control Delay	54.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.99		1.00	1.00	0.97	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3715		1304	3747	1283	
Flt Permitted	1.00		0.18	1.00	0.96	
Satd. Flow (perm)	3715		253	3747	1283	
Volume (vph)	1201	72	65	1743	99	26
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1251	75	68	1816	103	27
RTOR Reduction (vph)	4	0	0	0	14	0
Lane Group Flow (vph)	1322	0	68	1816	116	0
Turn Type			Perm			
Protected Phases	6			2	4	
Permitted Phases			2			
Actuated Green, G (s)	69.1		69.1	69.1	12.1	
Effective Green, g (s)	69.2		69.2	69.2	12.8	
Actuated g/C Ratio	0.77		0.77	0.77	0.14	
Clearance Time (s)	4.1		4.1	4.1	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2856		195	2881	182	
v/s Ratio Prot	0.36			c0.48	c0.09	
v/s Ratio Perm			0.27			
v/c Ratio	0.46		0.35	0.63	0.64	
Uniform Delay, d1	3.7		3.3	4.7	36.4	
Progression Factor	0.22		1.00	1.00	1.00	
Incremental Delay, d2	0.5		4.9	1.1	7.2	
Delay (s)	1.3		8.1	5.7	43.6	
Level of Service	A		A	A	D	
Approach Delay (s)	1.3			5.8	43.6	
Approach LOS	A			A	D	

Intersection Summary

HCM Average Control Delay	5.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑		↰	↑↑↑			↕			↰	↰
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99			0.96			1.00	0.94
Flpb, ped/bikes	0.98	1.00		0.99	1.00			0.99			0.97	1.00
Frt	1.00	0.99		1.00	1.00			0.94			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	1.00
Satd. Flow (prot)	1282	3710		1286	3691			1206			1298	1094
Flt Permitted	0.10	1.00		0.19	1.00			0.89			0.83	1.00
Satd. Flow (perm)	129	3710		254	3691			1093			1107	1094
Volume (vph)	49	1201	47	84	1711	58	33	26	47	40	36	45
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	1251	49	88	1782	60	34	27	49	42	38	47
RTOR Reduction (vph)	0	3	0	0	2	0	0	40	0	0	0	7
Lane Group Flow (vph)	51	1297	0	88	1840	0	0	70	0	0	80	40
Confl. Peds. (#/hr)	123		38	38		123	46		63	63		46
Confl. Bikes (#/hr)			7			9						1
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)	66.8	66.8		66.8	66.8			15.2			15.2	15.2
Effective Green, g (s)	66.8	66.8		66.8	66.8			15.2			15.2	15.2
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.17			0.17	0.17
Clearance Time (s)	4.0	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	3.0
Lane Grp Cap (vph)	96	2754		189	2740			185			187	185
v/s Ratio Prot		0.35			c0.50							
v/s Ratio Perm	0.39			0.35				0.06			c0.07	0.04
v/c Ratio	0.53	0.47		0.47	0.67			0.38			0.43	0.21
Uniform Delay, d1	4.9	4.6		4.6	6.0			33.2			33.5	32.2
Progression Factor	2.43	2.82		0.56	0.55			1.00			1.00	1.00
Incremental Delay, d2	11.7	0.3		6.4	1.1			1.3			1.6	0.6
Delay (s)	23.7	13.3		9.0	4.3			34.5			35.1	32.8
Level of Service	C	B		A	A			C			D	C
Approach Delay (s)		13.7			4.5			34.5			34.2	
Approach LOS		B			A			C			C	

Intersection Summary

HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 108: W San Vicente Ave & Bundy Dr



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	
Frt	1.00	0.85	1.00	1.00	0.97	
Flt Protected	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (prot)	3167	1417	1583	3167	3009	
Flt Permitted	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (perm)	3167	1417	1583	3167	3009	
Volume (vph)	1169	488	95	1251	342	97
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1231	514	100	1317	360	102
RTOR Reduction (vph)	0	76	0	0	30	0
Lane Group Flow (vph)	1231	438	100	1317	432	0
Turn Type		pt+ov	Prot			
Protected Phases	2	2 4	1	6	4	
Permitted Phases						
Actuated Green, G (s)	41.7	73.9	9.0	38.2	28.3	
Effective Green, g (s)	41.6	73.5	8.5	38.1	27.9	
Actuated g/C Ratio	0.46	0.82	0.09	0.42	0.31	
Clearance Time (s)	3.9		3.5	3.9	3.6	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1464	1157	150	1341	933	
v/s Ratio Prot	c0.39	0.31	c0.06	c0.42	c0.14	
v/s Ratio Perm						
v/c Ratio	0.84	0.38	0.67	0.98	0.46	
Uniform Delay, d1	21.3	2.2	39.4	25.6	25.0	
Progression Factor	0.90	0.09	1.00	1.00	1.00	
Incremental Delay, d2	5.0	0.2	10.7	20.7	0.4	
Delay (s)	24.3	0.4	50.0	46.3	25.4	
Level of Service	C	A	D	D	C	
Approach Delay (s)	17.2			46.5	25.4	
Approach LOS	B			D	C	

Intersection Summary

HCM Average Control Delay	29.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	3673		1302	3619		1289	2531		1301	2485	
Flt Permitted	0.12	1.00		0.14	1.00		0.29	1.00		0.16	1.00	
Satd. Flow (perm)	164	3673		193	3619		399	2531		223	2485	
Volume (vph)	152	1038	80	129	1341	115	202	856	100	104	411	85
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	157	1070	82	133	1382	119	208	882	103	107	424	88
RTOR Reduction (vph)	0	9	0	0	11	0	0	10	0	0	20	0
Lane Group Flow (vph)	157	1143	0	133	1490	0	208	975	0	107	492	0
Confl. Peds. (#/hr)	105		77	77		105	97		104	104		97
Confl. Bikes (#/hr)			5			11			3			7
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	1	6	5	2	3	8	7	4				
Permitted Phases	6		2		8		4					
Actuated Green, G (s)	38.4	32.4	38.4	32.4	35.9	25.9	31.3	23.6				
Effective Green, g (s)	39.4	33.4	39.4	33.4	36.9	26.9	32.3	24.6				
Actuated g/C Ratio	0.44	0.37	0.44	0.37	0.41	0.30	0.36	0.27				
Clearance Time (s)	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0				
Vehicle Extension (s)	3.0	4.0	3.0	4.0	3.0	3.0	3.0	3.0				
Lane Grp Cap (vph)	148	1363	158	1343	262	756	172	679				
v/s Ratio Prot	c0.07	0.31	0.06	c0.41	c0.09	c0.39	0.05	0.20				
v/s Ratio Perm	0.39		0.31		0.24		0.17					
v/c Ratio	1.06	0.84	0.84	1.11	0.79	1.29	0.62	0.73				
Uniform Delay, d1	21.0	25.8	17.5	28.3	19.7	31.6	22.4	29.6				
Progression Factor	1.76	0.60	1.39	0.77	1.56	1.39	1.00	1.00				
Incremental Delay, d2	82.0	4.9	25.0	58.0	11.7	138.0	6.8	3.9				
Delay (s)	118.9	20.4	49.3	79.8	42.5	181.8	29.3	33.5				
Level of Service	F	C	D	E	D	F	C	C				
Approach Delay (s)		32.2		77.3		157.5		32.8				
Approach LOS		C		E		F		C				

Intersection Summary

HCM Average Control Delay	79.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	108.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 110: Texas Ave & Bundy Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.97			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1603			1566			3122			3134	
Flt Permitted		0.96			0.70			0.87			0.83	
Satd. Flow (perm)		1544			1115			2725			2621	
Volume (vph)	31	213	49	47	79	36	39	966	50	43	865	27
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	35	242	56	53	90	41	44	1098	57	49	983	31
RTOR Reduction (vph)	0	8	0	0	12	0	0	4	0	0	2	0
Lane Group Flow (vph)	0	325	0	0	172	0	0	1195	0	0	1061	0
Conf. Peds. (#/hr)	28		18	18		28	29		26	26		29
Conf. Bikes (#/hr)			4			2			1			6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		22.3			22.3			59.3			59.3	
Effective Green, g (s)		22.3			22.3			59.7			59.7	
Actuated g/C Ratio		0.25			0.25			0.66			0.66	
Clearance Time (s)		4.0			4.0			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		383			276			1808			1739	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.15			c0.44			0.40	
v/c Ratio		0.85			0.62			0.66			0.61	
Uniform Delay, d1		32.2			30.1			9.1			8.6	
Progression Factor		1.00			1.00			1.00			0.87	
Incremental Delay, d2		15.8			4.3			1.9			1.4	
Delay (s)		48.1			34.4			11.0			8.9	
Level of Service		D			C			B			A	
Approach Delay (s)		48.1			34.4			11.0			8.9	
Approach LOS		D			C			B			A	
Intersection Summary												
HCM Average Control Delay			16.2				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			91.9%				ICU Level of Service				F	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗		↑↑↑		↘	↑↑	↗	↘	↑↑	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95	1.00		0.91		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1304	2608	1167		3715		1304	2608	1167	1304	2591	
Flt Permitted	0.29	1.00	1.00		1.00		0.29	1.00	1.00	0.16	1.00	
Satd. Flow (perm)	395	2608	1167		3715		395	2608	1167	218	2591	
Volume (vph)	64	918	129	0	722	44	74	1052	106	54	698	32
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	937	132	0	737	45	76	1073	108	55	712	33
RTOR Reduction (vph)	0	0	74	0	6	0	0	0	33	0	3	0
Lane Group Flow (vph)	65	937	58	0	776	0	76	1073	75	55	742	0
Turn Type	Perm		Perm				Perm		Perm	Perm		
Protected Phases	4		8				2		2	6		
Permitted Phases	4		4				2		2	6		
Actuated Green, G (s)	52.0	52.0	52.0		52.0		58.0	58.0	58.0	58.0	58.0	
Effective Green, g (s)	53.0	53.0	53.0		53.0		59.0	59.0	59.0	59.0	59.0	
Actuated g/C Ratio	0.44	0.44	0.44		0.44		0.49	0.49	0.49	0.49	0.49	
Clearance Time (s)	5.0	5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	174	1152	515		1641		194	1282	574	107	1274	
v/s Ratio Prot	c0.36		0.21				c0.41		0.29			
v/s Ratio Perm	0.16	0.05				0.19	0.06		0.25			
v/c Ratio	0.37	0.81	0.11		0.47		0.39	0.84	0.13	0.51	0.58	
Uniform Delay, d1	22.4	29.2	19.7		23.6		19.2	26.3	16.6	20.7	21.7	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.0	6.3	0.4		1.0		5.9	6.6	0.5	16.5	2.0	
Delay (s)	28.4	35.5	20.1		24.6		25.1	33.0	17.0	37.3	23.7	
Level of Service	C	D	C		C		C	C	B	D	C	
Approach Delay (s)	33.3		24.6				31.1		24.6			
Approach LOS	C		C				C		C			

Intersection Summary

HCM Average Control Delay	29.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	3072	4550	1417	1583	3167	1417	1583	3167	1417
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1583	4550	1417	3072	4550	1417	1583	3167	1417	1583	3167	1417
Volume (vph)	233	1409	350	270	1238	234	162	1363	205	110	653	118
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	243	1468	365	281	1290	244	169	1420	214	115	680	123
RTOR Reduction (vph)	0	0	33	0	0	161	0	0	40	0	0	22
Lane Group Flow (vph)	243	1468	332	281	1290	83	169	1420	174	115	680	101
Turn Type	Prot	pm+ov		Prot	Perm		Prot	pm+ov		Prot	pm+ov	
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases		8			4			6			2	
Actuated Green, G (s)	13.0	37.1	50.1	12.9	37.0	37.0	13.0	38.1	51.0	11.9	37.0	50.0
Effective Green, g (s)	13.0	39.1	52.1	12.9	39.0	39.0	13.0	40.1	53.0	11.9	39.0	52.0
Actuated g/C Ratio	0.11	0.33	0.43	0.11	0.32	0.32	0.11	0.33	0.44	0.10	0.32	0.43
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0	4.0	6.0	4.0
Vehicle Extension (s)	3.0	4.7	3.0	3.0	5.0	5.0	3.0	4.5	3.0	3.0	4.6	3.0
Lane Grp Cap (vph)	171	1483	662	330	1479	461	171	1058	673	157	1029	661
v/s Ratio Prot	c0.15	c0.32	0.05	0.09	0.28		c0.11	c0.45	0.03	0.07	0.21	0.02
v/s Ratio Perm			0.18			0.06			0.09			0.05
v/c Ratio	1.42	0.99	0.50	0.85	0.87	0.18	0.99	1.34	0.26	0.73	0.66	0.15
Uniform Delay, d1	53.5	40.3	24.6	52.6	38.2	29.0	53.4	40.0	21.1	52.5	34.8	20.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.21	0.70	0.41	1.00	1.00	1.00
Incremental Delay, d2	220.1	20.8	0.6	18.6	6.5	0.4	62.3	159.9	0.2	16.1	3.3	0.1
Delay (s)	273.6	61.1	25.2	71.2	44.6	29.4	127.0	187.8	8.9	68.6	38.2	20.7
Level of Service	F	E	C	E	D	C	F	F	A	E	D	C
Approach Delay (s)		79.6		46.7			160.8			39.6		
Approach LOS		E		D			F			D		

Intersection Summary

HCM Average Control Delay	87.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	0.91		1.00	0.95	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	3069		1583	3120		1583	4440		1583	3167	1417
Flt Permitted	0.20	1.00		0.07	1.00		0.11	1.00		0.15	1.00	1.00
Satd. Flow (perm)	333	3069		124	3120		183	4440		250	3167	1417
Volume (vph)	127	1143	294	159	799	87	193	824	158	82	1163	82
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	130	1166	300	162	815	89	197	841	161	84	1187	84
RTOR Reduction (vph)	0	19	0	0	7	0	0	23	0	0	0	47
Lane Group Flow (vph)	130	1447	0	162	897	0	197	979	0	84	1187	37
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		pm+ov
Protected Phases	1	6		5	2		3	8		7	4	1
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)	60.5	52.3		61.1	52.6		43.9	35.4		40.5	33.7	41.9
Effective Green, g (s)	61.0	53.3		61.6	53.6		44.4	36.4		41.0	34.7	42.4
Actuated g/C Ratio	0.51	0.44		0.51	0.45		0.37	0.30		0.34	0.29	0.35
Clearance Time (s)	3.5	5.0		3.5	5.0		3.5	5.0		3.5	5.0	3.5
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	4.3		3.0	4.6	3.0
Lane Grp Cap (vph)	249	1363		161	1394		161	1347		155	916	548
v/s Ratio Prot	0.03	c0.47		c0.07	0.29		c0.08	0.22		0.03	c0.37	0.00
v/s Ratio Perm	0.23			0.45			0.37			0.16		0.02
v/c Ratio	0.52	1.06		1.01	0.64		1.22	0.73		0.54	1.30	0.07
Uniform Delay, d1	17.9	33.4		33.2	25.8		58.2	37.4		28.7	42.6	25.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.27	1.26	2.79
Incremental Delay, d2	2.0	42.4		72.6	2.3		143.5	2.2		2.9	139.3	0.0
Delay (s)	19.9	75.8		105.8	28.1		201.7	39.6		39.5	193.0	71.9
Level of Service	B	E		F	C		F	D		D	F	E
Approach Delay (s)		71.2			39.9			66.2			176.0	
Approach LOS		E			D			E			F	

Intersection Summary

HCM Average Control Delay	90.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	116.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2607		1304	2608	1304	1167
Flt Permitted	1.00		0.19	1.00	0.95	1.00
Satd. Flow (perm)	2607		256	2608	1304	1167
Volume (vph)	1172	3	33	1462	122	23
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1196	3	34	1492	124	23
RTOR Reduction (vph)	0	0	0	0	0	17
Lane Group Flow (vph)	1199	0	34	1492	124	6
Turn Type			Perm		Perm	
Protected Phases	5			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	59.8		59.8	59.8	22.2	22.2
Effective Green, g (s)	59.8		59.8	59.8	22.2	22.2
Actuated g/C Ratio	0.66		0.66	0.66	0.25	0.25
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	4.0		4.0	4.0	3.0	3.0
Lane Grp Cap (vph)	1732		170	1733	322	288
v/s Ratio Prot	0.46			c0.57	c0.10	
v/s Ratio Perm			0.13			0.00
v/c Ratio	0.69		0.20	0.86	0.39	0.02
Uniform Delay, d1	9.4		5.8	11.8	28.2	25.7
Progression Factor	1.51		1.77	2.12	1.00	1.00
Incremental Delay, d2	1.6		0.2	0.6	0.8	0.0
Delay (s)	15.8		10.6	25.6	29.0	25.7
Level of Service	B		B	C	C	C
Approach Delay (s)	15.8			25.3	28.5	
Approach LOS	B			C	C	

Intersection Summary

HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↷		↶	↶↷			↷			↷	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.97			0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.98	
Satd. Flow (prot)	1583	3143		1583	3148			1614			1576	
Flt Permitted	0.33	1.00		0.28	1.00			0.98			0.67	
Satd. Flow (perm)	558	3143		472	3148			1580			1072	
Volume (vph)	44	732	38	58	630	26	15	168	49	43	45	34
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	52	861	45	68	741	31	18	198	58	51	53	40
RTOR Reduction (vph)	0	3	0	0	2	0	0	12	0	0	18	0
Lane Group Flow (vph)	52	903	0	68	770	0	0	262	0	0	126	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		2		2		4		4		4	
Permitted Phases	2		2		4		4		4		4	
Actuated Green, G (s)	61.6	61.6		61.6	61.6			19.2			19.2	
Effective Green, g (s)	61.9	61.9		61.9	61.9			20.1			20.1	
Actuated g/C Ratio	0.69	0.69		0.69	0.69			0.22			0.22	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	384	2162		325	2165			353			239	
v/s Ratio Prot	c0.29		0.24				c0.17		0.12			
v/s Ratio Perm	0.09			0.14				c0.17			0.12	
v/c Ratio	0.14	0.42		0.21	0.36			0.74			0.53	
Uniform Delay, d1	4.8	6.2		5.1	5.8			32.5			30.8	
Progression Factor	0.25	0.23		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	0.5		1.5	0.5			8.1			2.1	
Delay (s)	1.8	1.9		6.6	6.3			40.7			32.9	
Level of Service	A	A		A	A			D			C	
Approach Delay (s)	1.9		6.3				40.7		32.9			
Approach LOS	A		A				D		C			

Intersection Summary

HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 116: Hollywood Blvd & Highland Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↑		↘	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.82	1.00	1.00	0.70	1.00	1.00		1.00	0.98	
Flpb, ped/bikes	0.95	1.00	1.00	0.99	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		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)	1511	3167	1161	1568	3167	991	1583	4518		1583	4430	
Flt Permitted	0.37	1.00	1.00	0.24	1.00	1.00	0.14	1.00		0.14	1.00	
Satd. Flow (perm)	588	3167	1161	388	3167	991	240	4518		240	4430	
Volume (vph)	216	730	53	50	512	70	46	1482	29	88	1409	113
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	223	753	55	52	528	72	47	1528	30	91	1453	116
RTOR Reduction (vph)	0	0	31	0	0	36	0	2	0	0	10	0
Lane Group Flow (vph)	223	753	24	52	528	36	47	1556	0	91	1559	0
Confl. Peds. (#/hr)	150		150	150		150	150		150	150		150
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	4	1	5	2		1	6	
Permitted Phases	4		4	4		4	2			6		
Actuated Green, G (s)	39.1	32.2	37.6	39.1	32.2	37.6	31.9	26.5		31.9	26.5	
Effective Green, g (s)	40.6	33.5	39.1	40.6	33.5	39.1	33.4	27.8		33.4	27.8	
Actuated g/C Ratio	0.45	0.37	0.43	0.45	0.37	0.43	0.37	0.31		0.37	0.31	
Clearance Time (s)	4.2	5.3	4.2	4.2	5.3	4.2	4.2	5.3		4.2	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	338	1179	556	268	1179	475	173	1396		173	1368	
v/s Ratio Prot	c0.05	0.24	0.00	0.02	0.17	0.00	0.02	0.34		c0.03	c0.35	
v/s Ratio Perm	c0.25		0.02	0.07		0.03	0.08			0.16		
v/c Ratio	0.66	0.64	0.04	0.19	0.45	0.08	0.27	1.11		0.53	1.14	
Uniform Delay, d1	17.2	23.3	14.7	14.9	21.3	14.9	21.9	31.1		22.5	31.1	
Progression Factor	1.28	0.29	0.00	1.75	1.54	2.18	1.32	1.37		1.00	1.00	
Incremental Delay, d2	1.8	0.4	0.0	0.3	0.3	0.1	0.6	59.2		2.9	72.3	
Delay (s)	23.8	7.1	0.0	26.4	33.0	32.5	29.6	101.7		25.3	103.4	
Level of Service	C	A	A	C	C	C	C	F		C	F	
Approach Delay (s)		10.3			32.4			99.6			99.1	
Approach LOS		B			C			F			F	

Intersection Summary

HCM Average Control Delay	72.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.98			0.94		1.00	0.99		1.00	1.00	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1598			1525		1583	4523		1583	4542	
Flt Permitted		0.90			0.85		0.09	1.00		0.09	1.00	
Satd. Flow (perm)		1464			1320		149	4523		142	4542	
Volume (vph)	7	7	3	131	17	131	6	1470	61	115	1448	17
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	8	8	3	146	19	146	7	1633	68	128	1609	19
RTOR Reduction (vph)	0	2	0	0	9	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	17	0	0	302	0	7	1696	0	128	1627	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		4		4		4		2		2		2
Permitted Phases		4		4		2		2		2		
Actuated Green, G (s)		35.5		35.5		47.5		47.5		47.5		47.5
Effective Green, g (s)		35.0		35.0		47.0		47.0		47.0		47.0
Actuated g/C Ratio		0.39		0.39		0.52		0.52		0.52		0.52
Clearance Time (s)		3.5		3.5		3.5		3.5		3.5		3.5
Vehicle Extension (s)		3.0		3.0		3.0		3.0		3.0		3.0
Lane Grp Cap (vph)		569		513		78		2362		74		2372
v/s Ratio Prot								0.38				0.36
v/s Ratio Perm		0.01		0.23		0.05				0.90		
v/c Ratio		0.03		0.59		0.09		0.72		1.73		0.69
Uniform Delay, d1		17.0		21.8		10.8		16.4		21.5		16.0
Progression Factor		1.00		1.00		1.00		1.00		0.83		0.75
Incremental Delay, d2		0.1		4.9		2.3		1.9		348.4		0.6
Delay (s)		17.1		26.7		13.0		18.3		366.3		12.6
Level of Service		B		C		B		B		F		B
Approach Delay (s)		17.1		26.7		13.0		18.3		366.3		12.6
Approach LOS		B		C		B		B		F		B

Intersection Summary

HCM Average Control Delay	28.3	HCM Level of Service	C
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
118: Sunset Blvd & Highland Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4536		1583	4506		1583	4495		1583	4467	
Flt Permitted	0.14	1.00		0.14	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	238	4536		238	4506		204	4495		192	4467	
Volume (vph)	314	1411	30	152	1036	71	31	1211	107	106	1449	201
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	341	1534	33	165	1126	77	34	1316	116	115	1575	218
RTOR Reduction (vph)	0	3	0	0	8	0	0	11	0	0	19	0
Lane Group Flow (vph)	341	1564	0	165	1195	0	34	1421	0	115	1774	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	35.0	27.0		35.0	27.0		35.9	31.6		40.1	33.7	
Effective Green, g (s)	35.0	28.0		35.0	28.0		35.9	32.6		40.1	34.7	
Actuated g/C Ratio	0.39	0.31		0.39	0.31		0.40	0.37		0.45	0.39	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	199	1427		199	1418		133	1646		171	1742	
v/s Ratio Prot	c0.13	0.34		0.07	0.27		0.01	0.32		c0.04	c0.40	
v/s Ratio Perm	c0.54			0.26			0.09			0.26		
v/c Ratio	1.71	1.10		0.83	0.84		0.26	0.86		0.67	1.02	
Uniform Delay, d1	22.5	30.5		22.0	28.4		19.9	26.1		17.8	27.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	341.5	54.7		23.9	4.7		1.0	6.3		10.0	26.3	
Delay (s)	364.0	85.2		45.8	33.2		20.9	32.4		27.8	53.4	
Level of Service	F	F		D	C		C	C		C	D	
Approach Delay (s)		135.0			34.7			32.1			51.9	
Approach LOS		F			C			C			D	

Intersection Summary

HCM Average Control Delay	67.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3147		1583	3133		1583	4487		1583	4453	
Flt Permitted	0.11	1.00		0.11	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	189	3147		189	3133		187	4487		187	4453	
Volume (vph)	212	1164	50	152	999	77	54	1121	114	69	1276	212
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	233	1279	55	167	1098	85	59	1232	125	76	1402	233
RTOR Reduction (vph)	0	4	0	0	6	0	0	13	0	0	25	0
Lane Group Flow (vph)	233	1330	0	167	1177	0	59	1344	0	76	1610	0
Turn Type	pm+pt		pm+pt		Perm		Perm					
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8				4	
Actuated Green, G (s)	42.4	34.4		42.4	34.4		34.9	34.9		34.9	34.9	
Effective Green, g (s)	42.3	35.3		42.3	35.3		35.7	35.7		35.7	35.7	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.40	0.40		0.40	0.40	
Clearance Time (s)	3.0	4.9		3.0	4.9		4.8	4.8		4.8	4.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	197	1234		197	1229		74	1780		74	1766	
v/s Ratio Prot	c0.09	0.42		0.07	0.38			0.30			0.36	
v/s Ratio Perm	c0.46			0.33			0.32			c0.41		
v/c Ratio	1.18	1.08		0.85	0.96		0.80	0.75		1.03	0.91	
Uniform Delay, d1	20.3	27.4		20.1	26.6		24.0	23.4		27.1	25.7	
Progression Factor	1.54	0.97		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	116.0	47.2		27.1	17.3		43.2	1.9		112.3	7.6	
Delay (s)	147.2	73.6		47.2	44.0		67.2	25.3		139.4	33.2	
Level of Service	F	E		D	D		E	C		F	C	
Approach Delay (s)		84.6			44.4			27.0			37.9	
Approach LOS		F			D			C			D	

Intersection Summary

HCM Average Control Delay	48.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗	↖	↖	↗↗	↖		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.93			0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417		1537			1535	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.98	
Satd. Flow (perm)	1583	3167	1417	1583	3167	1417		1537			1535	
Volume (vph)	40	824	53	89	468	142	34	77	125	61	39	91
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	896	58	97	509	154	37	84	136	66	42	99
RTOR Reduction (vph)	0	0	42	0	0	107	0	45	0	0	37	0
Lane Group Flow (vph)	43	896	16	97	509	47	0	212	0	0	170	0
Turn Type	Prot		Perm	Prot		Perm	Split				Split	
Protected Phases	1	6		5	2		3	3			4	4
Permitted Phases			6			2						
Actuated Green, G (s)	5.4	24.7	24.7	7.9	27.2	27.2		21.0			21.0	
Effective Green, g (s)	4.4	24.9	24.9	6.9	27.4	27.4		21.6			20.6	
Actuated g/C Ratio	0.05	0.28	0.28	0.08	0.30	0.30		0.24			0.23	
Clearance Time (s)	3.0	4.2	4.2	3.0	4.2	4.2		4.6			3.6	
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0	5.0		3.0			3.0	
Lane Grp Cap (vph)	77	876	392	121	964	431		369			351	
v/s Ratio Prot	0.03	c0.28		c0.06	0.16			c0.14			c0.11	
v/s Ratio Perm			0.01			0.03						
v/c Ratio	0.56	1.02	0.04	0.80	0.53	0.11		0.57			0.48	
Uniform Delay, d1	41.9	32.5	23.8	40.9	25.9	22.5		30.2			30.1	
Progression Factor	1.47	0.76	0.39	1.07	1.67	4.36		1.00			1.00	
Incremental Delay, d2	5.1	29.2	0.1	27.6	1.8	0.4		6.4			4.7	
Delay (s)	66.6	54.0	9.4	71.2	45.1	98.5		36.5			34.8	
Level of Service	E	D	A	E	D	F		D			C	
Approach Delay (s)		52.0			59.3			36.5			34.8	
Approach LOS		D			E			D			C	

Intersection Summary

























HCM Average Control Delay	51.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.95			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1562	3160		1577	3145			1560			1585	
Flt Permitted	0.18	1.00		0.15	1.00			0.99			0.81	
Satd. Flow (perm)	303	3160		249	3145			1541			1304	
Volume (vph)	32	1288	12	46	1134	27	8	88	59	32	83	32
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	36	1431	13	51	1260	30	9	98	66	36	92	36
RTOR Reduction (vph)	0	0	0	0	1	0	0	28	0	0	14	0
Lane Group Flow (vph)	36	1444	0	51	1289	0	0	145	0	0	150	0
Conf. Peds. (#/hr)	40		16	16		40	10		8	8		10
Conf. Bikes (#/hr)			15			9			2			5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	67.1	67.1		67.1	67.1			13.8			13.8	
Effective Green, g (s)	67.6	67.6		67.6	67.6			14.4			14.4	
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.16			0.16	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.6			4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	228	2374		187	2362			247			209	
v/s Ratio Prot		c0.46			0.41							
v/s Ratio Perm	0.12			0.20				0.09			c0.11	
v/c Ratio	0.16	0.61		0.27	0.55			0.59			0.72	
Uniform Delay, d1	3.2	5.1		3.5	4.7			35.1			35.9	
Progression Factor	1.00	1.00		0.81	0.42			1.00			1.00	
Incremental Delay, d2	1.5	1.2		1.2	0.3			3.6			11.1	
Delay (s)	4.6	6.3		4.1	2.3			38.6			46.9	
Level of Service	A	A		A	A			D			D	
Approach Delay (s)		6.3			2.4			38.6			46.9	
Approach LOS		A			A			D			D	

Intersection Summary

HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2908		1490	2939		1490	2860		1490	2826	
Flt Permitted	0.38	1.00		0.17	1.00		0.10	1.00		0.14	1.00	
Satd. Flow (perm)	590	2908		273	2939		157	2860		223	2826	
Volume (vph)	385	553	107	315	369	38	91	735	271	32	751	398
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	410	588	114	335	393	40	97	782	288	34	799	423
RTOR Reduction (vph)	0	18	0	0	8	0	0	42	0	0	77	0
Lane Group Flow (vph)	410	684	0	335	425	0	97	1028	0	34	1145	0
Turn Type	pm+pt		pm+pt		Perm		Perm		Perm		Perm	
Protected Phases	7	4		3	8			2				2
Permitted Phases	4			8			2			2		
Actuated Green, G (s)	38.0	22.0		38.0	22.0		39.0	39.0		39.0	39.0	
Effective Green, g (s)	38.0	23.0		38.0	23.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.42	0.26		0.42	0.26		0.44	0.44		0.44	0.44	
Clearance Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	5.1		3.0	4.1		5.7	5.7		5.7	5.7	
Lane Grp Cap (vph)	399	743		318	751		70	1271		99	1256	
v/s Ratio Prot	0.17	0.24		c0.18	0.14			0.36			0.41	
v/s Ratio Perm	0.26			c0.27			c0.62			0.15		
v/c Ratio	1.03	0.92		1.05	0.57		1.39	0.81		0.34	0.91	
Uniform Delay, d1	22.7	32.6		23.4	29.2		25.0	21.7		16.4	23.4	
Progression Factor	1.00	1.00		0.95	1.17		1.05	1.08		1.00	1.00	
Incremental Delay, d2	52.3	18.5		63.1	2.8		181.5	0.5		9.2	11.5	
Delay (s)	75.0	51.1		85.4	36.9		207.8	24.0		25.6	34.9	
Level of Service	E	D		F	D		F	C		C	C	
Approach Delay (s)		60.0			58.0			39.3			34.6	
Approach LOS		E			E			D			C	
Intersection Summary												
HCM Average Control Delay			46.6	HCM Level of Service				D				
HCM Volume to Capacity ratio			1.23									
Actuated Cycle Length (s)			90.0	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			104.4%	ICU Level of Service				G				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗↖	↗	↖	↗↖↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.99		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)	1490	4232		1490	4240		1490	2980	1333	1490	4173	
Flt Permitted	0.15	1.00		0.16	1.00		0.15	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	232	4232		246	4240		242	2980	1333	1490	4173	
Volume (vph)	128	1125	95	113	872	61	86	909	209	151	818	167
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	138	1210	102	122	938	66	92	977	225	162	880	180
RTOR Reduction (vph)	0	11	0	0	9	0	0	0	37	0	34	0
Lane Group Flow (vph)	138	1302	0	122	995	0	92	977	188	162	1026	0
Turn Type	pm+pt			pm+pt			Perm		pm+ov		Prot	
Protected Phases	3	8		7	4			2	7		1	6
Permitted Phases	8			4			2		2			
Actuated Green, G (s)	35.8	25.8		35.2	25.5		25.9	25.9	35.6		10.0	24.5
Effective Green, g (s)	38.2	27.0		35.2	25.5		25.9	25.9	35.6		11.4	25.9
Actuated g/C Ratio	0.42	0.30		0.39	0.28		0.29	0.29	0.40		0.13	0.29
Clearance Time (s)	5.2	5.2		4.0	4.0		4.0	4.0	4.0		5.4	5.4
Vehicle Extension (s)	3.0	3.0		3.5	3.0		3.0	3.0	3.5		3.0	3.0
Lane Grp Cap (vph)	255	1270		230	1201		70	858	587		189	1201
v/s Ratio Prot	c0.07	c0.31		0.06	0.23			0.33	0.03		c0.11	0.25
v/s Ratio Perm	0.16			0.15			c0.38		0.11			
v/c Ratio	0.54	1.02		0.53	0.83		1.31	1.14	0.32		0.86	0.85
Uniform Delay, d1	18.0	31.5		20.2	30.2		32.0	32.0	18.8		38.5	30.3
Progression Factor	1.51	1.47		1.00	1.00		0.99	0.96	0.76		1.24	0.87
Incremental Delay, d2	1.4	25.9		2.6	6.7		187.6	71.0	0.2		11.6	2.7
Delay (s)	28.5	72.1		22.8	36.9		219.4	101.8	14.4		59.4	28.9
Level of Service	C	E		C	D		F	F	B		E	C
Approach Delay (s)		68.0			35.4			95.0				33.0
Approach LOS		E			D			F				C

Intersection Summary			
HCM Average Control Delay	59.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2960		1509	1577		1509	4291		1509	4230	
Flt Permitted	0.21	1.00		0.21	1.00		0.22	1.00		0.22	1.00	
Satd. Flow (perm)	334	2960		334	1577		353	4291		353	4230	
Volume (vph)	154	835	121	125	981	48	127	1067	79	74	905	177
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	166	898	130	134	1055	52	137	1147	85	80	973	190
RTOR Reduction (vph)	0	24	0	0	4	0	0	19	0	0	23	0
Lane Group Flow (vph)	166	1004	0	134	1103	0	137	1213	0	80	1140	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		4		4		2		2		2	
Permitted Phases	4		4		4		2		2		2	
Actuated Green, G (s)	19.0	19.0		19.0	19.0		18.0	18.0		18.0	18.0	
Effective Green, g (s)	19.0	19.0		19.0	19.0		18.0	18.0		18.0	18.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.40	0.40		0.40	0.40	
Clearance Time (s)	4.0	4.0		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		3.0	3.0	
Lane Grp Cap (vph)	141	1250		141	666		141	1716		141	1692	
v/s Ratio Prot		0.34			c0.70			0.28			0.27	
v/s Ratio Perm	0.50			0.40			c0.39			0.23		
v/c Ratio	1.18	0.80		0.95	1.66		0.97	0.71		0.57	0.67	
Uniform Delay, d1	13.0	11.4		12.5	13.0		13.2	11.3		10.5	11.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.82	0.62	
Incremental Delay, d2	131.3	3.8		60.6	301.9		68.6	2.5		10.3	1.4	
Delay (s)	144.3	15.2		73.1	314.9		81.8	13.8		18.9	8.3	
Level of Service	F	B		E	F		F	B		B	A	
Approach Delay (s)		33.2			288.8			20.6			9.0	
Approach LOS		C			F			C			A	

Intersection Summary

HCM Average Control Delay	86.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	120.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.98		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	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1505	2884		1509	2932		1503	4182		1509	4100	
Flt Permitted	0.14	1.00		0.10	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	228	2884		151	2932		218	4182		227	4100	
Volume (vph)	174	1040	136	165	953	74	108	1145	154	84	955	114
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	183	1095	143	174	1003	78	114	1205	162	88	1005	120
RTOR Reduction (vph)	0	10	0	0	6	0	0	17	0	0	15	0
Lane Group Flow (vph)	183	1228	0	174	1075	0	114	1350	0	88	1110	0
Conf. Peds. (#/hr)	161		157	157		161	381		91	91		381
Conf. Bikes (#/hr)			19			25			10			23
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	52.0	46.0		52.0	46.0		35.0	29.0		33.0	28.0	
Effective Green, g (s)	51.0	46.0		51.0	46.0		34.0	29.0		32.0	28.0	
Actuated g/C Ratio	0.51	0.46		0.51	0.46		0.34	0.29		0.32	0.28	
Clearance Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		1.0	5.0		1.0	5.0	
Lane Grp Cap (vph)	180	1327		145	1349		138	1213		124	1148	
v/s Ratio Prot	0.05	0.43		c0.06	0.37		c0.04	c0.32		0.03	0.27	
v/s Ratio Perm	0.47			c0.55			0.24			0.20		
v/c Ratio	1.02	0.93		1.20	0.80		0.83	1.11		0.71	0.97	
Uniform Delay, d1	22.4	25.4		20.1	23.0		26.8	35.5		28.1	35.5	
Progression Factor	1.49	0.59		1.00	1.00		1.02	0.85		1.00	1.00	
Incremental Delay, d2	53.1	7.3		138.4	5.0		22.3	59.4		14.1	19.2	
Delay (s)	86.6	22.3		158.6	28.0		49.7	89.5		42.2	54.7	
Level of Service	F	C		F	C		D	F		D	D	
Approach Delay (s)		30.6			46.1			86.5			53.8	
Approach LOS		C			D			F			D	

Intersection Summary



















HCM Average Control Delay	54.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕		↖	↗		↖	↗	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	0.96	
Flpb, ped/bikes	0.97	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90			0.98		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1464	1402			1518		1509	2972		1508	2839	
Flt Permitted	0.56	1.00			0.54		0.14	1.00		0.13	1.00	
Satd. Flow (perm)	860	1402			827		221	2972		199	2839	
Volume (vph)	101	100	186	61	92	22	226	1263	93	22	1015	176
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	105	196	64	97	23	238	1329	98	23	1068	185
RTOR Reduction (vph)	0	74	0	0	5	0	0	4	0	0	12	0
Lane Group Flow (vph)	106	227	0	0	179	0	238	1423	0	23	1241	0
Conf. Peds. (#/hr)	33		13	13			33	97		20	20	97
Conf. Bikes (#/hr)			3				4			6		22
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	24.2	24.2			24.2		67.8	62.4		61.2	58.8	
Effective Green, g (s)	24.2	24.2			24.2		67.4	62.4		60.2	58.8	
Actuated g/C Ratio	0.24	0.24			0.24		0.67	0.62		0.60	0.59	
Clearance Time (s)	4.0	4.0			4.0		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	5.0	5.0			5.0		1.0	0.2		1.0	0.2	
Lane Grp Cap (vph)	208	339			200		213	1855		138	1669	
v/s Ratio Prot		0.16					c0.06	0.48		0.00	0.44	
v/s Ratio Perm	0.12				c0.22		c0.70			0.10		
v/c Ratio	0.51	0.67			0.89		1.12	0.77		0.17	0.74	
Uniform Delay, d1	32.8	34.3			36.7		14.4	13.6		10.1	15.1	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.84	1.44	
Incremental Delay, d2	4.1	6.7			37.6		96.7	3.1		0.0	0.7	
Delay (s)	36.8	41.0			74.2		111.1	16.7		18.6	22.5	
Level of Service	D	D			E		F	B		B	C	
Approach Delay (s)		39.9			74.2			30.2			22.5	
Approach LOS		D			E			C			C	

Intersection Summary

HCM Average Control Delay	30.8	HCM Level of Service	C
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frt		0.98			0.98		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1525			1516		1490	4234		1490	4260	
Flt Permitted		0.88			0.75		0.16	1.00		0.09	1.00	
Satd. Flow (perm)		1352			1154		249	4234		148	4260	
Volume (vph)	67	319	70	65	193	54	60	1456	120	74	1203	43
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	71	336	74	68	203	57	63	1533	126	78	1266	45
RTOR Reduction (vph)	0	7	0	0	9	0	0	10	0	0	4	0
Lane Group Flow (vph)	0	474	0	0	319	0	63	1649	0	78	1307	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	8		4		4		6		6		2	
Permitted Phases	8		4		4		6		6		2	
Actuated Green, G (s)	30.0		30.0		30.0		50.6		50.6		50.6	
Effective Green, g (s)	31.0		31.0		31.0		51.0		51.0		51.0	
Actuated g/C Ratio	0.34		0.34		0.34		0.57		0.57		0.57	
Clearance Time (s)	5.0		5.0		5.0		4.4		4.4		4.4	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	466		397		397		141		2399		84	
v/s Ratio Prot							0.39				0.31	
v/s Ratio Perm	c0.35		0.28		0.25		0.25		0.69		c0.53	
v/c Ratio	1.02		0.80		0.45		0.45		0.69		0.54	
Uniform Delay, d1	29.5		26.8		11.3		11.3		13.8		12.2	
Progression Factor	1.00		1.00		0.17		0.17		0.14		1.00	
Incremental Delay, d2	46.0		11.3		4.3		4.3		0.7		79.9	
Delay (s)	75.5		38.0		6.2		6.2		2.7		97.7	
Level of Service	E		D		A		A		A		B	
Approach Delay (s)	75.5		38.0		2.8		2.8		2.8		17.8	
Approach LOS	E		D		A		A		A		B	
Intersection Summary												
HCM Average Control Delay	20.0		20.0		20.0		20.0		20.0		20.0	
HCM Volume to Capacity ratio	0.96		0.96		0.96		0.96		0.96		0.96	
Actuated Cycle Length (s)	90.0		90.0		90.0		90.0		90.0		90.0	
Intersection Capacity Utilization	90.7%		90.7%		90.7%		90.7%		90.7%		90.7%	
Analysis Period (min)	15		15		15		15		15		15	
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2937		1490	2944		1490	4212		1490	4231	
Flt Permitted	0.32	1.00		0.12	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	500	2937		185	2944		161	4212		161	4231	
Volume (vph)	130	959	104	192	772	68	80	1413	174	58	1230	106
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	138	1020	111	204	821	72	85	1503	185	62	1309	113
RTOR Reduction (vph)	0	9	0	0	5	0	0	17	0	0	11	0
Lane Group Flow (vph)	138	1122	0	204	888	0	85	1671	0	62	1411	0
Turn Type	Perm		pm+pt			Perm			Perm			
Protected Phases	8		7			4			6			
Permitted Phases	8		4			6			2			
Actuated Green, G (s)	28.6	28.6		41.6	41.6		37.6	37.6		37.6	37.6	
Effective Green, g (s)	30.0	30.0		43.0	43.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.33	0.33		0.48	0.48		0.43	0.43		0.43	0.43	
Clearance Time (s)	5.4	5.4		3.5	5.4		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	167	979		219	1407		70	1825		70	1833	
v/s Ratio Prot	c0.38		c0.09			0.30			0.40			
v/s Ratio Perm	0.28		0.35			c0.53			0.39			
v/c Ratio	0.83	1.15		0.93	0.63		1.21	0.92		0.89	0.77	
Uniform Delay, d1	27.6	30.0		21.9	17.6		25.5	24.0		23.5	21.7	
Progression Factor	0.58	0.62		1.00	1.00		0.34	0.31		1.46	1.52	
Incremental Delay, d2	9.8	69.7		42.0	2.2		108.1	0.9		70.8	2.7	
Delay (s)	25.9	88.2		63.9	19.7		116.9	8.4		105.1	35.6	
Level of Service	C	F		E	B		F	A		F	D	
Approach Delay (s)	81.4		27.9			13.6			38.5			
Approach LOS	F		C			B			D			

Intersection Summary

HCM Average Control Delay	38.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕	↗		↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	0.97		1.00	1.00			1.00	0.93		0.97	
Flpb, ped/bikes	0.97	1.00		1.00	1.00			0.97	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		1.00	
Satd. Flow (prot)	1468	2894		1509	3001			1475	1255		1450	
Flt Permitted	0.23	1.00		0.08	1.00			0.67	1.00		0.97	
Satd. Flow (perm)	359	2894		130	3001			1026	1255		1417	
Volume (vph)	33	1248	137	128	1027	18	139	34	132	8	48	37
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	37	1387	152	142	1141	20	154	38	147	9	53	41
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	93	0	27	0
Lane Group Flow (vph)	37	1532	0	142	1160	0	0	192	54	0	76	0
Confl. Peds. (#/hr)	50		85	85		50	37		38	38		37
Confl. Bikes (#/hr)			12			7			3			3
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		2		1	6			8				4
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	60.2	60.2		69.2	69.2			22.8	22.8			22.8
Effective Green, g (s)	60.2	60.2		69.2	69.2			22.8	22.8			22.8
Actuated g/C Ratio	0.60	0.60		0.69	0.69			0.23	0.23			0.23
Clearance Time (s)	4.0	4.0		3.0	4.0			4.0	4.0			4.0
Vehicle Extension (s)	0.2	0.2		1.0	0.2			4.0	4.0			3.0
Lane Grp Cap (vph)	216	1742		159	2077			234	286			323
v/s Ratio Prot		0.53		c0.04	0.39							
v/s Ratio Perm	0.10			c0.57				c0.19	0.04			0.05
v/c Ratio	0.17	0.88		0.89	0.56			0.82	0.19			0.24
Uniform Delay, d1	8.8	16.8		18.3	7.7			36.7	31.1			31.5
Progression Factor	1.17	1.23		1.88	1.27			1.00	1.00			1.00
Incremental Delay, d2	1.6	6.2		28.8	0.7			20.9	0.4			0.4
Delay (s)	11.9	27.0		63.2	10.5			57.6	31.6			31.9
Level of Service	B	C		E	B			E	C			C
Approach Delay (s)		26.6			16.2			46.3				31.9
Approach LOS		C			B			D				C

Intersection Summary

HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑↗		↘↙	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frt	1.00	1.00	0.99		0.89	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1509	3018	2991		1403	
Flt Permitted	0.19	1.00	1.00		0.99	
Satd. Flow (perm)	307	3018	2991		1403	
Volume (vph)	37	1249	1174	75	24	94
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	38	1288	1210	77	25	97
RTOR Reduction (vph)	0	0	3	0	85	0
Lane Group Flow (vph)	38	1288	1284	0	37	0
Turn Type	Perm					
Protected Phases		2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	80.6	80.6	80.6		11.4	
Effective Green, g (s)	80.1	80.1	80.1		11.9	
Actuated g/C Ratio	0.80	0.80	0.80		0.12	
Clearance Time (s)	3.5	3.5	3.5		4.5	
Vehicle Extension (s)	0.2	0.2	0.2		3.0	
Lane Grp Cap (vph)	246	2417	2396		167	
v/s Ratio Prot		0.43	c0.43		c0.03	
v/s Ratio Perm	0.12					
v/c Ratio	0.15	0.53	0.54		0.22	
Uniform Delay, d1	2.3	3.5	3.5		39.8	
Progression Factor	0.41	0.38	0.75		1.00	
Incremental Delay, d2	1.1	0.7	0.7		0.7	
Delay (s)	2.1	2.0	3.3		40.5	
Level of Service	A	A	A		D	
Approach Delay (s)		2.0	3.3		40.5	
Approach LOS		A	A		D	

Intersection Summary

HCM Average Control Delay	4.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗↗	↗	↗	↗↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4489		1583	4522		1583	3167	1417	1583	3167	1417
Flt Permitted	0.18	1.00		0.11	1.00		0.32	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	305	4489		175	4522		541	3167	1417	222	3167	1417
Volume (vph)	255	1363	135	229	960	41	153	848	244	80	525	198
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	274	1466	145	246	1032	44	165	912	262	86	565	213
RTOR Reduction (vph)	0	13	0	0	5	0	0	0	5	0	0	142
Lane Group Flow (vph)	274	1598	0	246	1071	0	165	912	257	86	565	71
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		Perm
Protected Phases	1	6		5	2			8	5		4	
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	48.0	37.0		48.0	37.0		28.1	28.1	39.1	28.1	28.1	28.1
Effective Green, g (s)	48.0	38.0		48.0	38.0		30.0	30.0	40.0	30.0	30.0	30.0
Actuated g/C Ratio	0.53	0.42		0.53	0.42		0.33	0.33	0.44	0.33	0.33	0.33
Clearance Time (s)	3.0	5.0		3.0	5.0		5.9	5.9	3.0	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	305	1895		250	1909		180	1056	693	74	1056	472
v/s Ratio Prot	0.10	0.36		c0.11	0.24			0.29	0.04		0.18	
v/s Ratio Perm	0.38			c0.41			0.31		0.14	c0.39		0.05
v/c Ratio	0.90	0.84		0.98	0.56		0.92	0.86	0.37	1.16	0.54	0.15
Uniform Delay, d1	13.6	23.3		23.3	19.7		28.8	28.1	16.6	30.0	24.3	21.1
Progression Factor	1.00	1.00		1.43	1.67		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.0	4.8		38.8	0.7		48.2	9.4	0.3	155.0	1.9	0.7
Delay (s)	40.6	28.1		72.1	33.6		77.0	37.5	17.0	185.0	26.3	21.7
Level of Service	D	C		E	C		E	D	B	F	C	C
Approach Delay (s)		29.9			40.8			38.3			41.0	
Approach LOS		C			D			D			D	

Intersection Summary

HCM Average Control Delay	36.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2996		1509	2973		1509	2961		1509	2957	
Flt Permitted	0.25	1.00		0.18	1.00		0.18	1.00		0.11	1.00	
Satd. Flow (perm)	391	2996		279	2973		279	2961		176	2957	
Volume (vph)	201	1012	50	139	781	85	66	975	140	43	696	108
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	212	1065	53	146	822	89	69	1026	147	45	733	114
RTOR Reduction (vph)	0	4	0	0	8	0	0	12	0	0	12	0
Lane Group Flow (vph)	212	1114	0	146	903	0	69	1161	0	45	835	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			4			8		
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Effective Green, g (s)	56.0	56.0		56.0	56.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	4.9	4.9		4.9	4.9		4.9	4.9		4.9	4.9	
Lane Grp Cap (vph)	219	1678		156	1665		100	1066		63	1065	
v/s Ratio Prot		0.37			0.30			c0.39			0.28	
v/s Ratio Perm	c0.54			0.52			0.25			0.26		
v/c Ratio	0.97	0.66		0.94	0.54		0.69	1.09		0.71	0.78	
Uniform Delay, d1	21.1	15.4		20.3	13.9		27.2	32.0		27.6	28.5	
Progression Factor	1.00	1.00		1.00	1.00		0.85	0.77		1.00	1.00	
Incremental Delay, d2	53.1	2.1		56.8	1.3		27.0	52.9		51.1	5.8	
Delay (s)	74.2	17.5		77.1	15.2		50.3	77.4		78.7	34.3	
Level of Service	E	B		E	B		D	E		E	C	
Approach Delay (s)		26.5			23.7			75.9			36.6	
Approach LOS		C			C			E			D	
Intersection Summary												
HCM Average Control Delay			41.4			HCM Level of Service		D				
HCM Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			102.2%			ICU Level of Service		G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 133: Norton Ave & Fairfax Ave



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frbp, ped/bikes	0.95		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		0.95	1.00	1.00	
Frt	0.92		1.00	1.00	0.99	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1361		1428	3018	2976	
Flt Permitted	0.98		0.28	1.00	1.00	
Satd. Flow (perm)	1361		427	3018	2976	
Volume (vph)	77	108	191	1170	816	28
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	82	115	203	1245	868	30
RTOR Reduction (vph)	51	0	0	0	3	0
Lane Group Flow (vph)	146	0	203	1245	895	0
Confl. Peds. (#/hr)		58	70			70
Confl. Bikes (#/hr)						3
Turn Type			Perm			
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	23.4		69.0	69.0	69.0	
Effective Green, g (s)	23.4		68.6	68.6	68.6	
Actuated g/C Ratio	0.23		0.69	0.69	0.69	
Clearance Time (s)	4.0		3.6	3.6	3.6	
Vehicle Extension (s)	3.0		0.2	0.2	0.2	
Lane Grp Cap (vph)	318		293	2070	2042	
v/s Ratio Prot	c0.11			0.41	0.30	
v/s Ratio Perm			c0.48			
v/c Ratio	0.46		0.69	0.60	0.44	
Uniform Delay, d1	32.9		9.4	8.4	7.1	
Progression Factor	1.00		0.53	0.17	1.28	
Incremental Delay, d2	4.7		3.2	0.3	0.4	
Delay (s)	37.6		8.2	1.7	9.4	
Level of Service	D		A	A	A	
Approach Delay (s)	37.6			2.6	9.4	
Approach LOS	D			A	A	
Intersection Summary						
HCM Average Control Delay			7.7		HCM Level of Service	A
HCM Volume to Capacity ratio			0.63			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			69.2%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕	↗		↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		1.00	0.95	1.00		0.91	0.91
Frbp, ped/bikes	1.00	0.98		1.00	0.97		1.00	1.00	0.77		1.00	0.69
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	1.00
Satd. Flow (prot)	1509	2916		1509	2891		1509	3018	1041		2862	844
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.56	1.00
Satd. Flow (perm)	1509	2916		1509	2891		1509	3018	1041		1601	844
Volume (vph)	258	955	116	200	871	100	116	929	201	87	692	133
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	272	1005	122	211	917	105	122	978	212	92	728	140
RTOR Reduction (vph)	0	1	0	0	9	0	0	0	96	0	0	106
Lane Group Flow (vph)	272	1126	0	211	1013	0	122	978	116	0	820	34
Confl. Peds. (#/hr)	212		147	147		212	215		146	146		215
Confl. Bikes (#/hr)			11			9			6			6
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases								8				4
Actuated Green, G (s)	13.0	51.0		4.5	42.5		6.5	33.5	33.5		24.0	24.0
Effective Green, g (s)	12.0	51.0		3.5	42.5		5.5	33.5	33.5		24.0	24.0
Actuated g/C Ratio	0.12	0.51		0.04	0.42		0.06	0.34	0.34		0.24	0.24
Clearance Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	1.0	0.2		1.0	0.2		1.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	181	1487		53	1229		83	1011	349		384	203
v/s Ratio Prot	c0.18	0.39		c0.14	c0.35		c0.08	0.32				
v/s Ratio Perm									0.11		c0.51	0.04
v/c Ratio	1.50	0.76		3.98	0.82		1.47	0.97	0.33		2.14	0.17
Uniform Delay, d1	44.0	19.6		48.2	25.4		47.2	32.7	24.9		38.0	30.1
Progression Factor	1.12	0.53		0.97	0.77		1.00	1.00	1.00		1.06	1.81
Incremental Delay, d2	243.6	2.3		1379.8	5.6		265.5	21.4	2.5		518.8	1.6
Delay (s)	292.9	12.7		1426.8	25.1		312.7	54.2	27.4		559.3	56.0
Level of Service	F	B		F	C		F	D	C		F	E
Approach Delay (s)		67.2			264.9			73.9			485.9	
Approach LOS		E			F			E			F	

Intersection Summary			
HCM Average Control Delay	200.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	120.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.99			0.94		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1640			1559		1583	4525		1583	4523	
Flt Permitted		0.91			0.82		0.24	1.00		0.18	1.00	
Satd. Flow (perm)		1498			1283		402	4525		306	4523	
Volume (vph)	44	341	34	58	160	160	42	1090	42	48	905	38
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	47	363	36	62	170	170	45	1160	45	51	963	40
RTOR Reduction (vph)	0	5	0	0	19	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	441	0	0	383	0	45	1202	0	51	999	0
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		8		4		4		6		6		2
Permitted Phases		8		4		4		6		6		2
Actuated Green, G (s)		29.6		29.6		29.6		50.6		50.6		50.6
Effective Green, g (s)		31.0		31.0		31.0		51.0		51.0		51.0
Actuated g/C Ratio		0.34		0.34		0.34		0.57		0.57		0.57
Clearance Time (s)		5.4		5.4		5.4		4.4		4.4		4.4
Vehicle Extension (s)		3.0		3.0		3.0		3.0		3.0		3.0
Lane Grp Cap (vph)		516		442		442		228		2564		173
v/s Ratio Prot								c0.27				0.22
v/s Ratio Perm		0.29		c0.30		c0.30		0.11		0.17		0.17
v/c Ratio		0.86		0.87		0.87		0.20		0.47		0.29
Uniform Delay, d1		27.4		27.6		27.6		9.5		11.5		10.1
Progression Factor		1.00		1.00		1.00		1.63		1.66		1.00
Incremental Delay, d2		13.1		16.2		16.2		1.5		0.5		4.3
Delay (s)		40.5		43.7		43.7		17.0		19.6		14.4
Level of Service		D		D		D		B		B		B
Approach Delay (s)		40.5		43.7		43.7		19.5		19.5		11.4
Approach LOS		D		D		D		B		B		B

Intersection Summary

HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3125		1583	3101		1583	4448		1583	4451	
Flt Permitted	0.33	1.00		0.10	1.00		0.23	1.00		0.15	1.00	
Satd. Flow (perm)	554	3125		163	3101		390	4448		254	4451	
Volume (vph)	170	1150	110	182	718	116	74	922	162	96	731	124
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	173	1173	112	186	733	118	76	941	165	98	746	127
RTOR Reduction (vph)	0	8	0	0	14	0	0	27	0	0	27	0
Lane Group Flow (vph)	173	1277	0	186	837	0	76	1079	0	98	846	0
Turn Type	Perm		pm+pt			Perm			Perm			
Protected Phases	8		7			4			6			
Permitted Phases	8		4			6			2			
Actuated Green, G (s)	35.7	35.7		47.7	47.7		32.1	32.1		32.1	32.1	
Effective Green, g (s)	37.0	37.0		49.0	49.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.41	0.41		0.54	0.54		0.37	0.37		0.37	0.37	
Clearance Time (s)	5.3	5.3		3.5	5.3		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	228	1285		215	1688		143	1631		93	1632	
v/s Ratio Prot	c0.41		c0.08			0.27			0.24			
v/s Ratio Perm	0.31		0.40			0.19			c0.39			
v/c Ratio	0.76	0.99		0.87	0.50		0.53	0.66		1.05	0.52	
Uniform Delay, d1	22.7	26.4		20.8	12.8		22.4	23.8		28.5	22.3	
Progression Factor	1.00	1.00		0.64	0.84		0.58	0.56		0.95	0.90	
Incremental Delay, d2	20.8	23.7		22.0	0.8		5.8	0.9		104.7	1.1	
Delay (s)	43.5	50.1		35.4	11.5		18.7	14.1		131.9	21.2	
Level of Service	D	D		D	B		B	B		F	C	
Approach Delay (s)	49.3			15.8			14.4			32.3		
Approach LOS	D			B			B			C		

Intersection Summary

HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖		↕		↖	↕	↖
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95	1.00		0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	3006		1509	3018	1350		2992		1509	3018	1350
Flt Permitted	0.20	1.00		0.14	1.00	1.00		1.00		0.16	1.00	1.00
Satd. Flow (perm)	312	3006		221	3018	1350		2992		247	3018	1350
Volume (vph)	230	1197	32	77	867	107	0	728	43	58	496	179
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	240	1247	33	80	903	111	0	758	45	60	517	186
RTOR Reduction (vph)	0	2	0	0	0	59	0	4	0	0	0	128
Lane Group Flow (vph)	240	1278	0	80	903	52	0	799	0	60	517	58
Turn Type	pm+pt			pm+pt			Perm	Perm			Perm	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	61.0	53.7		51.0	46.7	46.7		31.0		31.0	31.0	31.0
Effective Green, g (s)	61.0	53.7		50.0	46.7	46.7		31.0		31.0	31.0	31.0
Actuated g/C Ratio	0.61	0.54		0.50	0.47	0.47		0.31		0.31	0.31	0.31
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0		4.0		4.0	4.0	4.0
Vehicle Extension (s)	1.0	3.0		1.0	3.0	3.0		3.5		3.5	3.5	3.5
Lane Grp Cap (vph)	314	1614		153	1409	630		928		77	936	419
v/s Ratio Prot	c0.08	c0.43		0.02	0.30			c0.27			0.17	
v/s Ratio Perm	0.39			0.24		0.04				0.24		0.04
v/c Ratio	0.76	0.79		0.52	0.64	0.08		0.86		0.78	0.55	0.14
Uniform Delay, d1	12.6	18.6		15.0	20.3	14.8		32.5		31.4	28.7	24.9
Progression Factor	1.00	1.00		0.86	0.82	1.77		1.00		1.00	1.00	1.00
Incremental Delay, d2	9.6	4.1		0.7	1.1	0.1		10.3		53.6	2.3	0.7
Delay (s)	22.1	22.7		13.6	17.9	26.3		42.8		85.0	31.1	25.6
Level of Service	C	C		B	B	C		D		F	C	C
Approach Delay (s)		22.6			18.4			42.8			34.0	
Approach LOS		C			B			D			C	

Intersection Summary

HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
138: Beverly Blvd & Orlando Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3155		1583	3152			1635			1602	
Flt Permitted	0.20	1.00		0.12	1.00			0.99			0.87	
Satd. Flow (perm)	330	3155		201	3152			1615			1405	
Volume (vph)	57	1629	42	40	1005	32	13	304	46	41	124	46
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	59	1697	44	42	1047	33	14	317	48	43	129	48
RTOR Reduction (vph)	0	2	0	0	3	0	0	2	0	0	21	0
Lane Group Flow (vph)	59	1739	0	42	1077	0	0	377	0	0	199	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	32.9	32.9		32.9	32.9			17.9			17.9	
Effective Green, g (s)	33.2	33.2		33.2	33.2			18.8			18.8	
Actuated g/C Ratio	0.55	0.55		0.55	0.55			0.31			0.31	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	183	1746		111	1744			506			440	
v/s Ratio Prot	c0.55		0.34		0.34		c0.23		c0.23		0.14	
v/s Ratio Perm	0.18			0.21				c0.23			0.14	
v/c Ratio	0.32	1.00		0.38	0.62			0.74			0.45	
Uniform Delay, d1	7.3	13.3		7.6	9.1			18.5			16.5	
Progression Factor	1.19	1.58		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	5.6		9.5	1.7			5.9			0.7	
Delay (s)	9.1	26.7		17.1	10.7			24.3			17.2	
Level of Service	A	C		B	B			C			B	
Approach Delay (s)	26.1		11.0		11.0		24.3		24.3		17.2	
Approach LOS	C		B		B		C		C		B	

Intersection Summary

HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↓		↑	↑↓	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.96		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (prot)		3013			3018	1350		1499		1433	1440	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.97	
Satd. Flow (perm)		3013			3018	1350		1499		1433	1440	
Volume (vph)	0	1392	16	0	1064	226	12	18	15	416	59	22
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1435	16	0	1097	233	12	19	15	429	61	23
RTOR Reduction (vph)	0	1	0	0	0	39	0	14	0	0	3	0
Lane Group Flow (vph)	0	1450	0	0	1097	194	0	32	0	254	256	0
Turn Type					pm+ov		Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases						6						
Actuated Green, G (s)		62.5			62.5	83.3		4.7		20.8	20.8	
Effective Green, g (s)		62.5			62.5	83.3		4.7		20.8	20.8	
Actuated g/C Ratio		0.62			0.62	0.83		0.05		0.21	0.21	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1883			1886	1179		70		298	300	
v/s Ratio Prot		c0.48			0.36	0.03		c0.02		0.18	c0.18	
v/s Ratio Perm						0.11						
v/c Ratio		0.77			0.58	0.16		0.45		0.85	0.85	
Uniform Delay, d1		13.6			11.0	1.6		46.4		38.1	38.1	
Progression Factor		0.94			1.00	1.00		1.00		1.30	1.31	
Incremental Delay, d2		0.3			1.3	0.1		4.6		15.1	15.1	
Delay (s)		13.0			12.4	1.7		51.0		64.9	65.1	
Level of Service		B			B	A		D		E	E	
Approach Delay (s)		13.0			10.5			51.0			65.0	
Approach LOS		B			B			D			E	

Intersection Summary

HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↕	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1509	2974		1509	3013			1516	1350		1515	
Flt Permitted	0.15	1.00		0.09	1.00			0.95	1.00		0.99	
Satd. Flow (perm)	235	2974		147	3013			1516	1350		1515	
Volume (vph)	16	1479	157	229	1040	10	194	8	346	15	29	15
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	17	1573	167	244	1106	11	206	9	368	16	31	16
RTOR Reduction (vph)	0	7	0	0	1	0	0	0	295	0	12	0
Lane Group Flow (vph)	17	1733	0	244	1116	0	0	215	73	0	51	0
Turn Type	Perm		pm+pt			Split		pm+ov		Split		
Protected Phases	6		5 7			4		4 5 7		8 8		
Permitted Phases	6		2					4				
Actuated Green, G (s)	39.3	39.3		47.3	45.3			15.9	20.9		14.0	
Effective Green, g (s)	39.3	39.3		47.3	45.3			15.9	19.9		14.0	
Actuated g/C Ratio	0.39	0.39		0.47	0.45			0.16	0.20		0.14	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	92	1169		124	1365			241	269		212	
v/s Ratio Prot		0.58		c0.08	0.37			c0.14	0.01		c0.03	
v/s Ratio Perm	0.07			c0.85					0.04			
v/c Ratio	0.18	1.48		1.97	0.82			0.89	0.27		0.24	
Uniform Delay, d1	19.9	30.4		50.2	23.8			41.2	33.9		38.3	
Progression Factor	1.00	1.00		1.00	1.00			1.48	9.47		1.00	
Incremental Delay, d2	4.4	221.9		463.2	5.5			27.3	0.2		2.7	
Delay (s)	24.2	252.2		513.4	29.3			88.2	321.5		40.9	
Level of Service	C	F		F	C			F	F		D	
Approach Delay (s)		250.0			116.1			235.4			40.9	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	195.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.8
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations			↗	↖	↔			↕	↗		↕	↔	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0		
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95		
Frbp, ped/bikes			1.00	1.00	0.99			1.00	1.00		1.00		
Flpb, ped/bikes			1.00	1.00	1.00			1.00	1.00		1.00		
Frt			0.86	1.00	0.97			1.00	0.85		1.00		
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00		
Satd. Flow (prot)			1374	1433	1398			3007	1350		3007		
Flt Permitted			1.00	0.95	0.96			0.93	1.00		1.00		
Satd. Flow (perm)			1374	1433	1398			2812	1350		3007		
Volume (vph)	0	0	7	899	11	93	16	491	1488	0	385	4	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Adj. Flow (vph)	0	0	8	1022	12	106	18	558	1691	0	438	5	
RTOR Reduction (vph)	0	0	4	0	9	0	0	0	698	0	1	0	
Lane Group Flow (vph)	0	0	4	603	528	0	0	576	993	0	442	0	
Confl. Peds. (#/hr)	14						14	31				31	
Confl. Bikes (#/hr)							3					2	
Turn Type			custom	Prot			Perm		Perm				
Protected Phases				4	8			2			2		
Permitted Phases			4				2		2				
Actuated Green, G (s)			56.0	56.0	56.0			35.0	35.0		35.0		
Effective Green, g (s)			56.0	56.0	56.0			36.0	36.0		36.0		
Actuated g/C Ratio			0.56	0.56	0.56			0.36	0.36		0.36		
Clearance Time (s)			4.0	4.0	4.0			5.0	5.0		5.0		
Vehicle Extension (s)			7.0	7.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)			769	802	783			1012	486		1083		
v/s Ratio Prot				c0.42	0.38							0.15	
v/s Ratio Perm			0.00					0.20	c0.74				
v/c Ratio			0.01	0.75	0.67			0.57	2.04		0.41		
Uniform Delay, d1			9.7	16.7	15.6			25.8	32.0		24.0		
Progression Factor			1.00	1.00	1.00			0.81	4.06		1.33		
Incremental Delay, d2			0.0	5.8	2.3			1.2	472.9		0.1		
Delay (s)			9.7	22.5	17.9			22.0	602.8		32.1		
Level of Service			A	C	B			C	F		C		
Approach Delay (s)		9.7			20.3			455.2			32.1		
Approach LOS		A			C			F			C		
Intersection Summary													
HCM Average Control Delay			277.2									HCM Level of Service	F
HCM Volume to Capacity ratio			1.26										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			111.4%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗		↘	↕		↘	↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.94	1.00	0.97		1.00	0.99		1.00	1.00	0.93
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1496	1588	1273	1489	1460		1505	2956		1509	3018	1250
Flt Permitted	0.29	1.00	1.00	0.53	1.00		0.26	1.00		0.09	1.00	1.00
Satd. Flow (perm)	462	1588	1273	837	1460		409	2956		147	3018	1250
Volume (vph)	478	380	128	31	151	85	106	1236	82	79	749	227
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	483	384	129	31	153	86	107	1248	83	80	757	229
RTOR Reduction (vph)	0	0	59	0	22	0	0	4	0	0	0	73
Lane Group Flow (vph)	483	384	70	31	217	0	107	1327	0	80	757	156
Conf. Peds. (#/hr)	41		27	27		41	29		45	45		29
Conf. Bikes (#/hr)			1						3			3
Turn Type	pm+pt		Perm	pm+pt			pm+pt			pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3		8
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	39.7	33.4	33.4	23.0	19.7		48.9	43.2		48.2	43.1	43.1
Effective Green, g (s)	40.2	33.9	33.9	22.0	19.7		48.4	43.7		47.2	43.1	43.1
Actuated g/C Ratio	0.40	0.34	0.34	0.22	0.20		0.48	0.44		0.47	0.43	0.43
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	356	538	432	199	288		249	1292		125	1301	539
v/s Ratio Prot	c0.22	0.24		0.00	0.15		0.02	c0.45		c0.03	0.25	
v/s Ratio Perm	c0.32		0.06	0.03			0.19			0.27		0.12
v/c Ratio	1.36	0.71	0.16	0.16	0.75		0.43	1.03		0.64	0.58	0.29
Uniform Delay, d1	26.1	28.8	23.1	31.1	37.8		15.3	28.1		20.5	21.6	18.5
Progression Factor	1.00	1.00	1.00	0.97	0.99		0.70	0.60		0.97	0.92	0.91
Incremental Delay, d2	177.9	4.5	0.2	0.1	10.0		0.1	20.2		6.4	1.5	1.1
Delay (s)	204.0	33.3	23.3	30.3	47.4		10.9	37.0		26.3	21.4	17.8
Level of Service	F	C	C	C	D		B	D		C	C	B
Approach Delay (s)		114.8			45.4			35.1			21.0	
Approach LOS		F			D			D			C	

Intersection Summary

HCM Average Control Delay	52.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	109.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔↔	↕↔			↕↕	↕↔
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	0.98			1.00	0.94
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	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2916		2927	2995		2927	2875			3018	1271
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2916		2927	2995		2927	2875			3018	1271
Volume (vph)	553	1417	135	280	807	17	262	877	160	0	624	379
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	595	1524	145	301	868	18	282	943	172	0	671	408
RTOR Reduction (vph)	0	7	0	0	1	0	0	15	0	0	0	261
Lane Group Flow (vph)	595	1662	0	301	885	0	282	1100	0	0	671	147
Confl. Peds. (#/hr)	157		168	168		157	46		116	116		46
Confl. Bikes (#/hr)			17			14			1			
Turn Type	Prot			Prot			Prot					Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	44.5		4.0	28.0		4.0	38.0			29.0	29.0
Effective Green, g (s)	20.5	45.0		4.0	28.5		5.0	39.0			30.0	30.0
Actuated g/C Ratio	0.20	0.45		0.04	0.28		0.05	0.39			0.30	0.30
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	600	1312		117	854		146	1121			905	381
v/s Ratio Prot	0.20	c0.57		c0.10	0.30		c0.10	c0.38			0.22	
v/s Ratio Perm												0.12
v/c Ratio	0.99	1.27		2.57	1.04		1.93	0.98			0.74	0.39
Uniform Delay, d1	39.7	27.5		48.0	35.8		47.5	30.1			31.5	27.7
Progression Factor	1.01	0.61		0.80	1.39		1.00	1.00			1.34	3.93
Incremental Delay, d2	17.6	121.8		728.4	38.0		443.3	22.4			3.2	0.8
Delay (s)	57.8	138.6		766.7	87.6		490.8	52.6			45.3	109.8
Level of Service	E	F		F	F		F	D			D	F
Approach Delay (s)		117.4			259.8			141.1			69.7	
Approach LOS		F			F			F			E	

Intersection Summary

HCM Average Control Delay	142.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2992		1509	2992		1509	2918		1509	2972	
Flt Permitted	0.37	1.00		0.95	1.00		0.19	1.00		0.10	1.00	
Satd. Flow (perm)	583	2992		1509	2992		308	2918		151	2972	
Volume (vph)	96	915	56	214	692	42	101	1152	327	83	846	95
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	98	934	57	218	706	43	103	1176	334	85	863	97
RTOR Reduction (vph)	0	5	0	0	5	0	0	29	0	0	10	0
Lane Group Flow (vph)	98	986	0	218	744	0	103	1481	0	85	950	0
Turn Type	Perm		Prot		Perm		Perm		Perm			
Protected Phases	8		7		4		6		2			
Permitted Phases	8						6		2			
Actuated Green, G (s)	25.0	25.0		11.0	39.0		41.0	41.0		41.0	41.0	
Effective Green, g (s)	26.0	26.0		10.0	40.0		42.0	42.0		42.0	42.0	
Actuated g/C Ratio	0.29	0.29		0.11	0.44		0.47	0.47		0.47	0.47	
Clearance Time (s)	5.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	864		168	1330		144	1362		70	1387	
v/s Ratio Prot	c0.33		c0.14		0.25		0.51		0.32			
v/s Ratio Perm	0.17						0.33		c0.56			
v/c Ratio	0.58	1.14		1.30	0.56		0.72	1.09		1.21	0.69	
Uniform Delay, d1	27.4	32.0		40.0	18.5		19.2	24.0		24.0	18.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.0	77.4		170.6	1.7		26.1	51.9		176.2	2.8	
Delay (s)	41.3	109.4		210.6	20.2		45.3	75.9		200.2	21.6	
Level of Service	D		F		C		D		E		C	
Approach Delay (s)	103.3				63.1		73.9		36.1			
Approach LOS	F				E		E		D			

Intersection Summary

HCM Average Control Delay	70.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			0.99		1.00	1.00	
Flpb, ped/bikes					0.98			1.00		1.00	1.00	
Frt					0.94			0.99		1.00	1.00	
Flt Protected					0.97			1.00		0.95	1.00	
Satd. Flow (prot)					1501			3124		1583	3167	
Flt Permitted					0.84			1.00		0.07	1.00	
Satd. Flow (perm)					1290			3124		109	3167	
Volume (vph)	0	0	0	80	0	58	0	1548	60	60	1151	0
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	92	0	67	0	1779	69	69	1323	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	148	0	0	1845	0	69	1323	0
Confl. Peds. (#/hr)			20	20			47		58	58		47
Confl. Bikes (#/hr)			1						7			1
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					30.5			61.0		61.0	61.0	
Effective Green, g (s)					31.0			61.0		61.0	61.0	
Actuated g/C Ratio					0.31			0.61		0.61	0.61	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					400			1906		66	1932	
v/s Ratio Prot								0.59			0.42	
v/s Ratio Perm					c0.11					c0.63		
v/c Ratio					0.37			0.97		1.05	0.68	
Uniform Delay, d1					26.9			18.6		19.5	13.1	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					2.6			14.3		124.0	2.0	
Delay (s)					29.5			32.9		143.5	15.1	
Level of Service					C			C		F	B	
Approach Delay (s)		0.0			29.5			32.9			21.4	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM Average Control Delay	28.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↗	↑↑	↗	↗	↑↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.74	1.00	0.98		1.00	1.00	0.79	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	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1048	3072	3019		1579	3167	1117	1583	4352	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.13	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3072	3167	1048	3072	3019		210	3167	1117	168	4352	
Volume (vph)	266	1324	104	258	749	132	89	1271	427	95	942	107
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	280	1394	109	272	788	139	94	1338	449	100	992	113
RTOR Reduction (vph)	0	0	2	0	12	0	0	0	24	0	11	0
Lane Group Flow (vph)	280	1394	107	272	915	0	94	1338	425	100	1094	0
Confl. Peds. (#/hr)	102		193	193		102	173		149	149		173
Confl. Bikes (#/hr)			6			6			9			5
Turn Type	Prot		pm+ov	Prot			pm+pt		pm+ov		pm+pt	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2				8		8	4		
Actuated Green, G (s)	8.0	48.0	55.0	8.0	48.0		45.3	38.3	46.3	45.3	38.3	
Effective Green, g (s)	8.0	49.3	56.3	8.0	49.3		46.7	39.7	47.7	46.7	39.7	
Actuated g/C Ratio	0.07	0.41	0.47	0.07	0.41		0.39	0.33	0.40	0.39	0.33	
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3		4.0	5.4	4.0	4.0	5.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	205	1301	527	205	1240		162	1048	481	148	1440	
v/s Ratio Prot	0.09	c0.44	0.01	c0.09	0.30		0.03	c0.42	0.06	c0.04	0.25	
v/s Ratio Perm			0.09				0.19		0.32	0.22		
v/c Ratio	1.37	1.07	0.20	1.33	0.74		0.58	1.28	0.88	0.68	0.76	
Uniform Delay, d1	56.0	35.4	18.7	56.0	29.9		25.8	40.1	33.6	56.8	35.9	
Progression Factor	0.83	0.73	0.64	1.14	0.77		1.07	1.13	1.52	1.00	1.00	
Incremental Delay, d2	181.0	41.1	0.1	172.3	3.3		1.4	126.6	5.6	11.6	3.8	
Delay (s)	227.4	66.9	12.1	236.3	26.3		29.1	172.2	56.6	68.3	39.7	
Level of Service	F	E	B	F	C		C	F	E	E	D	
Approach Delay (s)		88.8			73.9			137.4			42.1	
Approach LOS		F			E			F			D	

Intersection Summary			
HCM Average Control Delay	91.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↑↑	↗	↘	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3041		1583	3167	1417	1583	3112	
Flt Permitted	0.20	1.00	1.00	0.07	1.00		0.24	1.00	1.00	0.32	1.00	
Satd. Flow (perm)	326	3167	1417	118	3041		407	3167	1417	539	3112	
Volume (vph)	174	1282	154	117	651	233	126	611	241	163	677	88
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	185	1364	164	124	693	248	134	650	256	173	720	94
RTOR Reduction (vph)	0	0	74	0	30	0	0	0	11	0	9	0
Lane Group Flow (vph)	185	1364	90	124	911	0	134	650	245	173	805	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8	4		
Actuated Green, G (s)	54.6	54.6	54.6	54.6	54.6		54.0	54.0	54.0	54.0	54.0	
Effective Green, g (s)	56.5	56.5	56.5	56.5	56.5		55.5	55.5	55.5	55.5	55.5	
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	153	1491	667	56	1432		188	1465	655	249	1439	
v/s Ratio Prot		0.43			0.30			0.21			0.26	
v/s Ratio Perm	0.57		0.06	c1.05			c0.33		0.17	0.32		
v/c Ratio	1.21	0.91	0.13	2.21	0.64		0.71	0.44	0.37	0.69	0.56	
Uniform Delay, d1	31.8	29.5	17.9	31.8	24.0		25.9	21.8	21.0	25.5	23.4	
Progression Factor	1.18	1.18	2.18	0.59	0.50		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	99.9	1.1	0.0	586.0	1.6		20.5	1.0	1.6	14.8	1.6	
Delay (s)	137.3	36.1	39.2	604.6	13.5		46.4	22.8	22.6	40.4	25.0	
Level of Service	F	D	D	F	B		D	C	C	D	C	
Approach Delay (s)		47.3			82.3			25.8			27.7	
Approach LOS		D			F			C			C	

Intersection Summary

HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00		0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85		1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00		1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1509	3018	1350		3008		1433	1444	1350		1515	
Flt Permitted	0.15	1.00	1.00		1.00		0.95	0.96	1.00		0.99	
Satd. Flow (perm)	241	3018	1350		3008		1433	1444	1350		1515	
Volume (vph)	32	1554	544	0	1169	26	299	16	53	20	31	15
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	33	1619	567	0	1218	27	311	17	55	21	32	16
RTOR Reduction (vph)	0	0	58	0	1	0	0	0	45	0	9	0
Lane Group Flow (vph)	33	1619	509	0	1244	0	160	168	10	0	60	0
Turn Type	pm+pt		Perm			Split		Perm		Split		
Protected Phases	1	6			2		4	4		3	3	
Permitted Phases	6		6						4			
Actuated Green, G (s)	74.9	72.3	72.3		72.3		21.0	21.0	21.0		9.1	
Effective Green, g (s)	73.9	72.3	72.3		72.3		21.0	21.0	21.0		9.1	
Actuated g/C Ratio	0.62	0.60	0.60		0.60		0.18	0.18	0.18		0.08	
Clearance Time (s)	3.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	6.0	6.0		6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	165	1818	813		1812		251	253	236		115	
v/s Ratio Prot	c0.00	c0.54			0.41		0.11	c0.12			c0.04	
v/s Ratio Perm	0.12		0.38						0.01			
v/c Ratio	0.20	0.89	0.63		0.69		0.64	0.66	0.04		0.52	
Uniform Delay, d1	11.5	20.5	15.2		16.2		46.0	46.2	41.1		53.3	
Progression Factor	0.55	0.43	0.28		1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.1	1.9	0.9		2.1		5.2	6.4	0.1		3.9	
Delay (s)	6.4	10.6	5.2		18.3		51.2	52.6	41.2		57.3	
Level of Service	A	B	A		B		D	D	D		E	
Approach Delay (s)		9.2			18.3			50.4			57.3	
Approach LOS		A			B			D			E	

Intersection Summary

HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕	↗	↗	↕	↕
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.97		1.00	1.00	0.84	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.92	1.00	1.00	0.97	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2987		1509	2878		1386	3018	1128	1463	2952	
Flt Permitted	0.14	1.00		0.07	1.00		0.32	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	218	2987		107	2878		463	3018	1128	268	2952	
Volume (vph)	134	1684	55	208	1066	115	75	686	216	46	393	26
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	147	1851	60	229	1171	126	82	754	237	51	432	29
RTOR Reduction (vph)	0	2	0	0	8	0	0	0	84	0	5	0
Lane Group Flow (vph)	147	1909	0	229	1289	0	82	754	153	51	456	0
Confl. Peds. (#/hr)	257		114	114		257	133		103	103		133
Confl. Bikes (#/hr)			12			3			1			2
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	65.3	59.5		65.2	59.2		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	65.3	59.5		64.7	59.2		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.65	0.60		0.65	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	217	1777		146	1704		106	694	259	62	679	
v/s Ratio Prot	0.04	0.64		c0.09	0.45			c0.25			0.15	
v/s Ratio Perm	0.40			c0.92			0.18		0.14	0.19		
v/c Ratio	0.68	1.07		1.57	0.76		0.77	1.09	0.59	0.82	0.67	
Uniform Delay, d1	10.7	20.2		28.0	15.1		36.1	38.5	34.3	36.6	35.1	
Progression Factor	1.84	0.88		0.80	1.90		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.7	38.4		258.8	0.3		41.3	60.0	9.5	71.2	5.2	
Delay (s)	22.3	56.2		281.1	29.0		77.3	98.5	43.9	107.7	40.3	
Level of Service	C	E		F	C		E	F	D	F	D	
Approach Delay (s)		53.7			66.8			84.8			47.0	
Approach LOS		D			E			F			D	

Intersection Summary


























HCM Average Control Delay	63.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖	↖	↕		↖	↕	↖
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	2967		1509	1588	1350	1509	2951		1509	3018	1350
Flt Permitted	0.24	1.00		0.20	1.00	1.00	0.35	1.00		0.19	1.00	1.00
Satd. Flow (perm)	387	2967		325	1588	1350	554	2951		300	3018	1350
Volume (vph)	67	713	90	266	489	176	100	779	135	239	588	78
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	74	784	99	292	537	193	110	856	148	263	646	86
RTOR Reduction (vph)	0	13	0	0	0	60	0	19	0	0	0	45
Lane Group Flow (vph)	74	870	0	292	537	133	110	985	0	263	646	41
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	31.0	31.0		31.0	31.0	31.0	36.0	36.0		36.0	36.0	36.0
Effective Green, g (s)	31.0	31.0		31.0	31.0	31.0	36.0	36.0		36.0	36.0	36.0
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lane Grp Cap (vph)	160	1226		134	656	558	266	1416		144	1449	648
v/s Ratio Prot		0.29			0.34			0.33			0.21	
v/s Ratio Perm	0.19			c0.90		0.10	0.20			c0.88		0.03
v/c Ratio	0.46	0.71		2.18	0.82	0.24	0.41	0.70		1.83	0.45	0.06
Uniform Delay, d1	16.0	18.3		22.0	19.5	14.3	12.7	15.2		19.5	12.9	10.5
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	9.3	3.5		554.4	10.9	1.0	4.7	2.8		397.7	1.0	0.2
Delay (s)	25.3	21.8		576.4	30.4	15.3	17.3	18.1		417.2	13.9	10.6
Level of Service	C	C		F	C	B	B	B		F	B	B
Approach Delay (s)		22.0			183.6			18.0			120.2	
Approach LOS		C			F			B			F	

Intersection Summary

HCM Average Control Delay	85.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.99		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		0.95	0.91	0.95	1.00	1.00	
Frt	1.00	0.99		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	0.97	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2976		1509	2993		1433	1395	1282	1509	1481	
Flt Permitted	0.18	1.00		0.05	1.00		0.95	0.97	1.00	0.95	1.00	
Satd. Flow (perm)	287	2976		85	2993		1433	1395	1282	1509	1481	
Volume (vph)	14	1552	158	261	1126	65	366	60	429	21	31	26
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	15	1634	166	275	1185	68	385	63	452	22	33	27
RTOR Reduction (vph)	0	7	0	0	4	0	0	0	175	0	23	0
Lane Group Flow (vph)	15	1793	0	275	1250	0	223	225	277	22	37	0
Turn Type	Perm		pm+pt			Split		pm+ov		Split		
Protected Phases	6		5			4		4		5		
Permitted Phases	6		2					4		3		
Actuated Green, G (s)	71.0	71.0		78.0	78.0		13.0	13.0	17.0	18.0	18.0	
Effective Green, g (s)	71.0	71.0		78.0	78.0		13.0	13.0	16.0	17.0	17.0	
Actuated g/C Ratio	0.59	0.59		0.65	0.65		0.11	0.11	0.13	0.14	0.14	
Clearance Time (s)	4.0	4.0		3.0	4.0		4.0	4.0	3.0	3.0	3.0	
Vehicle Extension (s)	4.5	4.5		1.0	4.5		2.0	2.0	1.0	2.0	2.0	
Lane Grp Cap (vph)	170	1761		91	1945		155	151	214	214	210	
v/s Ratio Prot		0.60		c0.08	0.42		0.16	c0.16	0.03	0.01	c0.02	
v/s Ratio Perm	0.05			c1.90					0.18			
v/c Ratio	0.09	1.02		3.02	0.64		1.44	1.49	1.29	0.10	0.18	
Uniform Delay, d1	10.6	24.5		27.2	12.6		53.5	53.5	52.0	44.9	45.3	
Progression Factor	1.00	1.00		2.30	0.58		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	26.2		931.1	1.2		230.1	252.2	162.5	1.0	1.8	
Delay (s)	11.6	50.7		993.9	8.6		283.6	305.7	214.5	45.8	47.1	
Level of Service	B	D		F	A		F	F	F	D	D	
Approach Delay (s)		50.4			185.9			254.4			46.8	
Approach LOS		D			F			F			D	
Intersection Summary												
HCM Average Control Delay			140.6	HCM Level of Service				F				
HCM Volume to Capacity ratio			2.35									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			108.7%	ICU Level of Service				G				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95	
Frt		0.97			0.98		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1531			1518		1509	2950		1509	3000	
Flt Permitted		0.96			0.79		0.54	1.00		0.21	1.00	
Satd. Flow (perm)		1474			1220		850	2950		336	3000	
Volume (vph)	49	250	84	44	38	17	99	710	126	17	335	13
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	260	88	46	40	18	103	740	131	18	349	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	399	0	0	104	0	103	871	0	18	363	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		2		6		6		4		8		
Permitted Phases		2		6		4		8		8		
Actuated Green, G (s)		23.5		23.5		19.9	19.9	19.9		19.9	19.9	
Effective Green, g (s)		24.1		24.1		18.9	18.9	18.9		18.9	18.9	
Actuated g/C Ratio		0.47		0.47		0.37	0.37	0.37		0.37	0.37	
Clearance Time (s)		4.6		4.6		3.0	3.0	3.0		3.0	3.0	
Vehicle Extension (s)		4.5		4.5		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		697		577		315	1093	1093		125	1112	
v/s Ratio Prot							c0.30				0.12	
v/s Ratio Perm		c0.27		0.09		0.12				0.05		
v/c Ratio		0.57		0.18		0.33	0.80			0.14	0.33	
Uniform Delay, d1		9.7		7.8		11.5	14.3			10.7	11.5	
Progression Factor		1.00		1.00		1.00	1.00			1.00	1.00	
Incremental Delay, d2		3.4		0.7		0.6	4.1			0.5	0.2	
Delay (s)		13.1		8.4		12.1	18.5			11.2	11.7	
Level of Service		B		A		B	B			B	B	
Approach Delay (s)		13.1		8.4			17.8				11.6	
Approach LOS		B		A			B				B	

Intersection Summary

HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.99			0.91			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.98	
Frt	1.00	1.00		1.00	0.99			0.91			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1509	2993		1509	2957			1289			1466	
Flt Permitted	0.16	1.00		0.08	1.00			0.95			0.61	
Satd. Flow (perm)	261	2993		123	2957			1232			922	
Volume (vph)	16	1558	33	150	938	57	49	81	237	38	26	8
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	17	1657	35	160	998	61	52	86	252	40	28	9
RTOR Reduction (vph)	0	2	0	0	4	0	0	58	0	0	4	0
Lane Group Flow (vph)	17	1690	0	160	1055	0	0	332	0	0	73	0
Conf. Peds. (#/hr)	63		90	90		63	52		90	90		52
Conf. Bikes (#/hr)			4			3						1
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	65.5	58.5		55.0	51.5			26.0			26.0	
Effective Green, g (s)	65.5	58.5		54.5	51.5			26.5			26.5	
Actuated g/C Ratio	0.66	0.58		0.54	0.52			0.26			0.26	
Clearance Time (s)	3.5	4.0		3.5	4.0			4.5			4.5	
Vehicle Extension (s)	1.0	5.0		1.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	296	1751		109	1523			326			244	
v/s Ratio Prot	0.01	c0.56		c0.04	0.36							
v/s Ratio Perm	0.03			c0.76				c0.27			0.08	
v/c Ratio	0.06	0.97		1.47	0.69			1.02			0.30	
Uniform Delay, d1	8.5	19.8		21.6	18.3			36.8			29.3	
Progression Factor	1.00	1.00		2.41	0.40			1.00			1.00	
Incremental Delay, d2	0.4	14.7		239.4	1.7			54.6			0.7	
Delay (s)	8.9	34.5		291.5	9.0			91.3			30.0	
Level of Service	A	C		F	A			F			C	
Approach Delay (s)		34.3			46.1			91.3			30.0	
Approach LOS		C			D			F			C	

Intersection Summary

HCM Average Control Delay	45.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↗	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		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)	1583	3144		1583	3113		1583	1667	1417	1583	1617	
Flt Permitted	0.20	1.00		0.20	1.00		0.33	1.00	1.00	0.37	1.00	
Satd. Flow (perm)	327	3144		327	3113		556	1667	1417	624	1617	
Volume (vph)	85	1278	63	89	761	96	74	481	144	46	424	106
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	89	1331	66	93	793	100	77	501	150	48	442	110
RTOR Reduction (vph)	0	6	0	0	17	0	0	0	2	0	15	0
Lane Group Flow (vph)	89	1391	0	93	877	0	77	501	148	48	537	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1069		111	1058		293	878	746	329	852	
v/s Ratio Prot	c0.44			0.28			0.30			c0.33		
v/s Ratio Perm	0.27			0.28			0.14			0.10		
v/c Ratio	0.80	1.30		0.84	0.83		0.26	0.57	0.20	0.15	0.63	
Uniform Delay, d1	18.0	19.8		18.3	18.2		7.8	9.6	7.5	7.3	10.1	
Progression Factor	1.00	1.00		1.13	1.10		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	43.9	142.5		42.4	6.1		2.2	2.7	0.6	0.9	3.5	
Delay (s)	61.9	162.3		63.0	26.1		10.0	12.3	8.1	8.2	13.6	
Level of Service	E			E			A		B		A	
Approach Delay (s)	156.3			29.6			11.2				13.2	
Approach LOS	F			C			B				B	

Intersection Summary

HCM Average Control Delay	73.0	HCM Level of Service	E
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			






















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↕			↕			↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)				4.0	4.0			4.0			4.0	4.0
Lane Util. Factor				1.00	0.95			0.95			0.95	1.00
Frt				1.00	0.99			1.00			1.00	0.85
Flt Protected				0.95	1.00			1.00			1.00	1.00
Satd. Flow (prot)				1509	3001			3005			3018	1350
Flt Permitted				0.95	1.00			0.85			1.00	1.00
Satd. Flow (perm)				1509	3001			2553			3018	1350
Volume (vph)	0	0	0	111	917	36	40	425	0	0	666	100
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	123	1019	40	44	472	0	0	740	111
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	123	1056	0	0	516	0	0	740	111
Turn Type				custom			custom					Free
Protected Phases				2	2		3	3			1	
Permitted Phases				4	4		6	6				Free
Actuated Green, G (s)				34.9	34.9			27.5			20.0	100.0
Effective Green, g (s)				33.5	33.5			26.5			20.0	100.0
Actuated g/C Ratio				0.34	0.34			0.26			0.20	1.00
Clearance Time (s)				3.0	3.0			3.0			4.0	
Vehicle Extension (s)				1.0	1.0			1.0			4.0	
Lane Grp Cap (vph)				566	1125			695			604	1350
v/s Ratio Prot				0.03	c0.13			c0.03			c0.25	
v/s Ratio Perm				0.05	0.22			c0.17				0.08
v/c Ratio				0.22	0.94			0.74			1.23	0.08
Uniform Delay, d1				24.1	32.3			33.6			40.0	0.0
Progression Factor				1.00	1.00			0.34			1.00	1.00
Incremental Delay, d2				0.9	15.7			2.2			115.5	0.1
Delay (s)				25.0	47.9			13.6			155.5	0.1
Level of Service				C	D			B			F	A
Approach Delay (s)		0.0			45.5			13.6			135.3	
Approach LOS		A			D			B			F	
Intersection Summary												
HCM Average Control Delay			69.0									E
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			100.0						16.0			
Intersection Capacity Utilization			77.8%									D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕	↔		↕			↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.96			0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.99	
Satd. Flow (prot)	1304	2591		1304	2608	1167		1300			1327	
Flt Permitted	0.14	1.00		0.17	1.00	1.00		0.82			0.84	
Satd. Flow (perm)	191	2591		233	2608	1167		1083			1135	
Volume (vph)	20	1201	55	67	1387	20	68	88	61	41	92	24
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	21	1238	57	69	1430	21	70	91	63	42	95	25
RTOR Reduction (vph)	0	3	0	0	0	6	0	17	0	0	8	0
Lane Group Flow (vph)	21	1292	0	69	1430	15	0	207	0	0	154	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	2			6			8	8			4	
Permitted Phases	2			6			8	8			4	
Actuated Green, G (s)	61.9	61.9		61.9	61.9	61.9		19.0			19.0	
Effective Green, g (s)	62.5	62.5		62.5	62.5	62.5		19.5			19.5	
Actuated g/C Ratio	0.69	0.69		0.69	0.69	0.69		0.22			0.22	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6		4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)	133	1799		162	1811	810		235			246	
v/s Ratio Prot	0.50			c0.55								
v/s Ratio Perm	0.11			0.30		0.01		c0.19			0.14	
v/c Ratio	0.16	0.72		0.43	0.79	0.02		0.88			0.63	
Uniform Delay, d1	4.7	8.4		6.0	9.3	4.3		34.1			32.0	
Progression Factor	0.36	0.97		1.03	0.94	1.74		1.00			1.00	
Incremental Delay, d2	0.2	0.2		4.4	2.0	0.0		28.2			3.6	
Delay (s)	1.9	8.4		10.5	10.7	7.4		62.3			35.5	
Level of Service	A			B	B	A		E			D	
Approach Delay (s)	8.3			10.6				62.3			35.5	
Approach LOS	A			B				E			D	

Intersection Summary

HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.97			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1304	2598		1304	2591			1325			1327	
Flt Permitted	0.15	1.00		0.15	1.00			0.93			0.89	
Satd. Flow (perm)	211	2598		211	2591			1242			1193	
Volume (vph)	29	966	24	29	931	42	23	87	27	73	157	41
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	1050	26	32	1012	46	25	95	29	79	171	45
RTOR Reduction (vph)	0	3	0	0	6	0	0	15	0	0	11	0
Lane Group Flow (vph)	32	1073	0	32	1052	0	0	134	0	0	284	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			8		4
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	25.5	25.5		25.5	25.5			25.5			25.5	
Effective Green, g (s)	26.0	26.0		26.0	26.0			26.0			26.0	
Actuated g/C Ratio	0.43	0.43		0.43	0.43			0.43			0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	91	1126		91	1123			538			517	
v/s Ratio Prot	c0.41			0.41								
v/s Ratio Perm	0.15			0.15				0.11			c0.24	
v/c Ratio	0.35	0.95		0.35	0.94			0.25			0.55	
Uniform Delay, d1	11.4	16.4		11.4	16.2			10.8			12.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	10.4	17.7		10.4	15.4			1.1			4.2	
Delay (s)	21.7	34.1		21.7	31.7			11.9			16.8	
Level of Service	C	C		C	C			B			B	
Approach Delay (s)		33.7			31.4			11.9			16.8	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			29.6	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			60.0	Sum of lost time (s)				8.0				
Intersection Capacity Utilization			70.7%	ICU Level of Service				C				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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)	1583	1634		1583	1667	1417	1583	1667	1417	1583	1667	1417
Flt Permitted	0.44	1.00		0.22	1.00	1.00	0.31	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	739	1634		362	1667	1417	518	1667	1417	450	1667	1417
Volume (vph)	100	476	72	39	335	88	84	496	96	77	457	77
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	110	523	79	43	368	97	92	545	105	85	502	85
RTOR Reduction (vph)	0	9	0	0	0	97	0	0	60	0	0	48
Lane Group Flow (vph)	110	593	0	43	368	0	92	545	46	85	502	37
Turn Type	Perm			Perm		NA	Perm		Perm	Perm		custom
Protected Phases	4			4				2				2
Permitted Phases	4			4			2		2	2		4
Actuated Green, G (s)	25.5	25.5		25.5	25.5	0.0	25.5	25.5	25.5	25.5	25.5	25.5
Effective Green, g (s)	26.0	26.0		26.0	26.0	0.0	26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.43	0.43		0.43	0.43	0.00	0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	320	708		157	722	0	224	722	614	195	722	614
v/s Ratio Prot	c0.36			0.22			c0.33			0.30		
v/s Ratio Perm	0.15			0.12			0.18			0.03	0.19	0.03
v/c Ratio	0.34	0.84		0.27	0.51	0.00	0.41	0.75	0.07	0.44	0.70	0.06
Uniform Delay, d1	11.3	15.1		10.9	12.4	30.0	11.7	14.3	10.0	11.9	13.8	9.9
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	11.3		4.3	2.6	0.0	5.5	7.2	0.2	6.9	5.5	0.2
Delay (s)	14.2	26.5		15.2	14.9	30.0	17.2	21.5	10.2	18.8	19.3	10.1
Level of Service	B	C		B	B	C	B	C	B	B	B	B
Approach Delay (s)	24.6			17.8			19.4			18.0		
Approach LOS	C			B			B			B		

Intersection Summary

HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗	↖	↖	↖	↖	↖	↖	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.84	1.00	1.00	0.95	1.00	1.00	0.94
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	0.99		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)	1304	2570		1304	2608	979	1299	1373	1105	1302	1373	1098
Flt Permitted	0.13	1.00		0.13	1.00	1.00	0.26	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	182	2570		176	2608	979	358	1373	1105	252	1373	1098
Volume (vph)	87	1073	69	127	1273	111	111	502	114	139	460	95
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	89	1095	70	130	1299	113	113	512	116	142	469	97
RTOR Reduction (vph)	0	5	0	0	0	73	0	0	75	0	0	61
Lane Group Flow (vph)	89	1160	0	130	1299	40	113	512	41	142	469	36
Conf. Peds. (#/hr)	65		58	58		65	44		40	40		44
Conf. Bikes (#/hr)			7			5			3			7
Turn Type	pm+pt			pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	33.8	29.5		36.0	30.6	30.6	35.8	31.4	31.4	38.0	32.5	32.5
Effective Green, g (s)	35.0	30.1		37.2	31.2	31.2	36.8	31.9	31.9	39.0	33.0	33.0
Actuated g/C Ratio	0.39	0.33		0.41	0.35	0.35	0.41	0.35	0.35	0.43	0.37	0.37
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	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	3.0	3.0	3.0
Lane Grp Cap (vph)	132	860		148	904	339	198	487	392	179	503	403
v/s Ratio Prot	0.04	0.45		c0.06	c0.50		0.03	c0.37		c0.05	0.34	
v/s Ratio Perm	0.23			0.30		0.04	0.20		0.04	0.29		0.03
v/c Ratio	0.67	1.35		0.88	1.44	0.12	0.57	1.05	0.10	0.79	0.93	0.09
Uniform Delay, d1	23.1	29.9		21.9	29.4	20.0	19.1	29.1	19.5	19.7	27.4	18.7
Progression Factor	1.35	0.74		1.56	1.21	2.75	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.5	161.9		27.7	200.5	0.4	3.9	54.9	0.1	21.0	24.3	0.1
Delay (s)	39.5	183.9		62.0	236.1	55.5	23.0	84.0	19.6	40.7	51.8	18.7
Level of Service	D	F		E	F	E	C	F	B	D	D	B
Approach Delay (s)		173.7			208.2			64.6			45.0	
Approach LOS		F			F			E			D	

Intersection Summary			
HCM Average Control Delay	145.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	
Frbp, ped/bikes		1.00	0.96		0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		0.98	1.00		0.98	1.00	
Frt		1.00	0.85		0.97		1.00	0.99		1.00	1.00	
Flt Protected		0.99	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1653	1355		1593		1554	1641		1556	1656	
Flt Permitted		0.95	1.00		0.92		0.34	1.00		0.30	1.00	
Satd. Flow (perm)		1586	1355		1476		564	1641		486	1656	
Volume (vph)	35	276	102	14	100	30	59	647	46	37	599	18
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	279	103	14	101	30	60	654	46	37	605	18
RTOR Reduction (vph)	0	0	79	0	16	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	314	24	0	129	0	60	696	0	37	622	0
Conf. Peds. (#/hr)	28		18	18		28	29		34	34		29
Conf. Bikes (#/hr)			11			9			1			2
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		13.2	13.2		13.2		37.8	37.8		37.8	37.8	
Effective Green, g (s)		13.7	13.7		13.7		38.3	38.3		38.3	38.3	
Actuated g/C Ratio		0.23	0.23		0.23		0.64	0.64		0.64	0.64	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		0.2	0.2		0.2		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		362	309		337		360	1048		310	1057	
v/s Ratio Prot								c0.42				0.38
v/s Ratio Perm		c0.20	0.02		0.09		0.11			0.08		
v/c Ratio		0.87	0.08		0.38		0.17	0.66		0.12	0.59	
Uniform Delay, d1		22.3	18.2		19.6		4.4	6.8		4.2	6.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		18.6	0.0		0.3		1.0	3.3		0.8	2.4	
Delay (s)		40.8	18.2		19.8		5.4	10.1		5.0	8.7	
Level of Service		D	B		B		A	B		A	A	
Approach Delay (s)		35.2			19.8			9.8			8.5	
Approach LOS		D			B			A			A	
Intersection Summary												
HCM Average Control Delay			15.4				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			85.1%				ICU Level of Service				E	
Analysis Period (min)			15									
c Critical Lane Group												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2608	1167	1304	2608	1167	1304	1373	1167	1304	1373	1167
Flt Permitted	0.29	1.00	1.00	0.25	1.00	1.00	0.23	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	395	2608	1167	349	2608	1167	315	1373	1167	379	1373	1167
Volume (vph)	86	799	69	54	729	89	57	498	97	134	546	84
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	89	824	71	56	752	92	59	513	100	138	563	87
RTOR Reduction (vph)	0	0	37	0	0	48	0	0	56	0	0	49
Lane Group Flow (vph)	89	824	34	56	752	44	59	513	44	138	563	38
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	42.5	42.5	42.5	42.5	42.5	42.5	38.5	38.5	38.5	38.5	38.5	38.5
Effective Green, g (s)	43.0	43.0	43.0	43.0	43.0	43.0	39.0	39.0	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.48	0.48	0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	4.5	4.5	4.5	4.5	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	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	189	1246	558	167	1246	558	137	595	506	164	595	506
v/s Ratio Prot		c0.32			0.29			0.37			c0.41	
v/s Ratio Perm	0.23		0.03	0.16		0.04	0.19		0.04	0.36		0.03
v/c Ratio	0.47	0.66	0.06	0.34	0.60	0.08	0.43	0.86	0.09	0.84	0.95	0.07
Uniform Delay, d1	15.8	17.9	12.6	14.6	17.2	12.8	17.8	23.1	15.0	22.7	24.5	14.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.2	2.8	0.2	5.3	2.2	0.3	2.2	12.3	0.1	30.4	24.1	0.1
Delay (s)	24.0	20.7	12.8	20.0	19.4	13.0	19.9	35.3	15.1	53.1	48.6	15.0
Level of Service	C	C	B	B	B	B	B	D	B	D	D	B
Approach Delay (s)		20.4			18.8			31.0			45.7	
Approach LOS		C			B			C			D	
Intersection Summary												
HCM Average Control Delay			28.1				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			93.1%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.80	1.00	1.00	0.86	1.00	1.00	0.96	1.00	0.99	1.00
Flpb, ped/bikes	0.99	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.98	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1287	2608	933	1279	2608	1007	1277	1373	1115	1283	1340	1340
Flt Permitted	0.16	1.00	1.00	0.16	1.00	1.00	0.31	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)	219	2608	933	210	2608	1007	411	1373	1115	530	1340	1340
Volume (vph)	50	1123	94	104	1104	59	148	324	167	81	351	44
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	1182	99	109	1162	62	156	341	176	85	369	46
RTOR Reduction (vph)	0	0	44	0	0	28	0	0	21	0	5	0
Lane Group Flow (vph)	53	1182	55	109	1162	34	156	341	155	85	410	0
Confl. Peds. (#/hr)	50		75	75		50	47		29	29		47
Confl. Bikes (#/hr)			11			2			2			4
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8		4	
Actuated Green, G (s)	49.1	49.1	49.1	49.1	49.1	49.1	31.8	31.8	31.8	31.8	31.8	31.8
Effective Green, g (s)	49.7	49.7	49.7	49.7	49.7	49.7	32.3	32.3	32.3	32.3	32.3	32.3
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.55	0.55	0.36	0.36	0.36	0.36	0.36	0.36
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	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	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	121	1440	515	116	1440	556	148	493	400	190	481	481
v/s Ratio Prot		0.45			0.45			0.25				0.31
v/s Ratio Perm	0.24		0.06	c0.52		0.03	c0.38		0.14	0.16		
v/c Ratio	0.44	0.82	0.11	0.94	0.81	0.06	1.05	0.69	0.39	0.45	0.85	0.85
Uniform Delay, d1	11.9	16.5	9.6	18.8	16.3	9.3	28.9	24.6	21.5	22.0	26.6	26.6
Progression Factor	0.99	0.81	2.12	1.18	1.10	1.55	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.2	3.5	0.3	14.3	0.5	0.0	89.1	4.2	0.6	1.7	13.6	13.6
Delay (s)	19.0	16.9	20.6	36.4	18.4	14.5	117.9	28.8	22.1	23.7	40.3	40.3
Level of Service	B	B	C	D	B	B	F	C	C	C	D	D
Approach Delay (s)		17.2			19.7			47.7				37.4
Approach LOS		B			B			D				D

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2566		1304	2549		1304	2528		1304	2587	
Flt Permitted	0.17	1.00		0.22	1.00		0.22	1.00		0.31	1.00	
Satd. Flow (perm)	237	2566		304	2549		306	2528		423	2587	
Volume (vph)	32	778	93	121	849	151	51	481	123	83	713	41
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	34	837	100	130	913	162	55	517	132	89	767	44
RTOR Reduction (vph)	0	10	0	0	16	0	0	25	0	0	5	0
Lane Group Flow (vph)	34	927	0	130	1059	0	55	624	0	89	806	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	121	1312		155	1303		122	1011		169	1035	
v/s Ratio Prot		0.36			0.42			0.25			c0.31	
v/s Ratio Perm	0.14			c0.43			0.18			0.21		
v/c Ratio	0.28	0.71		0.84	0.81		0.45	0.62		0.53	0.78	
Uniform Delay, d1	12.6	16.8		18.8	18.4		19.8	21.5		20.5	23.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.7	3.2		39.2	5.6		11.6	2.8		11.3	5.8	
Delay (s)	18.3	20.1		58.0	24.0		31.3	24.3		31.8	29.3	
Level of Service	B	C		E	C		C	C		C	C	
Approach Delay (s)		20.0			27.7			24.9			29.6	
Approach LOS		B			C			C			C	

Intersection Summary

HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↘		↗	↘	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.97	1.00		0.98	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1285	2573		1298	2577		1269	1293		1280	1314	
Flt Permitted	0.15	1.00		0.16	1.00		0.47	1.00		0.37	1.00	
Satd. Flow (perm)	207	2573		219	2577		630	1293		505	1314	
Volume (vph)	55	1157	80	62	1219	47	80	183	77	32	164	44
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	58	1218	84	65	1283	49	84	193	81	34	173	46
RTOR Reduction (vph)	0	4	0	0	2	0	0	21	0	0	14	0
Lane Group Flow (vph)	58	1298	0	65	1330	0	84	253	0	34	205	0
Conf. Peds. (#/hr)	65		30	30		65	31		25	25		31
Conf. Bikes (#/hr)			5			9			3			1
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	59.1	59.1		59.1	59.1		21.8	21.8		21.8	21.8	
Effective Green, g (s)	59.7	59.7		59.7	59.7		22.3	22.3		22.3	22.3	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.25	0.25		0.25	0.25	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	137	1707		145	1709		156	320		125	326	
v/s Ratio Prot		0.50			c0.52			c0.20			0.16	
v/s Ratio Perm	0.28			0.30			0.13			0.07		
v/c Ratio	0.42	0.76		0.45	0.78		0.54	0.79		0.27	0.63	
Uniform Delay, d1	7.1	10.3		7.3	10.5		29.4	31.7		27.3	30.2	
Progression Factor	0.88	0.85		1.22	1.29		0.79	0.78		1.00	1.00	
Incremental Delay, d2	8.8	3.1		5.6	2.1		1.7	11.4		0.4	2.9	
Delay (s)	15.0	11.8		14.4	15.7		24.9	36.1		27.7	33.1	
Level of Service	B	B		B	B		C	D		C	C	
Approach Delay (s)		12.0			15.6			33.5			32.4	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 165: Arizona Ave & 17th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↑	↕	↕	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		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	1.00	0.85	1.00	0.99	
Flt Protected		1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1660	1417		1653	1417	1583	1667	1417	1583	1649	
Flt Permitted		0.96	1.00		0.72	1.00	0.49	1.00	1.00	0.53	1.00	
Satd. Flow (perm)		1608	1417		1203	1417	812	1667	1417	888	1649	
Volume (vph)	17	214	117	35	177	35	29	293	26	15	326	25
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	20	249	136	41	206	41	34	341	30	17	379	29
RTOR Reduction (vph)	0	0	106	0	0	32	0	0	9	0	2	0
Lane Group Flow (vph)	0	269	30	0	247	9	34	341	21	17	406	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4		4	2		2	2		
Actuated Green, G (s)		19.5	19.5		19.5	19.5	61.5	61.5	61.5	61.5	61.5	
Effective Green, g (s)		20.0	20.0		20.0	20.0	62.0	62.0	62.0	62.0	62.0	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.69	0.69	0.69	0.69	0.69	
Clearance Time (s)		4.5	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	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		357	315		267	315	559	1148	976	612	1136	
v/s Ratio Prot								0.20			c0.25	
v/s Ratio Perm		0.17	0.02		c0.21	0.01	0.04		0.01	0.02		
v/c Ratio		0.75	0.10		0.93	0.03	0.06	0.30	0.02	0.03	0.36	
Uniform Delay, d1		32.7	27.8		34.3	27.4	4.5	5.5	4.4	4.4	5.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.81	0.79	
Incremental Delay, d2		8.7	0.1		35.4	0.0	0.2	0.7	0.0	0.1	0.8	
Delay (s)		41.4	27.9		69.7	27.4	4.8	6.1	4.5	3.7	5.3	
Level of Service		D	C		E	C	A	A	A	A	A	
Approach Delay (s)		36.9			63.7			5.9			5.3	
Approach LOS		D			E			A			A	

Intersection Summary

HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2578		1304	2580		1304	1345		1304	1355	
Flt Permitted	0.22	1.00		0.23	1.00		0.32	1.00		0.43	1.00	
Satd. Flow (perm)	307	2578		311	2580		433	1345		593	1355	
Volume (vph)	48	785	65	48	797	60	35	275	43	56	377	35
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	53	863	71	53	876	66	38	302	47	62	414	38
RTOR Reduction (vph)	0	9	0	0	8	0	0	11	0	0	6	0
Lane Group Flow (vph)	53	925	0	53	934	0	38	338	0	62	446	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			8		4
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	28.7	28.7		28.7	28.7		22.3	22.3		22.3	22.3	
Effective Green, g (s)	29.2	29.2		29.2	29.2		22.8	22.8		22.8	22.8	
Actuated g/C Ratio	0.49	0.49		0.49	0.49		0.38	0.38		0.38	0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	149	1255		151	1256		165	511		225	515	
v/s Ratio Prot		0.36			c0.36			0.25			c0.33	
v/s Ratio Perm	0.17			0.17			0.09			0.10		
v/c Ratio	0.36	0.74		0.35	0.74		0.23	0.66		0.28	0.87	
Uniform Delay, d1	9.6	12.3		9.5	12.4		12.6	15.4		12.9	17.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.5	3.9		6.3	4.0		0.3	2.5		0.2	13.7	
Delay (s)	16.1	16.2		15.8	16.4		12.9	17.9		13.1	30.9	
Level of Service	B	B		B	B		B	B		B	C	
Approach Delay (s)		16.2			16.4			17.4			28.8	
Approach LOS		B			B			B			C	

Intersection Summary

HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

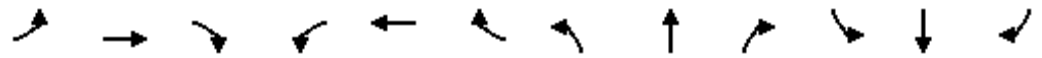


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	29	1107	52	50	1159	51	15	7	108	9	2	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	31	1190	56	54	1246	55	16	8	116	10	2	59
Pedestrians	16			25			14			67		
Lane Width (ft)	12.0			12.0			12.0			12.0		
Walking Speed (ft/s)	4.0			4.0			4.0			4.0		
Percent Blockage	1			2			1			6		
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	801			400								
pX, platoon unblocked	0.71			0.91			0.75	0.75	0.91	0.75	0.75	0.71
vC, conflicting volume	1368			1260			2102	2770	662	2251	2771	734
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1109			1185			1770	2656	527	1967	2656	214
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			90			36	43	73	0	84	89
cM capacity (veh/h)	419			525			25	13	436	9	13	523

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	31	794	453	54	831	470	24	116	12	59
Volume Left	31	0	0	54	0	0	16	0	10	0
Volume Right	0	0	56	0	0	55	0	116	0	59
cSH	419	1700	1700	525	1700	1700	19	436	9	523
Volume to Capacity	0.07	0.47	0.27	0.10	0.49	0.28	1.22	0.27	1.26	0.11
Queue Length 95th (ft)	6	0	0	9	0	0	81	27	57	10
Control Delay (s)	14.3	0.0	0.0	12.6	0.0	0.0	560.1	16.2	914.9	12.8
Lane LOS	B			B			F	C	F	B
Approach Delay (s)	0.3			0.5			108.3		163.1	
Approach LOS							F		F	

Intersection Summary

Average Delay	9.8
Intersection Capacity Utilization	74.0%
ICU Level of Service	D
Analysis Period (min)	15



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↘	↗	↘	↘	↗	↘	↘	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.86	1.00	1.00	0.71	1.00	1.00	0.94	1.00	1.00	0.88
Flpb, ped/bikes	0.97	1.00	1.00	0.97	1.00	1.00	0.93	1.00	1.00	0.97	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1260	2608	1002	1265	2608	828	1214	1373	1094	1267	1373	1023
Flt Permitted	0.18	1.00	1.00	0.28	1.00	1.00	0.44	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	242	2608	1002	367	2608	828	557	1373	1094	464	1373	1023
Volume (vph)	38	888	51	69	1179	75	96	292	100	90	240	67
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	39	906	52	70	1203	77	98	298	102	92	245	68
RTOR Reduction (vph)	0	0	18	0	0	27	0	0	47	0	0	18
Lane Group Flow (vph)	39	906	34	70	1203	50	98	298	55	92	245	50
Conf. Peds. (#/hr)	115		91	91		115	110		51	51		110
Conf. Bikes (#/hr)			8			8						5
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	58.3	58.3	58.3	58.3	58.3	58.3	22.7	22.7	22.7	22.7	22.7	22.7
Effective Green, g (s)	58.8	58.8	58.8	58.8	58.8	58.8	23.2	23.2	23.2	23.2	23.2	23.2
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.65	0.65	0.26	0.26	0.26	0.26	0.26	0.26
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	158	1704	655	240	1704	541	144	354	282	120	354	264
v/s Ratio Prot		0.35			c0.46			c0.22				0.18
v/s Ratio Perm	0.16		0.03	0.19		0.06	0.18		0.05	0.20		0.05
v/c Ratio	0.25	0.53	0.05	0.29	0.71	0.09	0.68	0.84	0.20	0.77	0.69	0.19
Uniform Delay, d1	6.4	8.3	5.6	6.7	10.0	5.8	30.1	31.7	26.1	30.9	30.2	26.1
Progression Factor	1.12	1.00	1.92	0.77	0.94	0.66	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	1.0	0.1	2.2	1.8	0.2	10.1	15.8	0.1	22.7	4.7	0.1
Delay (s)	10.2	9.3	10.9	7.3	11.2	4.0	40.1	47.4	26.2	53.6	34.8	26.2
Level of Service	B	A	B	A	B	A	D	D	C	D	C	C
Approach Delay (s)		9.4			10.6			41.7				37.6
Approach LOS		A			B			D				D

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

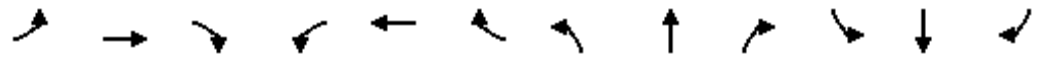


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↕		↕	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected		1.00	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1660	1417		1652	1417	1583	1641		1583	1655	
Flt Permitted		0.96	1.00		0.91	1.00	0.50	1.00		0.45	1.00	
Satd. Flow (perm)		1607	1417		1524	1417	837	1641		749	1655	
Volume (vph)	13	151	93	43	197	95	54	389	44	20	348	17
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	14	161	99	46	210	101	57	414	47	21	370	18
RTOR Reduction (vph)	0	0	75	0	0	77	0	6	0	0	2	0
Lane Group Flow (vph)	0	175	24	0	256	24	57	455	0	21	386	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4		4	2			2		
Actuated Green, G (s)		13.8	13.8		13.8	13.8	37.2	37.2		37.2	37.2	
Effective Green, g (s)		14.3	14.3		14.3	14.3	37.7	37.7		37.7	37.7	
Actuated g/C Ratio		0.24	0.24		0.24	0.24	0.63	0.63		0.63	0.63	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)		383	338		363	338	526	1031		471	1040	
v/s Ratio Prot							c0.28				0.23	
v/s Ratio Perm		0.11	0.02		c0.17	0.02	0.07			0.03		
v/c Ratio		0.46	0.07		0.71	0.07	0.11	0.44		0.04	0.37	
Uniform Delay, d1		19.5	17.7		20.9	17.7	4.4	5.7		4.3	5.4	
Progression Factor		1.00	1.00		1.00	1.00	1.84	2.03		1.00	1.00	
Incremental Delay, d2		0.3	0.0		5.0	0.0	0.2	0.8		0.2	1.0	
Delay (s)		19.8	17.7		25.9	17.7	8.4	12.4		4.4	6.4	
Level of Service		B	B		C	B	A	B		A	A	
Approach Delay (s)		19.1			23.6			12.0			6.3	
Approach LOS		B			C			B			A	
Intersection Summary												
HCM Average Control Delay			14.4				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			67.3%				ICU Level of Service				C	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↗	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2577		1304	2569		1304	1373	1167	1304	1373	1167
Flt Permitted	0.26	1.00		0.31	1.00		0.37	1.00	1.00	0.32	1.00	1.00
Satd. Flow (perm)	362	2577		429	2569		514	1373	1167	436	1373	1167
Volume (vph)	30	627	55	90	702	77	42	400	63	87	356	26
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	33	689	60	99	771	85	46	440	69	96	391	29
RTOR Reduction (vph)	0	9	0	0	12	0	0	0	44	0	0	18
Lane Group Flow (vph)	33	740	0	99	844	0	46	440	25	96	391	11
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	29.4	29.4		29.4	29.4		21.6	21.6	21.6	21.6	21.6	21.6
Effective Green, g (s)	29.9	29.9		29.9	29.9		22.1	22.1	22.1	22.1	22.1	22.1
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.37	0.37	0.37	0.37	0.37	0.37
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	180	1284		214	1280		189	506	430	161	506	430
v/s Ratio Prot		0.29			c0.33			c0.32			0.28	
v/s Ratio Perm	0.09			0.23			0.09		0.02	0.22		0.01
v/c Ratio	0.18	0.58		0.46	0.66		0.24	0.87	0.06	0.60	0.77	0.02
Uniform Delay, d1	8.3	10.6		9.8	11.2		13.1	17.6	12.2	15.3	16.7	12.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.72	0.81	0.54
Incremental Delay, d2	2.2	1.9		7.0	2.7		0.2	14.3	0.0	3.7	6.2	0.0
Delay (s)	10.5	12.5		16.8	13.9		13.4	31.9	12.3	14.8	19.8	6.5
Level of Service	B	B		B	B		B	C	B	B	B	A
Approach Delay (s)		12.4			14.2			27.9			18.1	
Approach LOS		B			B			C			B	

























Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑		↘	↑	↘	↘	↑	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95	1.00	1.00	0.95		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	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)	1304	2608	1167	1304	2588		1304	1373	1167	1304	1373	1167
Flt Permitted	0.16	1.00	1.00	0.22	1.00		0.44	1.00	1.00	0.32	1.00	1.00
Satd. Flow (perm)	222	2608	1167	302	2588		598	1373	1167	444	1373	1167
Volume (vph)	58	983	67	98	1117	59	99	305	102	54	238	31
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	62	1057	72	105	1201	63	106	328	110	58	256	33
RTOR Reduction (vph)	0	0	26	0	3	0	0	0	35	0	0	22
Lane Group Flow (vph)	62	1057	46	105	1261	0	106	328	75	58	256	11
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		4
Actuated Green, G (s)	56.6	56.6	56.6	56.6	56.6		24.3	24.3	24.3	24.3	24.3	24.3
Effective Green, g (s)	57.2	57.2	57.2	57.2	57.2		24.8	24.8	24.8	24.8	24.8	24.8
Actuated g/C Ratio	0.64	0.64	0.64	0.64	0.64		0.28	0.28	0.28	0.28	0.28	0.28
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	141	1658	742	192	1645		165	378	322	122	378	322
v/s Ratio Prot		0.41			c0.49			c0.24				0.19
v/s Ratio Perm	0.28		0.04	0.35			0.18		0.06	0.13		0.01
v/c Ratio	0.44	0.64	0.06	0.55	0.77		0.64	0.87	0.23	0.48	0.68	0.03
Uniform Delay, d1	8.3	10.0	6.2	9.2	11.7		28.7	31.0	25.2	27.2	29.0	23.8
Progression Factor	0.84	0.87	0.57	0.91	0.87		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.0	1.6	0.1	8.0	2.6		6.3	18.0	0.1	1.1	3.8	0.0
Delay (s)	15.0	10.3	3.7	16.3	12.7		35.0	49.0	25.4	28.2	32.8	23.8
Level of Service	B	B	A	B	B		C	D	C	C	C	C
Approach Delay (s)		10.2			12.9			41.5			31.2	
Approach LOS		B			B			D			C	

Intersection Summary

HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	
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)	1304	2608	1167	1304	2608	1167	1304	1373	1167	1304	2559	
Flt Permitted	0.24	1.00	1.00	0.27	1.00	1.00	0.47	1.00	1.00	0.29	1.00	
Satd. Flow (perm)	334	2608	1167	373	2608	1167	647	1373	1167	392	2559	
Volume (vph)	28	797	120	157	865	65	163	374	265	45	300	42
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	866	130	171	940	71	177	407	288	49	326	46
RTOR Reduction (vph)	0	0	55	0	0	30	0	0	77	0	13	0
Lane Group Flow (vph)	30	866	75	171	940	41	177	407	211	49	359	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	51.6	51.6	51.6	51.6	51.6	51.6	29.4	29.4	29.4	29.4	29.4	
Effective Green, g (s)	52.1	52.1	52.1	52.1	52.1	52.1	29.9	29.9	29.9	29.9	29.9	
Actuated g/C Ratio	0.58	0.58	0.58	0.58	0.58	0.58	0.33	0.33	0.33	0.33	0.33	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	193	1510	676	216	1510	676	215	456	388	130	850	
v/s Ratio Prot		0.33			0.36			c0.30			0.14	
v/s Ratio Perm	0.09		0.06	c0.46		0.04	0.27		0.18	0.12		
v/c Ratio	0.16	0.57	0.11	0.79	0.62	0.06	0.82	0.89	0.54	0.38	0.42	
Uniform Delay, d1	8.8	11.9	8.5	14.7	12.5	8.3	27.6	28.5	24.5	22.9	23.3	
Progression Factor	0.56	0.58	0.39	0.89	0.83	0.82	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	1.3	0.3	17.7	1.3	0.1	20.9	18.9	0.8	0.7	0.1	
Delay (s)	6.3	8.2	3.6	30.8	11.7	6.9	48.5	47.4	25.3	23.6	23.5	
Level of Service	A	A	A	C	B	A	D	D	C	C	C	
Approach Delay (s)		7.5			14.2			40.3			23.5	
Approach LOS		A			B			D			C	
Intersection Summary												
HCM Average Control Delay			19.9				HCM Level of Service		B			
HCM Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)		8.0			
Intersection Capacity Utilization			85.9%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕		↘	↕	↗	↘	↕		↘	↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2515		1304	1373	1167	1304	2539		1304	2598	
Flt Permitted	0.41	1.00		0.37	1.00	1.00	0.31	1.00		0.18	1.00	
Satd. Flow (perm)	567	2515		514	1373	1167	420	2539		249	2598	
Volume (vph)	14	450	140	155	402	96	98	743	158	57	645	17
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	15	469	146	161	419	100	102	774	165	59	672	18
RTOR Reduction (vph)	0	46	0	0	0	53	0	32	0	0	4	0
Lane Group Flow (vph)	15	569	0	161	419	47	102	907	0	59	686	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	2			6			8			4		
Permitted Phases	2			6			6	8		4		
Actuated Green, G (s)	27.6	27.6		27.6	27.6	27.6	23.4	23.4		23.4	23.4	
Effective Green, g (s)	28.1	28.1		28.1	28.1	28.1	23.9	23.9		23.9	23.9	
Actuated g/C Ratio	0.47	0.47		0.47	0.47	0.47	0.40	0.40		0.40	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	266	1178		241	643	547	167	1011		99	1035	
v/s Ratio Prot		0.23			0.31			c0.36			0.26	
v/s Ratio Perm	0.03			c0.31		0.04	0.24			0.24		
v/c Ratio	0.06	0.48		0.67	0.65	0.09	0.61	0.90		0.60	0.66	
Uniform Delay, d1	8.7	11.0		12.3	12.2	8.8	14.4	16.9		14.2	14.8	
Progression Factor	0.62	0.61		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.3		13.8	5.1	0.3	4.6	10.2		6.3	1.2	
Delay (s)	5.8	8.0		26.1	17.3	9.1	18.9	27.1		20.5	16.0	
Level of Service	A	A		C	B	A	B	C		C	B	
Approach Delay (s)		7.9			18.2			26.3			16.4	
Approach LOS		A			B			C			B	

Intersection Summary

HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗			↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.96			0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1304	2592		1304	2583		1304	1320			1331	
Flt Permitted	0.22	1.00		0.25	1.00		0.47	1.00			0.63	
Satd. Flow (perm)	299	2592		345	2583		641	1320			845	
Volume (vph)	27	870	36	56	939	64	43	202	70	63	148	32
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	29	935	39	60	1010	69	46	217	75	68	159	34
RTOR Reduction (vph)	0	2	0	0	4	0	0	17	0	0	7	0
Lane Group Flow (vph)	29	972	0	60	1075	0	46	275	0	0	254	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	58.2	58.2		58.2	58.2		22.8	22.8			22.8	
Effective Green, g (s)	58.7	58.7		58.7	58.7		23.3	23.3			23.3	
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.26	0.26			0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	195	1691		225	1685		166	342			219	
v/s Ratio Prot		0.37			c0.42			0.21				
v/s Ratio Perm	0.10			0.17			0.07				c0.30	
v/c Ratio	0.15	0.57		0.27	0.64		0.28	0.80			1.16	
Uniform Delay, d1	6.0	8.7		6.6	9.3		26.6	31.2			33.4	
Progression Factor	0.78	0.67		0.38	0.33		1.00	1.00			1.00	
Incremental Delay, d2	1.5	1.4		2.2	1.4		0.3	12.1			110.0	
Delay (s)	6.2	7.2		4.7	4.5		27.0	43.4			143.4	
Level of Service	A	A		A	A		C	D			F	
Approach Delay (s)		7.2			4.6			41.1			143.4	
Approach LOS		A			A			D			F	

Intersection Summary

HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2586		1304	1373	1167	1304	1358		1304	1344	
Flt Permitted	0.40	1.00		0.47	1.00	1.00	0.45	1.00		0.39	1.00	
Satd. Flow (perm)	549	2586		639	1373	1167	618	1358		537	1344	
Volume (vph)	25	452	27	50	477	64	23	301	22	99	244	39
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	466	28	52	492	66	24	310	23	102	252	40
RTOR Reduction (vph)	0	6	0	0	0	29	0	6	0	0	12	0
Lane Group Flow (vph)	26	488	0	52	492	37	24	327	0	102	280	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	2			6			8			4		
Permitted Phases	2			6			6	8		4		
Actuated Green, G (s)	33.3	33.3		33.3	33.3	33.3	17.7	17.7		17.7	17.7	
Effective Green, g (s)	33.8	33.8		33.8	33.8	33.8	18.2	18.2		18.2	18.2	
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56	0.30	0.30		0.30	0.30	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	309	1457		360	773	657	187	412		163	408	
v/s Ratio Prot	0.19			c0.36			c0.24			0.21		
v/s Ratio Perm	0.05			0.08			0.03	0.04		0.19		
v/c Ratio	0.08	0.34		0.14	0.64	0.06	0.13	0.79		0.63	0.69	
Uniform Delay, d1	6.0	7.1		6.2	8.9	5.9	15.2	19.2		18.0	18.4	
Progression Factor	1.00	1.00		0.98	0.81	1.17	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.6		0.7	3.3	0.1	0.1	9.5		5.3	3.8	
Delay (s)	6.5	7.7		6.8	10.6	7.0	15.3	28.7		23.3	22.2	
Level of Service	A			A		B	A	B	C	C		C
Approach Delay (s)	7.6			9.9			27.8			22.5		
Approach LOS	A			A			C			C		

Intersection Summary

HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑		↙	↑	↗	↙	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	0.48	1.00	0.98		1.00	1.00	0.91	1.00	0.99	
Flpb, ped/bikes	0.92	1.00	1.00	0.83	1.00		0.92	1.00	1.00	0.96	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1205	2608	557	1076	2548		1199	1373	1065	1252	1328	
Flt Permitted	0.30	1.00	1.00	0.36	1.00		0.69	1.00	1.00	0.38	1.00	
Satd. Flow (perm)	375	2608	557	412	2548		869	1373	1065	496	1328	
Volume (vph)	15	678	74	85	797	42	131	256	130	25	85	13
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	15	699	76	88	822	43	135	264	134	26	88	13
RTOR Reduction (vph)	0	0	25	0	3	0	0	0	40	0	8	0
Lane Group Flow (vph)	15	699	51	88	862	0	135	264	94	26	93	0
Conf. Peds. (#/hr)	126		228	228		126	86		63	63		86
Conf. Bikes (#/hr)			17			8			10			5
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	60.3	60.3	60.3	60.3	60.3		20.7	20.7	20.7	20.7	20.7	
Effective Green, g (s)	60.8	60.8	60.8	60.8	60.8		21.2	21.2	21.2	21.2	21.2	
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.68		0.24	0.24	0.24	0.24	0.24	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	253	1762	376	278	1721		205	323	251	117	313	
v/s Ratio Prot		0.27			c0.34			c0.19				0.07
v/s Ratio Perm	0.04		0.09	0.21			0.16		0.09	0.05		
v/c Ratio	0.06	0.40	0.14	0.32	0.50		0.66	0.82	0.38	0.22	0.30	
Uniform Delay, d1	4.9	6.5	5.2	6.0	7.2		31.1	32.6	28.8	27.7	28.3	
Progression Factor	0.54	0.50	0.27	1.33	1.35		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.6	0.7	2.3	0.8		5.7	14.0	0.3	0.4	0.2	
Delay (s)	3.1	3.9	2.1	10.3	10.5		36.8	46.6	29.2	28.1	28.5	
Level of Service	A	A	A	B	B		D	D	C	C	C	
Approach Delay (s)		3.7			10.5			39.7				28.4
Approach LOS		A			B			D				C

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↖		↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes		1.00	0.93		0.99		1.00	0.97		1.00	1.00	0.92
Flpb, ped/bikes		0.99	1.00		0.99		0.95	1.00		0.94	1.00	1.00
Frt		1.00	0.85		0.98		1.00	0.96		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1642	1311		1592		1510	1561		1483	1667	1298
Flt Permitted		0.92	1.00		0.92		0.62	1.00		0.62	1.00	1.00
Satd. Flow (perm)		1523	1311		1477		981	1561		974	1667	1298
Volume (vph)	22	106	53	73	284	45	27	154	52	14	217	7
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	23	110	55	76	296	47	28	160	54	15	226	7
RTOR Reduction (vph)	0	0	37	0	9	0	0	17	0	0	0	3
Lane Group Flow (vph)	0	133	18	0	410	0	28	197	0	15	226	4
Conf. Peds. (#/hr)	55		60	60		55	40		54	54		40
Conf. Bikes (#/hr)			6						2			3
Turn Type	Perm		Perm	Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		4
Actuated Green, G (s)		19.2	19.2		19.2		31.8	31.8		31.8	31.8	31.8
Effective Green, g (s)		19.7	19.7		19.7		32.3	32.3		32.3	32.3	32.3
Actuated g/C Ratio		0.33	0.33		0.33		0.54	0.54		0.54	0.54	0.54
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		500	430		485		528	840		524	897	699
v/s Ratio Prot							0.13				c0.14	
v/s Ratio Perm	0.09	0.01		c0.28		0.03			0.02			0.00
v/c Ratio	0.27	0.04		0.85		0.05	0.23		0.03	0.25		0.01
Uniform Delay, d1	14.8	13.7		18.7		6.6	7.3		6.5	7.4		6.4
Progression Factor	1.00	1.00		1.00		1.00	1.00		1.00	1.00		1.00
Incremental Delay, d2	0.1	0.0		12.3		0.2	0.7		0.1	0.7		0.0
Delay (s)	14.9	13.7		31.1		6.8	8.0		6.6	8.1		6.4
Level of Service	B	B		C		A	A		A	A		A
Approach Delay (s)	14.6			31.1			7.8			7.9		
Approach LOS	B			C			A			A		
Intersection Summary												
HCM Average Control Delay		17.9										B
HCM Volume to Capacity ratio		0.48										
Actuated Cycle Length (s)		60.0							8.0			
Intersection Capacity Utilization		64.7%										C
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘	↗	↘	↘	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.66	1.00	1.00	0.72	1.00	1.00	0.80	1.00	1.00	0.71
Flpb, ped/bikes	0.89	1.00	1.00	0.96	1.00	1.00	0.85	1.00	1.00	0.88	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1161	2608	769	1250	2608	838	1102	1373	930	1149	1373	830
Flt Permitted	0.40	1.00	1.00	0.38	1.00	1.00	0.36	1.00	1.00	0.43	1.00	1.00
Satd. Flow (perm)	491	2608	769	498	2608	838	423	1373	930	522	1373	830
Volume (vph)	21	567	100	127	651	114	68	224	130	92	258	49
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	21	573	101	128	658	115	69	226	131	93	261	49
RTOR Reduction (vph)	0	0	42	0	0	36	0	0	102	0	0	36
Lane Group Flow (vph)	21	573	59	128	658	79	69	226	29	93	261	13
Conf. Peds. (#/hr)	193		324	324		193	205		142	142		205
Conf. Bikes (#/hr)			21			5			5			10
Turn Type	Perm		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases		2		1	6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	52.0	52.0	52.0	61.4	61.4	61.4	19.6	19.6	19.6	19.6	19.6	19.6
Effective Green, g (s)	52.5	52.5	52.5	61.9	61.9	61.9	20.1	20.1	20.1	20.1	20.1	20.1
Actuated g/C Ratio	0.58	0.58	0.58	0.69	0.69	0.69	0.22	0.22	0.22	0.22	0.22	0.22
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	286	1521	449	388	1794	576	94	307	208	117	307	185
v/s Ratio Prot		0.22		0.02	c0.25			0.16				c0.19
v/s Ratio Perm	0.04		0.08	0.21		0.09	0.16		0.03	0.18		0.02
v/c Ratio	0.07	0.38	0.13	0.33	0.37	0.14	0.73	0.74	0.14	0.79	0.85	0.07
Uniform Delay, d1	8.2	10.0	8.5	5.3	5.9	4.8	32.5	32.5	28.0	33.0	33.5	27.6
Progression Factor	0.63	0.92	0.61	0.77	0.66	0.32	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.7	0.6	0.2	0.5	0.4	22.3	7.7	0.1	28.3	19.0	0.1
Delay (s)	5.6	9.9	5.8	4.2	4.4	2.0	54.7	40.2	28.1	61.3	52.5	27.6
Level of Service	A	A	A	A	A	A	D	D	C	E	D	C
Approach Delay (s)		9.2			4.1			38.8			51.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
179: Arizona Ave & 4th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖	↗	↖	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95	
Frbp, ped/bikes		0.84			0.96		1.00	1.00	0.69	1.00	0.96	
Flpb, ped/bikes		0.99			0.97		0.85	1.00	1.00	0.85	1.00	
Frt		0.92			0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1269			1494		1347	1667	977	1350	2984	
Flt Permitted		0.95			0.87		0.39	1.00	1.00	0.44	1.00	
Satd. Flow (perm)		1214			1309		558	1667	977	618	2984	
Volume (vph)	29	106	202	76	192	71	57	353	81	46	472	59
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	31	113	215	81	204	76	61	376	86	49	502	63
RTOR Reduction (vph)	0	40	0	0	16	0	0	0	49	0	16	0
Lane Group Flow (vph)	0	319	0	0	345	0	61	376	37	49	549	0
Conf. Peds. (#/hr)	164		246	246		164	191		157	157		191
Conf. Bikes (#/hr)			11			14			3			4
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		25.5			25.5		25.5	25.5	25.5	25.5	25.5	25.5
Effective Green, g (s)		26.0			26.0		26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio		0.43			0.43		0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		526			567		242	722	423	268	1293	
v/s Ratio Prot							c0.23					0.18
v/s Ratio Perm		0.26			c0.26		0.11		0.04	0.08		
v/c Ratio		0.61			0.61		0.25	0.52	0.09	0.18	0.42	
Uniform Delay, d1		13.1			13.1		10.8	12.4	10.0	10.5	11.8	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		5.1			4.8		2.5	2.7	0.4	1.5	1.0	
Delay (s)		18.2			17.9		13.3	15.1	10.4	12.0	12.8	
Level of Service		B			B		B	B	B	B	B	
Approach Delay (s)		18.2			17.9			14.1			12.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑	↑	↑	↑	↑	↑	↑↓	↑
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1373	1167		1373	1167	1304	1373	1167	1304	2512	
Flt Permitted		1.00	1.00		1.00	1.00	0.18	1.00	1.00	0.32	1.00	
Satd. Flow (perm)		1373	1167		1373	1167	247	1373	1167	433	2512	
Volume (vph)	0	334	118	0	302	84	50	361	76	68	563	184
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	384	136	0	347	97	57	415	87	78	647	211
RTOR Reduction (vph)	0	0	102	0	0	73	0	0	55	0	37	0
Lane Group Flow (vph)	0	384	34	0	347	24	57	415	32	78	821	0
Turn Type		Perm			Perm		Perm		Perm		Perm	
Protected Phases		2			6			8			4	
Permitted Phases		2			6		8		8		4	
Actuated Green, G (s)		20.5	20.5		20.5	20.5	30.5	30.5	30.5	30.5	30.5	
Effective Green, g (s)		21.0	21.0		21.0	21.0	31.0	31.0	31.0	31.0	31.0	
Actuated g/C Ratio		0.25	0.25		0.25	0.25	0.36	0.36	0.36	0.36	0.36	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		339	288		339	288	90	501	426	158	916	
v/s Ratio Prot		c0.28			c0.25			0.30			c0.33	
v/s Ratio Perm		0.03			0.02		0.23	0.03		0.18		
v/c Ratio		1.13	0.12		1.02	0.08	0.63	0.83	0.07	0.49	0.90	
Uniform Delay, d1		32.0	24.8		32.0	24.6	22.3	24.6	17.6	20.9	25.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		89.9	0.8		55.0	0.6	29.3	14.6	0.3	10.6	13.2	
Delay (s)		121.9	25.6		87.0	25.2	51.6	39.2	18.0	31.5	38.7	
Level of Service		F	C		F	C	D	D	B	C	D	
Approach Delay (s)		96.7			73.5			37.1			38.1	
Approach LOS		F			E			D			D	

Intersection Summary		
HCM Average Control Delay	56.7	HCM Level of Service E
HCM Volume to Capacity ratio	1.00	
Actuated Cycle Length (s)	85.0	Sum of lost time (s) 12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service C
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
181: Wilshire Blvd & 3rd St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑		↖	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.96		1.00	0.79
Flpb, ped/bikes	0.92	1.00	1.00		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)	1198	2608	2452		1304	920
Flt Permitted	0.32	1.00	1.00		0.95	1.00
Satd. Flow (perm)	400	2608	2452		1304	920
Volume (vph)	23	562	678	104	99	61
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	25	604	729	112	106	66
RTOR Reduction (vph)	0	0	7	0	0	55
Lane Group Flow (vph)	25	604	834	0	106	11
Conf. Peds. (#/hr)	122			122	475	186
Conf. Bikes (#/hr)				7		3
Turn Type	Perm				Perm	
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	66.0	66.0	66.0		15.0	15.0
Effective Green, g (s)	66.5	66.5	66.5		15.5	15.5
Actuated g/C Ratio	0.74	0.74	0.74		0.17	0.17
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	296	1927	1812		225	158
v/s Ratio Prot		0.23	c0.34		c0.08	
v/s Ratio Perm	0.06					0.01
v/c Ratio	0.08	0.31	0.46		0.47	0.07
Uniform Delay, d1	3.3	4.0	4.6		33.6	31.2
Progression Factor	0.94	1.01	0.70		1.00	1.00
Incremental Delay, d2	0.5	0.4	0.8		0.6	0.1
Delay (s)	3.6	4.4	4.1		34.1	31.3
Level of Service	A	A	A		C	C
Approach Delay (s)		4.4	4.1		33.0	
Approach LOS		A	A		C	

Intersection Summary

HCM Average Control Delay	7.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↖	↗	↖	↗	↘	↖	↗	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	1667	1417		1651	1417	1583	1667	1417	1583	1667	1417
Flt Permitted	0.55	1.00	1.00		0.94	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	913	1667	1417		1570	1417	1583	1667	1417	1583	1667	1417
Volume (vph)	53	51	203	39	162	59	405	523	48	24	422	53
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	56	54	216	41	172	63	431	556	51	26	449	56
RTOR Reduction (vph)	0	0	102	0	0	41	0	0	26	0	0	37
Lane Group Flow (vph)	56	54	114	0	213	22	431	556	25	26	449	19
Turn Type	Perm		pm+ov	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases		2	3		6		3	8		7		4
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	30.9	30.9	46.4		30.9	30.9	15.5	43.1	43.1	2.5	30.1	30.1
Effective Green, g (s)	31.4	31.4	47.4		31.4	31.4	16.0	43.6	43.6	3.0	30.6	30.6
Actuated g/C Ratio	0.35	0.35	0.53		0.35	0.35	0.18	0.48	0.48	0.03	0.34	0.34
Clearance Time (s)	4.5	4.5	4.5		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	1.0	3.0	3.0
Lane Grp Cap (vph)	319	582	809		548	494	281	808	686	53	567	482
v/s Ratio Prot		0.03	0.02				c0.27	0.33		0.02	c0.27	
v/s Ratio Perm	0.06		0.06		c0.14	0.02			0.02			0.01
v/c Ratio	0.18	0.09	0.14		0.39	0.04	1.53	0.69	0.04	0.49	0.79	0.04
Uniform Delay, d1	20.3	19.7	10.9		22.1	19.4	37.0	17.9	12.2	42.7	26.8	19.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.88	1.20	1.88	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.3	0.1		2.1	0.2	254.9	2.1	0.0	2.6	7.5	0.0
Delay (s)	21.5	20.0	11.0		24.1	19.5	287.4	23.7	23.0	45.3	34.3	19.9
Level of Service	C	C	B		C	B	F	C	C	D	C	B
Approach Delay (s)		14.3			23.1			133.2			33.3	
Approach LOS		B			C			F			C	

Intersection Summary

HCM Average Control Delay	76.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↕↕	↖	↖	↕↕
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	2530	1167	2608	1167	1304	2608
Flt Permitted	0.95	1.00	1.00	1.00	0.32	1.00
Satd. Flow (perm)	2530	1167	2608	1167	446	2608
Volume (vph)	251	331	655	221	198	461
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	261	345	682	230	206	480
RTOR Reduction (vph)	0	205	0	98	0	0
Lane Group Flow (vph)	261	140	682	132	206	480
Turn Type		Perm		Perm	pm+pt	
Protected Phases	6		8		7	4
Permitted Phases		6		8	4	
Actuated Green, G (s)	20.1	20.1	51.1	51.1	60.9	60.9
Effective Green, g (s)	20.6	20.6	51.6	51.6	61.4	61.4
Actuated g/C Ratio	0.23	0.23	0.57	0.57	0.68	0.68
Clearance Time (s)	4.5	4.5	4.5	4.5	3.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	1.0	3.0
Lane Grp Cap (vph)	579	267	1495	669	360	1779
v/s Ratio Prot	0.10		0.26		c0.04	0.18
v/s Ratio Perm		c0.12		0.11	c0.35	
v/c Ratio	0.45	0.52	0.46	0.20	0.57	0.27
Uniform Delay, d1	29.8	30.4	11.1	9.2	6.2	5.6
Progression Factor	0.74	0.57	1.00	1.00	0.77	0.45
Incremental Delay, d2	0.5	1.7	1.0	0.7	1.0	0.3
Delay (s)	22.4	19.0	12.1	9.9	5.8	2.8
Level of Service	C	B	B	A	A	A
Approach Delay (s)	20.5		11.5			3.7
Approach LOS	C		B			A

Intersection Summary

HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

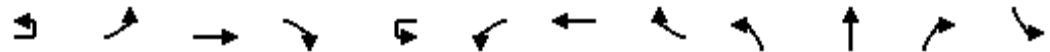
HCM Signalized Intersection Capacity Analysis
 184: Santa Monica Blvd & Ocean Ave

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1304	1167	2608	1167	1304	2608
Flt Permitted	0.95	1.00	1.00	1.00	0.34	1.00
Satd. Flow (perm)	1304	1167	2608	1167	466	2608
Volume (vph)	156	125	650	226	59	784
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	161	129	670	233	61	808
RTOR Reduction (vph)	0	96	0	91	0	0
Lane Group Flow (vph)	161	33	670	142	61	808
Turn Type	pm+ov		Perm pm+pt			
Protected Phases	6	7	8		7	4
Permitted Phases		6		8	4	
Actuated Green, G (s)	16.9	22.1	54.4	54.4	64.1	64.1
Effective Green, g (s)	17.4	23.1	54.9	54.9	64.6	64.6
Actuated g/C Ratio	0.19	0.26	0.61	0.61	0.72	0.72
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	252	351	1591	712	388	1872
v/s Ratio Prot	c0.12	0.01	0.26		0.01	c0.31
v/s Ratio Perm		0.02		0.12	0.10	
v/c Ratio	0.64	0.09	0.42	0.20	0.16	0.43
Uniform Delay, d1	33.4	25.5	9.2	7.8	4.2	5.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	0.0	0.8	0.6	0.1	0.7
Delay (s)	37.3	25.5	10.0	8.4	4.3	5.9
Level of Service	D	C	B	A	A	A
Approach Delay (s)	32.1		9.6			5.8
Approach LOS	C		A			A
Intersection Summary						
HCM Average Control Delay			11.2		HCM Level of Service	B
HCM Volume to Capacity ratio			0.48			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			50.6%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	1.00		1.00	0.98			1.00			0.99	
Flpb, ped/bikes	0.95	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.99			0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1509	1641		1576	1618			1634			1582	
Flt Permitted	0.35	1.00		0.31	1.00			0.92			0.98	
Satd. Flow (perm)	560	1641		521	1618			1509			1557	
Volume (vph)	155	514	46	122	462	50	33	353	36	18	368	151
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	161	535	48	127	481	52	34	368	38	19	383	157
RTOR Reduction (vph)	0	6	0	0	7	0	0	6	0	0	23	0
Lane Group Flow (vph)	161	577	0	127	526	0	0	434	0	0	536	0
Conf. Peds. (#/hr)	66		13	13		66	21		26	26		21
Conf. Bikes (#/hr)			27			8						6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	32.0	32.0		32.0	32.0			20.0			20.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0			20.0			20.0	
Actuated g/C Ratio	0.53	0.53		0.53	0.53			0.33			0.33	
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)	299	875		278	863			503			519	
v/s Ratio Prot		c0.35			0.33							
v/s Ratio Perm	0.29			0.24				0.29			c0.34	
v/c Ratio	0.54	0.66		0.46	0.61			0.86			1.03	
Uniform Delay, d1	9.2	10.1		8.6	9.7			18.7			20.0	
Progression Factor	1.00	1.00		1.07	1.08			2.17			1.00	
Incremental Delay, d2	6.8	3.9		4.7	2.8			14.4			48.0	
Delay (s)	16.0	14.0		14.0	13.2			55.1			68.0	
Level of Service	B	B		B	B			E			E	
Approach Delay (s)		14.4			13.4			55.1			68.0	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↔↔↔	↔		↔	↔↔↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		1583	4550	1417		1583	4550	1417	1583	1634		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.12	1.00		0.34
Satd. Flow (perm)		1583	4550	1417		1583	4550	1417	198	1634		574
Volume (vph)	23	138	1707	45	10	71	1685	42	41	265	40	83
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	23	139	1724	45	10	72	1702	42	41	268	40	84
RTOR Reduction (vph)	0	0	0	20	0	0	0	22	0	4	0	0
Lane Group Flow (vph)	0	162	1724	25	0	82	1702	20	41	304	0	84
Turn Type	Prot	Prot		Perm	Prot	Prot		pm+ov	pm+pt			pm+pt
Protected Phases	1	1	6		5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		16.1	49.1	49.1		10.1	43.1	51.0	40.2	33.9		43.4
Effective Green, g (s)		16.1	50.1	50.1		10.1	44.1	52.0	42.2	35.9		45.4
Actuated g/C Ratio		0.13	0.42	0.42		0.08	0.37	0.43	0.35	0.30		0.38
Clearance Time (s)		4.0	5.0	5.0		4.0	5.0	4.0	4.0	6.0		4.0
Vehicle Extension (s)		3.0	4.4	4.4		3.0	4.3	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		212	1900	592		133	1672	661	142	489		284
v/s Ratio Prot		c0.10	0.38			0.05	c0.37	0.00	0.02	0.19		c0.02
v/s Ratio Perm				0.02				0.01	0.09			0.09
v/c Ratio		0.76	0.91	0.04		0.62	1.02	0.03	0.29	0.62		0.30
Uniform Delay, d1		50.1	32.8	20.7		53.1	37.9	19.5	29.1	36.2		25.5
Progression Factor		1.00	1.00	1.00		0.82	1.70	3.40	1.00	1.00		0.92
Incremental Delay, d2		15.0	7.8	0.1		5.9	23.2	0.0	1.1	2.5		0.3
Delay (s)		65.2	40.6	20.9		49.2	87.9	66.3	30.2	38.7		23.9
Level of Service		E	D	C		D	F	E	C	D		C
Approach Delay (s)			42.2				85.6			37.7		
Approach LOS			D				F			D		

Intersection Summary

HCM Average Control Delay	60.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

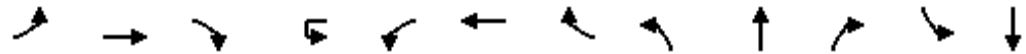


Movement	SBT	SBR
Lane Configurations	P	
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frt	0.98	
Flt Protected	1.00	
Satd. Flow (prot)	1642	
Flt Permitted	1.00	
Satd. Flow (perm)	1642	
Volume (vph)	453	50
Peak-hour factor, PHF	0.99	0.99
Adj. Flow (vph)	458	51
RTOR Reduction (vph)	3	0
Lane Group Flow (vph)	506	0
Turn Type		
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	35.5	
Effective Green, g (s)	37.5	
Actuated g/C Ratio	0.31	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	513	
v/s Ratio Prot	c0.31	
v/s Ratio Perm		
v/c Ratio	0.99	
Uniform Delay, d1	41.0	
Progression Factor	0.92	
Incremental Delay, d2	25.7	
Delay (s)	63.6	
Level of Service	E	
Approach Delay (s)	58.0	
Approach LOS	E	
Intersection Summary		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	1631		1583	1639		1552	3066		1572	3039	
Flt Permitted	0.14	1.00		0.12	1.00		0.28	1.00		0.21	1.00	
Satd. Flow (perm)	232	1631		208	1639		464	3066		355	3039	
Volume (vph)	85	519	59	79	505	44	121	834	147	54	670	132
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	87	530	60	81	515	45	123	851	150	55	684	135
RTOR Reduction (vph)	0	5	0	0	3	0	0	16	0	0	18	0
Lane Group Flow (vph)	87	585	0	81	557	0	123	985	0	55	801	0
Confl. Peds. (#/hr)	29		30	30		29	48		28	28		48
Confl. Bikes (#/hr)			26			9			4			2
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	8		4		4		6		6		2	
Permitted Phases	8		4		4		6		6		2	
Actuated Green, G (s)	31.0	31.0		31.0	31.0		49.1	49.1		49.1	49.1	
Effective Green, g (s)	32.0	32.0		32.0	32.0		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.56	0.56		0.56	0.56	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	82	580		74	583		258	1703		197	1688	
v/s Ratio Prot		0.36			0.34			c0.32			0.26	
v/s Ratio Perm	0.37			c0.39			0.27			0.16		
v/c Ratio	1.06	1.01		1.09	0.96		0.48	0.58		0.28	0.47	
Uniform Delay, d1	29.0	29.0		29.0	28.3		12.1	13.1		10.5	12.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	117.0	39.7		132.8	27.7		6.2	1.4		3.5	1.0	
Delay (s)	146.0	68.7		161.8	56.0		18.3	14.5		14.0	13.0	
Level of Service	F	E		F	E		B	B		B	B	
Approach Delay (s)		78.7			69.4			14.9			13.1	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM Average Control Delay	38.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↘		↘	↑↑↑	↘	↙	↑↑	↘	↙	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00
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)	1583	4550	1417		1583	4550	1417	1583	3167	1417	1583	3167
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.26	1.00	1.00	0.19	1.00
Satd. Flow (perm)	1583	4550	1417		1583	4550	1417	439	3167	1417	312	3167
Volume (vph)	159	1204	259	21	166	1088	115	174	698	229	124	576
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	169	1281	276	22	177	1157	122	185	743	244	132	613
RTOR Reduction (vph)	0	0	70	0	0	0	87	0	0	168	0	0
Lane Group Flow (vph)	169	1281	206	0	199	1157	35	185	743	76	132	613
Turn Type	Prot		pm+ov	Prot	Prot		Perm	pm+pt		Perm	pm+pt	
Protected Phases	1	6	3	5	5	2		3	8		7	4
Permitted Phases			6				2	8		8		4
Actuated Green, G (s)	18.0	34.6	43.6		14.0	30.6	30.6	41.1	32.1	32.1	40.7	31.9
Effective Green, g (s)	18.0	35.9	45.9		14.0	31.9	31.9	44.3	34.3	34.3	43.9	34.1
Actuated g/C Ratio	0.16	0.33	0.42		0.13	0.29	0.29	0.40	0.31	0.31	0.40	0.31
Clearance Time (s)	4.0	5.3	5.0		4.0	5.3	5.3	5.0	6.2	6.2	5.0	6.2
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	4.2	4.2	3.0	3.6
Lane Grp Cap (vph)	259	1485	643		201	1320	411	281	988	442	238	982
v/s Ratio Prot	0.11	c0.28	0.03		c0.13	c0.25		c0.06	c0.23		0.05	0.19
v/s Ratio Perm			0.12				0.02	0.21		0.05	0.17	
v/c Ratio	0.65	0.86	0.32		0.99	0.88	0.09	0.66	0.75	0.17	0.55	0.62
Uniform Delay, d1	43.1	34.7	21.6		47.9	37.2	28.4	23.2	34.0	27.5	23.3	32.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.8	6.9	0.3		60.5	8.4	0.4	5.5	3.6	0.3	2.8	1.3
Delay (s)	48.9	41.6	21.8		108.4	45.6	28.8	28.7	37.6	27.8	26.1	33.8
Level of Service	D	D	C		F	D	C	C	D	C	C	C
Approach Delay (s)		39.1				52.7			34.2			29.6
Approach LOS		D				D			C			C

Intersection Summary

HCM Average Control Delay	40.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	152
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	162
RTOR Reduction (vph)	46
Lane Group Flow (vph)	116
Turn Type	pm+ov
Protected Phases	1
Permitted Phases	4
Actuated Green, G (s)	49.9
Effective Green, g (s)	52.1
Actuated g/C Ratio	0.47
Clearance Time (s)	4.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	671
v/s Ratio Prot	0.03
v/s Ratio Perm	0.05
v/c Ratio	0.17
Uniform Delay, d1	16.6
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	16.7
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑			↑↑↑	↔	↔	↔↔↔	↔			
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.86	0.81	0.86			
Frt	1.00	1.00			1.00	0.85	1.00	0.98	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	3072	4550			5733	1417	1362	3922	1218			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	3072	4550			5733	1417	1362	3922	1218			
Volume (vph)	555	1429	0	0	1044	327	670	910	638	0	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	597	1537	0	0	1123	352	720	978	686	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	33	0	18	28	0	0	0
Lane Group Flow (vph)	597	1537	0	0	1123	319	476	1430	432	0	0	0
Turn Type	Prot				Perm		Split	Perm				
Protected Phases	1	6			2		4	4				
Permitted Phases					2						4	
Actuated Green, G (s)	36.0	74.0			34.0	34.0	35.2	35.2	35.2			
Effective Green, g (s)	36.0	75.0			35.0	35.0	37.0	37.0	37.0			
Actuated g/C Ratio	0.30	0.62			0.29	0.29	0.31	0.31	0.31			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.8	5.8	5.8			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	922	2844			1672	413	420	1209	376			
v/s Ratio Prot	c0.19	0.34			0.20		0.35	c0.36				
v/s Ratio Perm					c0.23						0.35	
v/c Ratio	0.65	0.54			0.67	0.77	1.13	1.18	1.15			
Uniform Delay, d1	36.5	12.7			37.4	38.9	41.5	41.5	41.5			
Progression Factor	0.90	1.11			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.2	0.6			2.2	13.2	85.5	91.0	93.8			
Delay (s)	34.0	14.7			39.6	52.0	127.0	132.5	135.3			
Level of Service	C	B			D	D	F	F	F			
Approach Delay (s)	20.1				42.6		131.9				0.0	
Approach LOS	C				D		F				A	

Intersection Summary

HCM Average Control Delay	70.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↑↑	↑↑↑					↑	↑↑	↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81		0.97	0.91					0.91	0.86	0.91
Frt		0.97		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (prot)		6525		3072	4550					1441	2804	1289
Flt Permitted		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (perm)		6525		3072	4550					1441	2804	1289
Volume (vph)	0	1205	345	661	1222	0	0	0	0	599	352	234
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1255	359	689	1273	0	0	0	0	624	367	244
RTOR Reduction (vph)	0	42	0	0	0	0	0	0	0	0	0	53
Lane Group Flow (vph)	0	1572	0	689	1273	0	0	0	0	331	660	191
Turn Type				Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Actuated Green, G (s)		41.7		30.5	76.7					33.6	33.6	33.6
Effective Green, g (s)		42.4		31.0	77.4					34.6	34.6	34.6
Actuated g/C Ratio		0.35		0.26	0.65					0.29	0.29	0.29
Clearance Time (s)		4.7		4.5	4.7					5.0	5.0	5.0
Vehicle Extension (s)		3.0		4.0	3.0					4.0	4.0	4.0
Lane Grp Cap (vph)		2306		794	2935					415	808	372
v/s Ratio Prot		c0.24		c0.22	0.28					0.23	c0.24	
v/s Ratio Perm												0.15
v/c Ratio		0.68		0.87	0.43					0.80	0.82	0.51
Uniform Delay, d1		33.1		42.5	10.5					39.5	39.8	35.7
Progression Factor		1.00		0.44	1.67					1.00	1.00	1.00
Incremental Delay, d2		1.7		6.1	0.3					10.8	6.7	1.6
Delay (s)		34.7		25.0	17.8					50.3	46.5	37.2
Level of Service		C		C	B					D	D	D
Approach Delay (s)		34.7			20.3			0.0			45.7	
Approach LOS		C			C			A			D	

Intersection Summary			
HCM Average Control Delay	31.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
191: Ohio Ave & Sawtelle Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	0.99		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.99			0.95			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1574	1626		1563	1650			1547			1608	
Flt Permitted	0.30	1.00		0.26	1.00			0.74			0.92	
Satd. Flow (perm)	492	1626		433	1650			1162			1494	
Volume (vph)	33	554	62	71	545	28	75	126	107	56	323	63
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	35	589	66	76	580	30	80	134	114	60	344	67
RTOR Reduction (vph)	0	6	0	0	3	0	0	32	0	0	10	0
Lane Group Flow (vph)	35	649	0	76	607	0	0	296	0	0	461	0
Conf. Peds. (#/hr)	10		27	27		10	17		16	16		17
Conf. Bikes (#/hr)			30			16			3			10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	32.3	32.3		32.3	32.3			19.7			19.7	
Effective Green, g (s)	32.3	32.3		32.3	32.3			19.7			19.7	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.33			0.33	
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)	265	875		233	888			382			491	
v/s Ratio Prot		c0.40			0.37							
v/s Ratio Perm	0.07			0.18				0.25			c0.31	
v/c Ratio	0.13	0.74		0.33	0.68			0.77			0.94	
Uniform Delay, d1	6.9	10.6		7.8	10.1			18.1			19.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.0	5.6		3.7	4.2			9.4			25.8	
Delay (s)	7.9	16.3		11.5	14.4			27.6			45.3	
Level of Service	A	B		B	B			C			D	
Approach Delay (s)		15.8			14.0			27.6			45.3	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM Average Control Delay			23.4			HCM Level of Service					C	
HCM Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			60.0			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												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖		↖	↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4509		1583	4478		1583	1626		1583	1636	
Flt Permitted	0.22	1.00		0.22	1.00		0.18	1.00		0.50	1.00	
Satd. Flow (perm)	369	4509		365	4478		307	1626		838	1636	
Volume (vph)	64	987	62	40	931	110	41	174	34	88	381	54
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	67	1028	65	42	970	115	43	181	35	92	397	56
RTOR Reduction (vph)	0	5	0	0	11	0	0	6	0	0	5	0
Lane Group Flow (vph)	67	1088	0	42	1074	0	43	210	0	92	448	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		2		2		4		4		4	
Permitted Phases	2		2		2		4		4		4	
Actuated Green, G (s)	74.1	74.1		74.1	74.1		36.5	36.5		36.5	36.5	
Effective Green, g (s)	74.5	74.5		74.5	74.5		37.5	37.5		37.5	37.5	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.31	0.31		0.31	0.31	
Clearance Time (s)	4.4	4.4		4.4	4.4		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	2799		227	2780		96	508		262	511	
v/s Ratio Prot	c0.24		0.24		0.24		0.13		0.13		c0.27	
v/s Ratio Perm	0.18		0.12		0.12		0.14		0.14		0.11	
v/c Ratio	0.29	0.39		0.19	0.39		0.45	0.41		0.35	0.88	
Uniform Delay, d1	10.5	11.4		9.7	11.3		33.0	32.6		31.9	39.1	
Progression Factor	0.98	1.02		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.3		1.8	0.4		3.3	0.5		0.8	15.5	
Delay (s)	12.8	11.9		11.5	11.8		36.3	33.1		32.7	54.6	
Level of Service	B		B		B		D		C		D	
Approach Delay (s)	12.0		11.7		11.7		33.6		33.6		50.9	
Approach LOS	B		B		B		C		C		D	
Intersection Summary												
HCM Average Control Delay	20.6		20.6		20.6		HCM Level of Service		C		C	
HCM Volume to Capacity ratio	0.55		0.55		0.55		0.55		0.55		0.55	
Actuated Cycle Length (s)	120.0		120.0		120.0		Sum of lost time (s)		8.0		8.0	
Intersection Capacity Utilization	78.9%		78.9%		78.9%		ICU Level of Service		D		D	
Analysis Period (min)	15		15		15		15		15		15	
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 208: W San Vicente Ave & Bundy Dr



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑	↗	↖↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.95	1.00	0.97	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)	1583	4550	3167	1417	3072	1417
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1583	4550	3167	1417	3072	1417
Volume (vph)	351	1047	1050	543	610	347
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	369	1102	1105	572	642	365
RTOR Reduction (vph)	0	0	0	7	0	15
Lane Group Flow (vph)	369	1102	1105	565	642	350
Turn Type	Prot			pm+ov		pt+ov
Protected Phases	5	2	6	4	4	4 5
Permitted Phases				6		
Actuated Green, G (s)	12.5	41.7	38.2	66.5	28.3	44.4
Effective Green, g (s)	12.0	41.6	38.1	66.0	27.9	43.9
Actuated g/C Ratio	0.13	0.46	0.42	0.73	0.31	0.49
Clearance Time (s)	3.5	3.9	3.9	3.6	3.6	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	211	2103	1341	1102	952	691
v/s Ratio Prot	c0.23	c0.24	c0.35	0.16	c0.21	0.25
v/s Ratio Perm				0.24		
v/c Ratio	1.75	0.52	0.82	0.51	0.67	0.51
Uniform Delay, d1	39.0	17.2	23.0	5.1	27.1	15.7
Progression Factor	1.00	1.00	0.55	0.07	1.00	1.00
Incremental Delay, d2	355.8	0.9	2.8	0.2	1.9	0.6
Delay (s)	394.8	18.1	15.5	0.5	29.0	16.3
Level of Service	F	B	B	A	C	B
Approach Delay (s)		112.6	10.4		24.4	
Approach LOS		F	B		C	

Intersection Summary

HCM Average Control Delay	50.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3008		1509	3018	1433	
Flt Permitted	1.00		0.19	1.00	0.98	
Satd. Flow (perm)	3008		297	3018	1433	
Volume (vph)	1249	27	48	1220	26	37
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1288	28	49	1258	27	38
RTOR Reduction (vph)	1	0	0	0	33	0
Lane Group Flow (vph)	1315	0	49	1258	32	0
Turn Type			Perm			
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	80.6		80.6	80.6	11.4	
Effective Green, g (s)	80.1		80.1	80.1	11.9	
Actuated g/C Ratio	0.80		0.80	0.80	0.12	
Clearance Time (s)	3.5		3.5	3.5	4.5	
Vehicle Extension (s)	0.2		0.2	0.2	3.0	
Lane Grp Cap (vph)	2409		238	2417	171	
v/s Ratio Prot	c0.44			0.42	c0.02	
v/s Ratio Perm			0.17			
v/c Ratio	0.55		0.21	0.52	0.18	
Uniform Delay, d1	3.5		2.4	3.4	39.7	
Progression Factor	2.00		0.22	0.21	1.00	
Incremental Delay, d2	0.4		1.7	0.7	0.5	
Delay (s)	7.5		2.2	1.4	40.2	
Level of Service	A		A	A	D	
Approach Delay (s)	7.5			1.4	40.2	
Approach LOS	A			A	D	

Intersection Summary

HCM Average Control Delay	5.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT	NWR2
Lane Configurations	↘	↑↑	↗	↗	↑↑					↘↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95					0.95	1.00
Frt	1.00	1.00	0.85	0.85	0.96					1.00	0.86
Flt Protected	0.95	1.00	1.00	1.00	1.00					0.98	1.00
Satd. Flow (prot)	1583	3167	1417	1417	3027					3113	1442
Flt Permitted	0.95	1.00	1.00	1.00	1.00					0.63	1.00
Satd. Flow (perm)	1583	3167	1417	1417	3027					2005	1442
Volume (vph)	68	1166	277	42	397	103	63	152	116	509	51
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	76	1296	308	47	441	114	70	169	129	566	57
RTOR Reduction (vph)	0	0	0	45	10	0	0	0	0	0	0
Lane Group Flow (vph)	76	1296	308	2	615	0	0	0	0	864	57
Turn Type	custom		Perm	Perm					Prot	Free	
Protected Phases	3	3			6				2	1	
Permitted Phases	4	4	3	3						2	Free
Actuated Green, G (s)	25.0	25.0	5.0	5.0	22.5					34.9	100.0
Effective Green, g (s)	23.6	23.6	4.0	4.0	22.5					33.9	100.0
Actuated g/C Ratio	0.24	0.24	0.04	0.04	0.22					0.34	1.00
Clearance Time (s)	3.0	3.0	3.0	3.0	4.0					4.0	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	3.0					4.0	
Lane Grp Cap (vph)	437	874	57	57	681					901	1442
v/s Ratio Prot	0.01	c0.06			c0.20					c0.19	
v/s Ratio Perm	0.04	0.35	c0.22	0.00						c0.13	0.04
v/c Ratio	0.17	1.48	5.40	0.03	0.90					0.96	0.04
Uniform Delay, d1	30.7	38.2	48.0	46.1	37.7					32.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00					0.66	1.00
Incremental Delay, d2	0.1	223.4	2019.6	0.1	17.5					3.5	0.1
Delay (s)	30.7	261.6	2067.6	46.2	55.2					25.0	0.1
Level of Service	C	F	F	D	E					C	A
Approach Delay (s)		567.7			55.2					25.0	
Approach LOS		F			E					C	

Intersection Summary

HCM Average Control Delay	316.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Appendix C-2:
Future Year 2035 No Build Level of Service Results



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑	↗		↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	1.00
Frt	1.00	0.97		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		1.00	1.00
Satd. Flow (prot)	1583	4426		1583	4537			3138	1417		3153	1417
Flt Permitted	0.11	1.00		0.95	1.00			0.51	1.00		0.60	1.00
Satd. Flow (perm)	177	4426		1583	4537			1623	1417		1896	1417
Volume (vph)	62	1489	332	73	1715	34	176	793	125	85	873	557
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	1567	349	77	1805	36	185	835	132	89	919	586
RTOR Reduction (vph)	0	38	0	0	2	0	0	0	82	0	0	6
Lane Group Flow (vph)	65	1878	0	77	1839	0	0	1020	50	0	1008	580
Turn Type	Perm		Prot		Perm		Perm	Perm	Perm	Perm		Perm
Protected Phases	6		5		2		8		4		4	
Permitted Phases	6						8		4		4	
Actuated Green, G (s)	37.6	37.6		6.4	48.0			33.5	33.5		33.5	33.5
Effective Green, g (s)	37.6	37.6		6.4	48.0			34.0	34.0		34.0	34.0
Actuated g/C Ratio	0.42	0.42		0.07	0.53			0.38	0.38		0.38	0.38
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	74	1849		113	2420			613	535		716	535
v/s Ratio Prot	c0.42		0.05		c0.41							
v/s Ratio Perm	0.37						c0.63		0.04		0.53	
v/c Ratio	0.88	1.02		0.68	0.76			2.40dl	0.09		1.41	1.08
Uniform Delay, d1	24.1	26.2		40.8	16.5			28.0	18.1		28.0	28.0
Progression Factor	1.56	1.62		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	48.9	19.2		15.6	2.3			306.0	0.3		191.8	63.5
Delay (s)	86.5	61.7		56.4	18.8			334.0	18.4		219.8	91.5
Level of Service	F	E		E	B			F	B		F	F
Approach Delay (s)	62.5		20.3				297.8				172.6	
Approach LOS	E		C				F				F	

Intersection Summary

HCM Average Control Delay	117.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	119.5%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: 6th St & Western Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00
Frbp, ped/bikes		1.00			0.99			1.00			1.00	0.83
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.99			0.99			0.99			1.00	0.85
Flt Protected		1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)		3126			3105			3136			3167	1171
Flt Permitted		1.00			1.00			1.00			1.00	1.00
Satd. Flow (perm)		3126			3105			3136			3167	1171
Volume (vph)	0	1037	60	0	1137	70	0	1456	51	0	1785	118
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1047	61	0	1148	71	0	1471	52	0	1803	119
RTOR Reduction (vph)	0	2	0	0	4	0	0	3	0	0	0	12
Lane Group Flow (vph)	0	1106	0	0	1215	0	0	1520	0	0	1803	107
Conf. Peds. (#/hr)	76		47	47		76	70		83	83		70
Conf. Bikes (#/hr)			7			7			12			9
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1424			1415			1429			1443	533
v/s Ratio Prot		0.35			c0.39			0.48			c0.57	
v/s Ratio Perm												0.09
v/c Ratio		0.78			0.86			1.06			1.25	0.20
Uniform Delay, d1		20.6			21.9			24.5			24.5	14.7
Progression Factor		1.00			1.00			0.64			1.00	1.00
Incremental Delay, d2		4.2			7.0			30.5			118.2	0.8
Delay (s)		24.9			28.9			46.2			142.7	15.5
Level of Service		C			C			D			F	B
Approach Delay (s)		24.9			28.9			46.2			134.8	
Approach LOS		C			C			D			F	

Intersection Summary

HCM Average Control Delay	68.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
3: Wilshire Blvd & Western Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑		↙	↑↑↑		↙	↑↑		↙	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.98		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	1.00		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4499		1583	4406		1583	3093		1583	3039	
Flt Permitted	0.14	1.00		0.14	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	228	4499		230	4406		230	3093		230	3039	
Volume (vph)	242	1296	42	119	1755	111	277	1076	55	196	1424	187
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	260	1394	45	128	1887	119	298	1157	59	211	1531	201
RTOR Reduction (vph)	0	4	0	0	7	0	0	4	0	0	12	0
Lane Group Flow (vph)	260	1435	0	128	1999	0	298	1212	0	211	1720	0
Conf. Peds. (#/hr)	529		124	124		529	153		349	349		153
Conf. Bikes (#/hr)			4			6			8			9
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.9	27.9		35.3	27.6		35.8	27.8		35.8	27.8	
Effective Green, g (s)	37.3	29.3		36.7	29.0		37.0	29.0		37.0	29.0	
Actuated g/C Ratio	0.41	0.33		0.41	0.32		0.41	0.32		0.41	0.32	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1465		210	1420		215	997		215	979	
v/s Ratio Prot	c0.11	0.32		0.05	c0.45		c0.12	0.39		0.09	c0.57	
v/s Ratio Perm	0.39			0.20			0.45			0.32		
v/c Ratio	1.21	0.98		0.61	1.41		1.39	1.22		0.98	1.76	
Uniform Delay, d1	23.2	30.1		20.0	30.5		43.2	30.5		43.1	30.5	
Progression Factor	1.93	0.91		0.92	0.96		1.14	1.17		1.61	1.44	
Incremental Delay, d2	112.5	11.7		2.1	185.2		182.4	100.0		14.2	341.2	
Delay (s)	157.2	39.1		20.5	214.5		231.8	135.7		83.7	385.3	
Level of Service	F	D		C	F		F	F		F	F	
Approach Delay (s)		57.1			202.9			154.6			352.5	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	198.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	138.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.97		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3118		1583	3056		1583	3158		1583	3157	
Flt Permitted	0.29	1.00		0.28	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	491	3118		472	3056		163	3158		163	3157	
Volume (vph)	57	594	68	64	492	149	42	1309	25	118	1589	34
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	64	667	76	72	553	167	47	1471	28	133	1785	38
RTOR Reduction (vph)	0	3	0	0	7	0	0	2	0	0	2	0
Lane Group Flow (vph)	64	740	0	72	713	0	47	1497	0	133	1821	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	40.4	40.4		40.4	40.4		40.3	40.3		40.3	40.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	224	1420		215	1392		74	1439		74	1438	
v/s Ratio Prot	c0.24			0.23			0.47			0.58		
v/s Ratio Perm	0.13			0.15			0.29			c0.82		
v/c Ratio	0.29	0.52		0.33	0.51		0.64	1.04		1.80	1.27	
Uniform Delay, d1	15.3	17.5		15.7	17.4		18.8	24.5		24.5	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.72	0.73	
Incremental Delay, d2	3.2	1.4		4.2	1.3		34.9	35.0		363.7	120.5	
Delay (s)	18.5	18.9		19.9	18.7		53.7	59.5		381.2	138.4	
Level of Service	B	B		B	B		D	E		F	F	
Approach Delay (s)	18.8			18.9			59.3			154.9		
Approach LOS	B			B			E			F		

Intersection Summary

HCM Average Control Delay	83.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↘↙		↖	↗↘↙		↖	↗↘	↗	↖	↗↘	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4528		1583	4505		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00		0.11	1.00		0.12	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	183	4528		192	4505		197	3167	1417	187	3167	1417
Volume (vph)	72	1951	65	42	1859	130	74	1111	48	138	1398	148
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	74	2011	67	43	1916	134	76	1145	49	142	1441	153
RTOR Reduction (vph)	0	3	0	0	8	0	0	0	28	0	0	55
Lane Group Flow (vph)	74	2075	0	43	2042	0	76	1145	21	142	1441	98
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	42.8	35.4		39.6	33.8		39.0	32.8	38.6	42.6	34.6	42.0
Effective Green, g (s)	43.8	36.4		40.6	34.8		40.0	33.8	39.6	43.6	35.6	43.0
Actuated g/C Ratio	0.44	0.36		0.41	0.35		0.40	0.34	0.40	0.44	0.36	0.43
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	184	1648		159	1568		165	1070	618	193	1127	666
v/s Ratio Prot	c0.03	c0.46		0.02	0.45		0.03	0.36	0.00	c0.06	c0.46	0.01
v/s Ratio Perm	0.15			0.09			0.16		0.01	0.26		0.06
v/c Ratio	0.40	1.26		0.27	1.30		0.46	1.07	0.03	0.74	1.28	0.15
Uniform Delay, d1	23.2	31.8		24.2	32.6		24.6	33.1	18.5	22.8	32.2	17.3
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	1.4	121.6		0.9	140.9		2.0	48.3	0.0	13.6	132.3	0.1
Delay (s)	24.6	153.4		25.1	173.5		26.7	81.4	18.5	36.4	164.5	17.4
Level of Service	C	F		C	F		C	F	B	D	F	B
Approach Delay (s)		149.0			170.4			75.7			141.1	
Approach LOS		F			F			E			F	

Intersection Summary

HCM Average Control Delay	140.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4511		1583	4507		1583	3138		1583	3059	
Flt Permitted	0.09	1.00		0.09	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	145	4511		145	4507		185	3138		185	3059	
Volume (vph)	161	1743	105	177	2068	138	119	1003	65	104	1190	350
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	169	1835	111	186	2177	145	125	1056	68	109	1253	368
RTOR Reduction (vph)	0	7	0	0	8	0	0	5	0	0	2	0
Lane Group Flow (vph)	169	1939	0	186	2314	0	125	1119	0	109	1619	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
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)	74	2306		74	2304		74	1255		74	1224	
v/s Ratio Prot		0.43			0.51			0.36			0.53	
v/s Ratio Perm	1.17			c1.28			c0.67			0.59		
v/c Ratio	2.28	0.84		2.51	1.00		1.69	0.89		1.47	1.32	
Uniform Delay, d1	22.0	18.9		22.0	22.0		27.0	25.2		27.0	27.0	
Progression Factor	1.49	1.54		1.26	1.26		1.00	1.00		1.00	1.00	
Incremental Delay, d2	603.8	2.5		684.7	6.7		361.3	9.8		272.1	151.1	
Delay (s)	636.7	31.6		712.3	34.3		388.3	35.0		299.1	178.1	
Level of Service	F	C		F	C		F	D		F	F	
Approach Delay (s)		80.0			84.6			70.4			185.7	
Approach LOS		E			F			E			F	
Intersection Summary												
HCM Average Control Delay			104.0			HCM Level of Service		F				
HCM Volume to Capacity ratio			2.15									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			129.0%			ICU Level of Service		H				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1583	4535		1583	4529			1638	1417		1576	
Flt Permitted	0.07	1.00		0.07	1.00			0.65	1.00		0.97	
Satd. Flow (perm)	110	4535		110	4529			1076	1417		1538	
Volume (vph)	32	1830	42	88	2473	80	66	123	141	13	112	77
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	41	2316	53	111	3130	101	84	156	178	16	142	97
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	3	0	0	0
Lane Group Flow (vph)	41	2367	0	111	3228	0	0	240	175	0	255	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	60.6	60.6		60.6	60.6			20.9	20.9		20.9	
Effective Green, g (s)	60.6	60.6		60.6	60.6			21.4	21.4		21.4	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24	0.24		0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	74	3054		74	3050			256	337		366	
v/s Ratio Prot		0.52			0.71							
v/s Ratio Perm	0.37			c1.01				c0.22	0.12		0.17	
v/c Ratio	0.55	0.78		1.50	1.06			0.94	0.52		0.70	
Uniform Delay, d1	7.7	10.0		14.7	14.7			33.6	29.8		31.3	
Progression Factor	1.00	1.00		1.09	1.12			1.00	1.00		1.00	
Incremental Delay, d2	26.7	2.0		255.6	30.6			39.2	1.4		5.7	
Delay (s)	34.3	12.0		271.6	47.1			72.8	31.2		37.0	
Level of Service	C	B		F	D			E	C		D	
Approach Delay (s)		12.4			54.6			55.1			37.0	
Approach LOS		B			D			E			D	

Intersection Summary

HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.98		1.00	1.00	0.97	0.91
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	0.97	0.85
Flt Protected	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	4360		1583	4550	2932	1168
Flt Permitted	1.00		0.09	1.00	0.96	1.00
Satd. Flow (perm)	4360		149	4550	2932	1168
Volume (vph)	1392	239	613	1861	671	556
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1450	249	639	1939	699	579
RTOR Reduction (vph)	26	0	0	0	24	3
Lane Group Flow (vph)	1673	0	639	1939	843	408
Conf. Peds. (#/hr)		128	128			83
Conf. Bikes (#/hr)						2
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	39.6		51.6	51.6	28.7	36.7
Effective Green, g (s)	40.6		52.6	52.6	29.4	37.4
Actuated g/C Ratio	0.45		0.58	0.58	0.33	0.42
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	1967		215	2659	958	537
v/s Ratio Prot	0.38		c0.26	0.43	c0.29	0.07
v/s Ratio Perm			c1.47			0.28
v/c Ratio	0.85		2.97	0.73	0.88	0.76
Uniform Delay, d1	22.0		23.6	13.5	28.6	22.5
Progression Factor	1.00		1.00	1.00	0.42	0.27
Incremental Delay, d2	4.9		899.9	1.8	7.4	4.4
Delay (s)	26.8		923.4	15.3	19.4	10.4
Level of Service	C		F	B	B	B
Approach Delay (s)	26.8			240.4	16.5	
Approach LOS	C			F	B	

Intersection Summary

HCM Average Control Delay	123.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.18		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 9: 8th Street & Crenshaw Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3094		1583	1667	1417	1583	3109		1583	3163	
Flt Permitted	0.37	1.00		0.45	1.00	1.00	0.29	1.00		0.15	1.00	
Satd. Flow (perm)	613	3094		752	1667	1417	490	3109		249	3163	
Volume (vph)	7	309	56	213	305	105	116	1080	150	26	792	7
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	7	322	58	222	318	109	121	1125	156	27	825	7
RTOR Reduction (vph)	0	0	0	0	0	67	0	12	0	0	1	0
Lane Group Flow (vph)	7	380	0	222	318	43	121	1269	0	27	831	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	184	928		226	500	425	299	1900		152	1933	
v/s Ratio Prot		0.12			0.19			c0.41			0.26	
v/s Ratio Perm	0.01			c0.30		0.03	0.25			0.11		
v/c Ratio	0.04	0.41		0.98	0.64	0.10	0.40	0.67		0.18	0.43	
Uniform Delay, d1	22.3	25.1		31.3	27.2	22.7	9.0	11.5		7.6	9.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.61	1.88		0.22	0.32	
Incremental Delay, d2	0.4	1.3		55.5	6.1	0.5	0.4	0.2		0.2	0.1	
Delay (s)	22.7	26.5		86.7	33.3	23.2	14.9	21.8		1.9	3.0	
Level of Service	C	C		F	C	C	B	C		A	A	
Approach Delay (s)		26.4			49.9			21.2			3.0	
Approach LOS		C			D			C			A	
Intersection Summary												
HCM Average Control Delay			22.7	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			90.0	Sum of lost time (s)				8.0				
Intersection Capacity Utilization			86.6%	ICU Level of Service				E				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗↖		↖	↗↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4503		1583	4536		1583	3152		1583	3167	1417
Flt Permitted	0.15	1.00		0.95	1.00		0.14	1.00		0.16	1.00	1.00
Satd. Flow (perm)	248	4503		1583	4536		226	3152		261	3167	1417
Volume (vph)	68	1709	127	140	2729	56	213	1240	38	60	1121	148
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	75	1878	140	154	2999	62	234	1363	42	66	1232	163
RTOR Reduction (vph)	0	9	0	0	3	0	0	2	0	0	0	112
Lane Group Flow (vph)	75	2009	0	154	3058	0	234	1403	0	66	1232	51
Turn Type	pm+pt			Prot			pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		7	4		3	8	8
Permitted Phases	2						4			8		8
Actuated Green, G (s)	31.3	26.0		11.1	30.9		39.5	29.4		30.6	24.5	24.5
Effective Green, g (s)	32.6	26.9		10.6	31.8		40.5	30.4		31.6	25.5	25.5
Actuated g/C Ratio	0.36	0.30		0.12	0.35		0.45	0.34		0.35	0.28	0.28
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1346		186	1603		268	1065		181	897	401
v/s Ratio Prot	0.03	0.45		c0.10	c0.67		c0.11	c0.45		0.02	0.39	
v/s Ratio Perm	0.13						0.29			0.10		0.04
v/c Ratio	0.43	1.49		0.83	1.91		0.87	1.32		0.36	1.37	0.13
Uniform Delay, d1	23.2	31.6		38.8	29.1		40.7	29.8		23.4	32.2	24.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.82	0.78	0.48
Incremental Delay, d2	1.7	225.6		25.1	410.9		25.4	149.5		1.2	174.7	0.6
Delay (s)	24.9	257.1		63.9	440.0		66.0	179.3		20.4	199.8	12.0
Level of Service	C			E			E			C		B
Approach Delay (s)	248.8			422.0			163.1			170.7		
Approach LOS	F			F			F			F		

Intersection Summary			
HCM Average Control Delay	284.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	125.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			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			0.98	1.00		0.99	1.00
Satd. Flow (prot)	1583	4524		1583	4534			1626	1417		1650	1417
Flt Permitted	0.09	1.00		0.09	1.00			0.98	1.00		0.99	1.00
Satd. Flow (perm)	146	4524		146	4534			1626	1417		1650	1417
Volume (vph)	22	1589	64	51	2252	55	142	144	20	34	132	10
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	23	1638	66	53	2322	57	146	148	21	35	136	10
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	16	0	0	9
Lane Group Flow (vph)	23	1704	0	53	2376	0	0	294	5	0	171	1
Turn Type	Perm			Perm			Split			Perm	Split	Perm
Protected Phases	6			2			4	4		4	3	3
Permitted Phases	6			2					4			3
Actuated Green, G (s)	43.7	43.7		43.7	43.7			19.0	19.0		10.4	10.4
Effective Green, g (s)	45.6	45.6		45.6	45.6			20.5	20.5		11.9	11.9
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.23	0.23		0.13	0.13
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	2292		74	2297			370	323		218	187
v/s Ratio Prot		0.38			c0.52			c0.18			c0.10	
v/s Ratio Perm	0.16			0.36				0.00				0.00
v/c Ratio	0.31	0.74		0.72	1.03			0.79	0.01		0.78	0.01
Uniform Delay, d1	13.0	17.6		17.2	22.2			32.8	26.9		37.8	33.9
Progression Factor	0.71	0.59		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	7.2	1.5		45.3	28.4			11.2	0.0		16.7	0.0
Delay (s)	16.3	11.8		62.5	50.6			43.9	26.9		54.5	33.9
Level of Service	B	B		E	D			D	C		D	C
Approach Delay (s)		11.9			50.8			42.8			53.4	
Approach LOS		B			D			D			D	

Intersection Summary

HCM Average Control Delay	35.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.98			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.96	1.00
Satd. Flow (prot)	1583	4509		1583	4478			1602			1606	1417
Flt Permitted	0.10	1.00		0.11	1.00			0.98			0.96	1.00
Satd. Flow (perm)	161	4509		185	4478			1602			1606	1417
Volume (vph)	92	1302	83	18	2042	241	79	126	44	316	101	352
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	94	1329	85	18	2084	246	81	129	45	322	103	359
RTOR Reduction (vph)	0	8	0	0	16	0	0	9	0	0	0	66
Lane Group Flow (vph)	94	1406	0	18	2314	0	0	246	0	0	425	293
Turn Type	Perm		Perm		Split		Split		Split		Perm	
Protected Phases	6		2		3		3		4		4	
Permitted Phases	6		2								4	
Actuated Green, G (s)	40.0	40.0		40.0	40.0			9.6			24.5	24.5
Effective Green, g (s)	41.5	41.5		41.5	41.5			11.0			25.5	25.5
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.12			0.28	0.28
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	74	2079		85	2065			196			455	401
v/s Ratio Prot		0.31			0.52			c0.15			c0.26	
v/s Ratio Perm	c0.59			0.10								0.21
v/c Ratio	1.27	0.68		0.21	1.12			1.26			0.93	0.73
Uniform Delay, d1	24.2	19.0		14.5	24.2			39.5			31.4	29.1
Progression Factor	1.00	1.00		1.39	1.17			1.00			1.00	1.00
Incremental Delay, d2	193.5	1.8		0.5	54.9			149.9			26.4	6.7
Delay (s)	217.7	20.8		20.7	83.4			189.4			57.8	35.9
Level of Service	F	C		C	F			F			E	D
Approach Delay (s)		33.1			82.9			189.4			47.8	
Approach LOS		C			F			F			D	

Intersection Summary

HCM Average Control Delay	67.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑		
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00		
Frbp, ped/bikes		0.99		1.00	1.00			0.98			0.99		
Flpb, ped/bikes		1.00		0.99	1.00			1.00			1.00		
Frt		0.99		1.00	1.00			0.93			0.95		
Flt Protected		1.00		0.95	1.00			0.99			1.00		
Satd. Flow (prot)		4227		1476	4265			1414			1477		
Flt Permitted		1.00		0.15	1.00			0.89			0.98		
Satd. Flow (perm)		4227		233	4265			1276			1457		
Volume (vph)	0	1319	70	44	2064	37	24	22	52	9	94	56	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	0	1403	74	47	2196	39	26	23	55	10	100	60	
RTOR Reduction (vph)	0	4	0	0	1	0	0	29	0	0	4	0	
Lane Group Flow (vph)	0	1473	0	47	2234	0	0	75	0	0	166	0	
Conf. Peds. (#/hr)	25		36	36		25	8		5	5		8	
Conf. Bikes (#/hr)			5			4							
Turn Type				Perm			Perm			Perm			
Protected Phases		6			2			8			4		
Permitted Phases				2			8			4			
Actuated Green, G (s)		66.4		66.4	66.4			16.1			16.1		
Effective Green, g (s)		65.9		65.9	65.9			16.1			16.1		
Actuated g/C Ratio		0.73		0.73	0.73			0.18			0.18		
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		3095		171	3123			228			261		
v/s Ratio Prot		0.35			c0.52								
v/s Ratio Perm				0.20				0.06			c0.11		
v/c Ratio		0.48		0.27	0.72			0.33			0.64		
Uniform Delay, d1		5.0		4.0	6.8			32.2			34.2		
Progression Factor		0.30		1.00	1.00			1.00			1.00		
Incremental Delay, d2		0.0		3.9	1.4			0.9			5.0		
Delay (s)		1.5		8.0	8.2			33.1			39.2		
Level of Service		A		A	A			C			D		
Approach Delay (s)		1.5			8.2			33.1			39.2		
Approach LOS		A			A			C			D		
Intersection Summary													
HCM Average Control Delay			7.7									HCM Level of Service	A
HCM Volume to Capacity ratio			0.70										
Actuated Cycle Length (s)			90.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			72.1%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑	↔	↔	↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00		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)	1490	2980	1333	1490	2971		1490	4262		1490	4213	
Flt Permitted	0.13	1.00	1.00	0.12	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	202	2980	1333	193	2971		216	4262		213	4213	
Volume (vph)	70	995	99	167	1679	34	90	1665	54	133	2200	267
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	74	1047	104	176	1767	36	95	1753	57	140	2316	281
RTOR Reduction (vph)	0	0	20	0	1	0	0	4	0	0	17	0
Lane Group Flow (vph)	74	1047	84	176	1802	0	95	1806	0	140	2580	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	35.5	30.0	36.5	38.5	31.5		34.5	28.0		35.5	28.5	
Effective Green, g (s)	36.5	31.0	37.5	39.5	32.5		35.5	29.0		36.5	29.5	
Actuated g/C Ratio	0.41	0.34	0.42	0.44	0.36		0.39	0.32		0.41	0.33	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	161	1026	615	186	1073		177	1373		186	1381	
v/s Ratio Prot	0.03	0.35	0.01	c0.07	c0.61		0.04	0.42		c0.06	c0.61	
v/s Ratio Perm	0.16		0.05	0.34			0.17			0.25		
v/c Ratio	0.46	1.02	0.14	0.95	1.68		0.54	1.32		0.75	1.87	
Uniform Delay, d1	41.7	29.5	16.2	20.2	28.8		41.4	30.5		42.2	30.2	
Progression Factor	0.61	0.74	0.57	1.00	1.00		1.56	0.36		1.75	1.48	
Incremental Delay, d2	1.3	27.7	0.1	50.1	309.7		0.3	142.4		1.6	391.0	
Delay (s)	26.9	49.5	9.3	70.3	338.5		64.7	153.2		75.5	435.8	
Level of Service	C	D	A	E	F		E	F		E	F	
Approach Delay (s)		44.7			314.6			148.8			417.4	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	268.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	137.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑	↔	↔	↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2980	1333	1490	2973		1490	4253		1490	4280	
Flt Permitted	0.11	1.00	1.00	0.10	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	179	2980	1333	161	2973		161	4253		161	4280	
Volume (vph)	22	1066	169	162	1516	26	88	1930	93	84	2255	10
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	1088	172	165	1547	27	90	1969	95	86	2301	10
RTOR Reduction (vph)	0	0	7	0	1	0	0	6	0	0	1	0
Lane Group Flow (vph)	22	1088	165	165	1573	0	90	2058	0	86	2310	0
Turn Type	Perm		Perm	pm+pt			Perm			Perm		
Protected Phases		8		7	4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	34.0	34.0	34.0	42.0	42.0		38.0	38.0		38.0	38.0	
Effective Green, g (s)	35.0	35.0	35.0	43.0	43.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.39	0.39	0.39	0.48	0.48		0.43	0.43		0.43	0.43	
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	70	1159	518	136	1420		70	1843		70	1855	
v/s Ratio Prot		0.37		0.05	c0.53			0.48			0.54	
v/s Ratio Perm	0.12		0.12	c0.53			c0.56			0.53		
v/c Ratio	0.31	0.94	0.32	1.21	1.11		1.29	1.12		1.23	1.25	
Uniform Delay, d1	19.1	26.5	19.2	21.6	23.5		25.5	25.5		25.5	25.5	
Progression Factor	0.84	0.91	0.80	1.00	1.00		1.00	1.00		2.03	2.00	
Incremental Delay, d2	7.3	10.9	1.0	145.6	59.2		202.2	60.7		114.1	110.9	
Delay (s)	23.5	34.9	16.3	167.2	82.7		227.7	86.2		165.8	161.9	
Level of Service	C	C	B	F	F		F	F		F	F	
Approach Delay (s)		32.2			90.7			92.1			162.1	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	103.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	132.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔		↔	↔↔↔		↔	↔↔↔	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.99			0.99		1.00	1.00		1.00	0.99	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2939			2941		1490	4275		1490	4239	
Flt Permitted		1.00			1.00		0.19	1.00		0.19	1.00	
Satd. Flow (perm)		2939			2941		302	4275		302	4239	
Volume (vph)	0	719	73	0	1238	119	59	1964	24	214	2163	156
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	726	74	0	1251	120	60	1984	24	216	2185	158
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	13	0
Lane Group Flow (vph)	0	800	0	0	1371	0	60	2006	0	216	2330	0
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		8		4		4		6		6		2
Permitted Phases		8		4		4		6		6		2
Actuated Green, G (s)		30.3		30.3		30.3		20.1	20.1	20.1		20.1
Effective Green, g (s)		31.2		31.2		31.2		20.8	20.8	20.8		20.8
Actuated g/C Ratio		0.52		0.52		0.52		0.35	0.35	0.35		0.35
Clearance Time (s)		4.9		4.9		4.9		4.7	4.7	4.7		4.7
Vehicle Extension (s)		3.0		3.0		3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		1528		1529		1529		105	1482	105		1470
v/s Ratio Prot		0.27		0.47		0.47		0.47	0.47	0.47		0.55
v/s Ratio Perm								0.20				0.72
v/c Ratio		0.52		0.90		0.90		0.57	1.35	2.06		1.58
Uniform Delay, d1		9.5		13.0		13.0		16.0	19.6	19.6		19.6
Progression Factor		1.00		1.00		1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.3		7.3		7.3		20.6	163.6	507.0		266.5
Delay (s)		9.8		20.2		20.2		36.6	183.2	526.6		286.1
Level of Service		A		C		C		D	F	F		F
Approach Delay (s)		9.8		20.2		20.2		179.0				306.4
Approach LOS		A		C		C		F				F

Intersection Summary

HCM Average Control Delay	175.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		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	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4109		1489	4242		1490	4232		1490	4139	
Flt Permitted	0.14	1.00		0.13	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	216	4109		206	4242		202	4232		1490	4139	
Volume (vph)	98	1214	192	142	1881	70	166	1800	103	192	1721	253
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	99	1226	194	143	1900	71	168	1818	104	194	1738	256
RTOR Reduction (vph)	0	24	0	0	4	0	0	7	0	0	22	0
Lane Group Flow (vph)	99	1396	0	143	1967	0	168	1915	0	194	1972	0
Confl. Peds. (#/hr)	86		120	120		86	89		48	48		89
Confl. Bikes (#/hr)			8			5			3			4
Turn Type	pm+pt			pm+pt			pm+pt			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					
Actuated Green, G (s)	35.0	29.0		38.0	30.5		38.5	31.0		7.5	31.0	
Effective Green, g (s)	34.5	29.0		37.5	30.5		38.0	31.0		7.0	31.0	
Actuated g/C Ratio	0.38	0.32		0.42	0.34		0.42	0.34		0.08	0.34	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	161	1324		186	1438		185	1458		116	1426	
v/s Ratio Prot	0.04	0.34		c0.06	c0.46		0.07	0.45		c0.13	c0.48	
v/s Ratio Perm	0.20			0.26			0.31					
v/c Ratio	0.61	1.05		0.77	1.37		0.91	1.31		1.67	1.38	
Uniform Delay, d1	42.5	30.5		20.3	29.8		43.1	29.5		41.5	29.5	
Progression Factor	1.38	0.70		1.40	0.82		1.89	0.91		1.00	1.00	
Incremental Delay, d2	6.4	39.8		12.4	168.7		26.6	143.7		337.2	176.9	
Delay (s)	65.2	61.1		40.9	193.1		108.1	170.5		378.7	206.4	
Level of Service	E	E		D	F		F	F		F	F	
Approach Delay (s)		61.4			182.8			165.5			221.6	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	165.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			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		0.94			0.98		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1454			1510		1490	4271		1490	4255	
Flt Permitted		0.92			0.88		0.08	1.00		0.08	1.00	
Satd. Flow (perm)		1354			1341		119	4271		119	4255	
Volume (vph)	23	60	58	94	199	48	79	1984	26	9	1999	73
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	24	62	60	97	205	49	81	2045	27	9	2061	75
RTOR Reduction (vph)	0	1	0	0	1	0	0	1	0	0	3	0
Lane Group Flow (vph)	0	145	0	0	350	0	81	2071	0	9	2133	0
Confl. Peds. (#/hr)	6		10	10		6	21		10	10		5
Confl. Bikes (#/hr)			2			2			2			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		28.3			28.3		52.2	52.2		52.2	52.2	
Effective Green, g (s)		29.3			29.3		52.7	52.7		52.7	52.7	
Actuated g/C Ratio		0.33			0.33		0.59	0.59		0.59	0.59	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		441			437		70	2501		70	2492	
v/s Ratio Prot								0.48			0.50	
v/s Ratio Perm		0.11			c0.26		c0.68			0.08		
v/c Ratio		0.33			0.80		1.16	0.83		0.13	0.86	
Uniform Delay, d1		22.9			27.7		18.6	15.0		8.4	15.5	
Progression Factor		1.00			1.00		1.00	1.00		0.46	0.73	
Incremental Delay, d2		0.4			10.1		156.4	3.3		0.3	0.4	
Delay (s)		23.4			37.8		175.0	18.3		4.2	11.8	
Level of Service		C			D		F	B		A	B	
Approach Delay (s)		23.4			37.8			24.2			11.7	
Approach LOS		C			D			C			B	

Intersection Summary

HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4257		1490	4250		1490	4269		1490	4223	
Flt Permitted	0.12	1.00		0.11	1.00		0.95	1.00		0.12	1.00	
Satd. Flow (perm)	190	4257		169	4250		1490	4269		190	4223	
Volume (vph)	102	1413	59	94	1823	97	98	1920	41	157	1964	201
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	109	1503	63	100	1939	103	104	2043	44	167	2089	214
RTOR Reduction (vph)	0	4	0	0	6	0	0	2	0	0	11	0
Lane Group Flow (vph)	109	1562	0	100	2036	0	104	2085	0	167	2292	0
Turn Type	Perm		pm+pt			Prot		pm+pt				
Protected Phases	8		7		4		5		1			6
Permitted Phases	8		4					2		6		
Actuated Green, G (s)	31.7	31.7		43.5	43.5		10.0	29.3		44.1	31.7	
Effective Green, g (s)	33.1	33.1		44.9	44.9		10.0	30.7		45.5	33.1	
Actuated g/C Ratio	0.33	0.33		0.45	0.45		0.10	0.31		0.46	0.33	
Clearance Time (s)	5.4	5.4		4.0	5.4		4.0	5.4		4.0	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		4.0	3.0	
Lane Grp Cap (vph)	63	1409		179	1908		149	1311		248	1398	
v/s Ratio Prot		0.37		0.04	c0.48		0.07			c0.08	c0.54	
v/s Ratio Perm	c0.58			0.21				0.49		0.22		
v/c Ratio	1.73	1.11		0.56	1.07		0.70	1.59		0.67	1.64	
Uniform Delay, d1	33.5	33.5		21.7	27.6		43.5	34.6		22.2	33.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	386.2	59.6		3.7	41.3		13.3	269.3		7.7	290.9	
Delay (s)	419.6	93.0		25.4	68.8		56.9	303.9		29.9	324.4	
Level of Service	F	F		C	E		E	F		C	F	
Approach Delay (s)		114.3			66.8			292.2			304.5	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	203.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	122.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑			↑↑↑			↖	↗		↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	1.00			0.99			1.00	0.97		0.98	
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00		0.99	
Frt	1.00	1.00			1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00			1.00			1.00	1.00		0.98	
Satd. Flow (prot)	1490	4246			4208			1558	1287		1413	
Flt Permitted	0.06	1.00			1.00			0.97	1.00		0.86	
Satd. Flow (perm)	98	4246			4208			1519	1287		1235	
Volume (vph)	86	1216	35	0	2143	71	8	70	36	61	31	72
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	89	1254	36	0	2209	73	8	72	37	63	32	74
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	30	0	2	0
Lane Group Flow (vph)	89	1288	0	0	2279	0	0	80	7	0	167	0
Conf. Peds. (#/hr)	151		56	56		151	25		19	19		25
Conf. Bikes (#/hr)			4			7			1			1
Turn Type	Perm			Perm				Perm		Perm		
Protected Phases	6			2				8		4		
Permitted Phases	6							8		4		
Actuated Green, G (s)	64.8	64.8			64.8			17.7	17.7		17.7	
Effective Green, g (s)	64.3	64.3			64.3			17.7	17.7		17.7	
Actuated g/C Ratio	0.71	0.71			0.71			0.20	0.20		0.20	
Clearance Time (s)	3.5	3.5			3.5			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)	70	3034			3006			299	253		243	
v/s Ratio Prot		0.30			0.54							
v/s Ratio Perm	c0.91							0.05	0.01	c0.13		
v/c Ratio	1.27	0.42			0.76			0.27	0.03	0.69		
Uniform Delay, d1	12.9	5.3			8.0			30.7	29.2	33.6		
Progression Factor	1.53	1.21			1.02			1.00	1.00	1.00		
Incremental Delay, d2	180.5	0.3			0.2			0.5	0.0	7.8		
Delay (s)	200.2	6.7			8.3			31.1	29.3	41.3		
Level of Service	F	A			A			C	C	D		
Approach Delay (s)		19.2			8.3			30.5		41.3		
Approach LOS		B			A			C		D		

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑	↗		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.94			0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1583	4543		1583	4300	1218		1559			1561	
Flt Permitted	0.08	1.00		0.14	1.00	1.00		0.90			0.68	
Satd. Flow (perm)	128	4543		229	4300	1218		1404			1066	
Volume (vph)	45	1224	12	70	1826	139	26	179	170	116	251	249
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	52	1407	14	80	2099	160	30	206	195	133	289	286
RTOR Reduction (vph)	0	1	0	0	0	68	0	27	0	0	5	0
Lane Group Flow (vph)	52	1420	0	80	2099	92	0	404	0	0	703	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	6			2				8			4	
Permitted Phases	6			2			8				4	
Actuated Green, G (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Effective Green, g (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Actuated g/C Ratio	0.58	0.58		0.58	0.58	0.58		0.33			0.33	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	74	2625		132	2484	704		468			355	
v/s Ratio Prot	0.31			c0.49								
v/s Ratio Perm	0.41			0.35		0.08		0.29			c0.66	
v/c Ratio	0.70	0.54		0.61	0.85	0.13		0.86			1.98	
Uniform Delay, d1	13.5	11.7		12.3	15.7	8.7		28.1			30.0	
Progression Factor	1.98	2.17		1.05	1.11	1.46		1.00			1.00	
Incremental Delay, d2	41.2	0.8		12.8	2.5	0.3		15.1			451.6	
Delay (s)	67.9	26.1		25.7	19.9	13.0		43.1			481.6	
Level of Service	E	C		C	B	B		D			F	
Approach Delay (s)	27.6			19.6				43.1			481.6	
Approach LOS	C			B				D			F	

Intersection Summary

HCM Average Control Delay	90.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	124.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 22: Wilshire Blvd & Spaulding Ave



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.91	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	4541		1583	4550	1489	
Flt Permitted	1.00		0.17	1.00	0.98	
Satd. Flow (perm)	4541		292	4550	1489	
Volume (vph)	1198	15	106	2200	13	29
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1261	16	112	2316	14	31
RTOR Reduction (vph)	1	0	0	0	22	0
Lane Group Flow (vph)	1276	0	112	2316	23	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2790		179	2796	442	
v/s Ratio Prot	0.28			c0.51	c0.02	
v/s Ratio Perm			0.38			
v/c Ratio	0.46		0.63	0.83	0.05	
Uniform Delay, d1	9.3		10.9	13.6	22.6	
Progression Factor	1.00		1.20	1.31	1.00	
Incremental Delay, d2	0.5		4.6	0.9	0.0	
Delay (s)	9.8		17.7	18.7	22.7	
Level of Service	A		B	B	C	
Approach Delay (s)	9.8			18.6	22.7	
Approach LOS	A			B	C	

Intersection Summary

HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
23: Beverly Blvd & Fairfax Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
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	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	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	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3128	3128	
Flt Permitted	0.12	1.00	1.00	0.12	1.00	1.00	0.14	1.00	1.00	0.12	1.00	1.00	
Satd. Flow (perm)	208	3167	1417	201	3167	1417	238	3167	1417	208	3128	3128	
Volume (vph)	81	915	104	207	1589	122	93	953	113	144	1375	123	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	83	934	106	211	1621	124	95	972	115	147	1403	126	
RTOR Reduction (vph)	0	0	26	0	0	7	0	0	79	0	7	0	
Lane Group Flow (vph)	83	934	80	211	1621	117	95	972	36	147	1522	0	
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt			
Protected Phases		6		5		2	7		8		7	4	
Permitted Phases	6		6	2		2	8		8		4		
Actuated Green, G (s)	31.0	31.0	31.0	43.0	43.0	48.7	28.1	28.1	28.1	37.0	37.0	37.0	
Effective Green, g (s)	32.0	32.0	32.0	44.0	44.0	50.0	28.0	28.0	28.0	38.0	38.0	38.0	
Actuated g/C Ratio	0.36	0.36	0.36	0.49	0.49	0.56	0.31	0.31	0.31	0.42	0.42	0.42	
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	5.0	
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	4.5	
Lane Grp Cap (vph)	74	1126	504	221	1548	850	74	985	441	179	1321	1321	
v/s Ratio Prot		0.29		0.08	c0.51	0.01		0.31		0.05	c0.49		
v/s Ratio Perm	0.40		0.06	0.38		0.07	c0.40		0.03	0.29			
v/c Ratio	1.12	0.83	0.16	0.95	1.05	0.14	1.28	0.99	0.08	0.82	1.15	1.15	
Uniform Delay, d1	29.0	26.5	19.8	19.0	23.0	9.6	31.0	30.8	21.9	20.6	26.0	26.0	
Progression Factor	1.00	1.00	1.00	2.12	0.31	0.36	0.50	0.49	0.13	0.82	0.45	0.45	
Incremental Delay, d2	141.5	7.1	0.7	9.7	23.3	0.0	136.9	6.1	0.0	2.9	69.4	69.4	
Delay (s)	170.5	33.6	20.5	50.0	30.4	3.4	152.4	21.1	3.0	19.7	81.0	81.0	
Level of Service	F	C	C	D	C	A	F	C	A	B	F	F	
Approach Delay (s)		42.5			30.8			29.9			75.7		
Approach LOS		D			C			C			E		
Intersection Summary													
HCM Average Control Delay			45.5									HCM Level of Service	D
HCM Volume to Capacity ratio			1.16										
Actuated Cycle Length (s)			90.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			125.9%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3144		1583	3167	1417	1583	3118		1583	3140	
Flt Permitted	0.11	1.00		0.24	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	190	3144		399	3167	1417	230	3118		202	3140	
Volume (vph)	105	655	33	143	1627	180	80	1042	119	212	1421	85
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	117	728	37	159	1808	200	89	1158	132	236	1579	94
RTOR Reduction (vph)	0	4	0	0	0	28	0	9	0	0	5	0
Lane Group Flow (vph)	117	761	0	159	1808	172	89	1281	0	236	1668	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	38.9	33.1		38.9	33.1	38.9	27.1	27.1		36.1	36.1	
Effective Green, g (s)	40.0	35.0		40.0	35.0	40.0	29.0	29.0		38.0	38.0	
Actuated g/C Ratio	0.44	0.39		0.44	0.39	0.44	0.32	0.32		0.42	0.42	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	162	1223		243	1232	693	74	1005		162	1326	
v/s Ratio Prot	c0.04	0.24		0.04	c0.57	0.01		0.41		0.08	c0.53	
v/s Ratio Perm	0.28			0.25		0.11	0.39			c0.53		
v/c Ratio	0.72	0.62		0.65	1.47	0.25	1.20	1.27		1.46	1.26	
Uniform Delay, d1	43.3	22.2		17.5	27.5	15.6	30.5	30.5		44.7	26.0	
Progression Factor	1.00	1.00		0.62	0.82	0.74	1.44	1.45		0.91	0.55	
Incremental Delay, d2	14.7	2.4		3.1	212.6	0.1	166.8	130.9		215.7	118.1	
Delay (s)	58.0	24.6		14.0	235.1	11.6	210.8	175.1		256.5	132.3	
Level of Service	E	C		B	F	B	F	F		F	F	
Approach Delay (s)		29.0			198.2			177.4			147.7	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	154.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
25: 6th St & Fairfax Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.94	1.00	1.00	0.91	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1555	1609		3072	1667	1337	1583	3167	1287	1552	3106	
Flt Permitted	0.36	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.26	1.00	
Satd. Flow (perm)	581	1609		3072	1667	1337	142	3167	1287	424	3106	
Volume (vph)	22	264	65	322	510	110	10	818	92	55	1392	96
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	23	275	68	335	531	115	10	852	96	57	1450	100
RTOR Reduction (vph)	0	10	0	0	0	64	0	0	0	0	6	0
Lane Group Flow (vph)	23	333	0	335	531	51	10	852	96	57	1544	0
Conf. Peds. (#/hr)	28		6	6		28	43		36	36		43
Conf. Bikes (#/hr)			4			1			5			7
Turn Type	Perm			Prot		Perm	Perm		pm+ov	Perm		
Protected Phases		8		7	4			6	7		2	
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	20.2	20.2		10.0	34.2	34.2	46.2	46.2	56.2	46.2	46.2	
Effective Green, g (s)	21.0	21.0		10.0	35.0	35.0	47.0	47.0	57.0	47.0	47.0	
Actuated g/C Ratio	0.23	0.23		0.11	0.39	0.39	0.52	0.52	0.63	0.52	0.52	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	136	375		341	648	520	74	1654	872	221	1622	
v/s Ratio Prot		0.21		c0.11	c0.32			0.27	0.01		c0.50	
v/s Ratio Perm	0.04					0.04	0.07		0.06	0.13		
v/c Ratio	0.17	0.89		0.98	0.82	0.10	0.14	0.52	0.11	0.26	0.95	
Uniform Delay, d1	27.5	33.4		39.9	24.7	17.5	11.1	14.1	6.5	11.9	20.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.29	0.25	0.21	0.21	0.42	
Incremental Delay, d2	2.7	25.3		43.7	11.1	0.4	0.3	0.1	0.0	0.3	1.8	
Delay (s)	30.2	58.7		83.6	35.8	17.9	3.5	3.6	1.4	2.7	10.3	
Level of Service	C	E		F	D	B	A	A	A	A	B	
Approach Delay (s)		56.9			50.0			3.4			10.0	
Approach LOS		E			D			A			B	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.88
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4490		1579	4507		1583	3082		1583	3167	1252
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	227	4490		237	4507		222	3082		1583	3167	1252
Volume (vph)	139	995	40	100	1941	40	225	1141	79	159	1596	298
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	148	1059	43	106	2065	43	239	1214	84	169	1698	317
RTOR Reduction (vph)	0	5	0	0	2	0	0	5	0	0	0	121
Lane Group Flow (vph)	148	1097	0	106	2106	0	239	1293	0	169	1698	196
Conf. Peds. (#/hr)	227		147	147		227	96		135	135		96
Conf. Bikes (#/hr)			2			6			8			6
Turn Type	pm+pt			pm+pt			pm+pt			Prot		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					4
Actuated Green, G (s)	35.2	28.4		32.4	27.0		35.8	29.0		10.8	33.0	33.0
Effective Green, g (s)	35.4	29.4		32.6	28.0		36.0	30.0		10.0	34.0	34.0
Actuated g/C Ratio	0.39	0.33		0.36	0.31		0.40	0.33		0.11	0.38	0.38
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	180	1467		154	1402		180	1027		176	1196	473
v/s Ratio Prot	c0.05	0.24		0.04	c0.47		c0.09	0.42		0.11	c0.54	
v/s Ratio Perm	0.27			0.21			0.44					0.16
v/c Ratio	0.82	0.75		0.69	1.50		1.33	1.26		0.96	1.42	0.41
Uniform Delay, d1	43.2	27.0		20.7	31.0		44.2	30.0		39.8	28.0	20.7
Progression Factor	1.18	1.16		1.00	1.00		1.52	0.87		0.84	1.30	1.91
Incremental Delay, d2	19.4	2.6		12.1	229.7		174.4	122.8		39.9	191.7	1.5
Delay (s)	70.5	33.8		32.8	260.7		241.6	148.8		73.4	228.0	41.0
Level of Service	E	C		C	F		F	F		E	F	D
Approach Delay (s)		38.2			249.8			163.2			188.9	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	175.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.98	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Frt			0.86	1.00	0.93	0.85		0.98		1.00	1.00	
Flt Protected			1.00	0.95	0.97	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1412	1502	1349	1303		3073		1583	3167	
Flt Permitted			1.00	0.95	0.97	1.00		1.00		0.12	1.00	
Satd. Flow (perm)			1412	1502	1349	1303		3073		202	3167	
Volume (vph)	0	0	23	187	0	220	0	1159	176	125	1204	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	24	197	0	232	0	1220	185	132	1267	0
RTOR Reduction (vph)	0	0	23	0	38	126	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	1	121	109	35	0	1394	0	132	1267	0
Conf. Peds. (#/hr)	11		1	1		11	8		23	23		8
Conf. Bikes (#/hr)						5			5			1
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			2.2	18.7	18.7	18.7		54.7		54.7	54.7	
Effective Green, g (s)			3.1	19.6	19.6	19.6		55.3		55.3	55.3	
Actuated g/C Ratio			0.03	0.22	0.22	0.22		0.61		0.61	0.61	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			49	327	294	284		1888		124	1946	
v/s Ratio Prot								0.45			0.40	
v/s Ratio Perm			c0.00	c0.08	0.08	0.03				c0.65		
v/c Ratio			0.02	0.37	0.37	0.12		0.74		1.06	0.65	
Uniform Delay, d1			42.0	29.9	29.9	28.3		12.2		17.4	11.1	
Progression Factor			1.00	1.00	1.00	1.00		1.00		1.53	0.87	
Incremental Delay, d2			0.1	0.7	0.8	0.2		2.6		43.4	0.2	
Delay (s)			42.1	30.7	30.7	28.5		14.9		69.9	9.8	
Level of Service			D	C	C	C		B		E	A	
Approach Delay (s)		42.1			29.9			14.9			15.5	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM Average Control Delay			17.3									HCM Level of Service B
HCM Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			76.0%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↔	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.99			0.96		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4491			4357		1583	5733			5733	
Flt Permitted		1.00			1.00		0.17	1.00			1.00	
Satd. Flow (perm)		4491			4357		284	5733			5733	
Volume (vph)	0	1441	138	0	1816	714	207	1430	0	0	1371	0
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1456	139	0	1834	721	209	1444	0	0	1385	0
RTOR Reduction (vph)	0	12	0	0	71	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1583	0	0	2484	0	209	1444	0	0	1385	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1033			1002		67	1347			1347	
v/s Ratio Prot		0.35			c0.57			0.25			0.24	
v/s Ratio Perm							c0.74					
v/c Ratio		1.53			2.48		3.12	1.07			1.03	
Uniform Delay, d1		38.5			38.5		38.2	38.2			38.2	
Progression Factor		0.70			1.00		1.00	1.00			0.58	
Incremental Delay, d2		240.2			668.6		991.8	46.3			16.1	
Delay (s)		267.2			707.1		1030.0	84.6			38.2	
Level of Service		F			F		F	F			D	
Approach Delay (s)		267.2			707.1			204.1			38.2	
Approach LOS		F			F			F			D	
Intersection Summary												
HCM Average Control Delay		364.9			HCM Level of Service		F					
HCM Volume to Capacity ratio		2.81										
Actuated Cycle Length (s)		100.0			Sum of lost time (s)		53.5					
Intersection Capacity Utilization		102.1%			ICU Level of Service		G					
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↗		↘	↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3166		1583	3138	
Flt Permitted	0.17	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	284	5733	1417		4550	1417		3166		1583	3138	
Volume (vph)	107	1082	40	0	1847	331	0	915	2	245	1223	79
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	110	1115	41	0	1904	341	0	943	2	253	1261	81
RTOR Reduction (vph)	0	0	31	0	0	194	0	0	0	0	5	0
Lane Group Flow (vph)	110	1115	10	0	1904	147	0	945	0	253	1337	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	67	1347	333		1069	333		1029		79	1020	
v/s Ratio Prot		0.19			c0.42			0.30		c0.16	c0.43	
v/s Ratio Perm	0.39		0.01			0.10						
v/c Ratio	1.64	0.83	0.03		1.78	0.44		0.92		3.20	1.31	
Uniform Delay, d1	38.2	36.3	29.5		38.2	32.7		32.5		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.98	1.28		0.19		1.00	1.00	
Incremental Delay, d2	346.1	6.0	0.2		351.8	0.4		7.6		1023.2	147.1	
Delay (s)	384.4	42.3	29.6		389.2	42.2		13.8		1070.7	180.8	
Level of Service	F	D	C		F	D		B		F	F	
Approach Delay (s)		71.6			336.5			13.8			322.0	
Approach LOS		E			F			B			F	

Intersection Summary			
HCM Average Control Delay	226.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	105.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4542		1583	4549		1583	3167			3044	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4542		290	4549		1583	3167			3044	
Volume (vph)	23	1563	19	36	1812	2	55	896	0	0	901	314
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	23	1595	19	37	1849	2	56	914	0	0	919	320
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	34	0
Lane Group Flow (vph)	23	1612	0	37	1851	0	56	914	0	0	1205	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1045		67	1046		79	1029			989	
v/s Ratio Prot		0.36			c0.41		c0.04	0.29			c0.40	
v/s Ratio Perm	0.08			0.13								
v/c Ratio	0.34	1.54		0.55	1.77		0.71	0.89			1.22	
Uniform Delay, d1	32.2	38.5		34.0	38.5		46.8	32.0			33.8	
Progression Factor	1.00	1.00		0.71	0.69		1.00	1.00			0.28	
Incremental Delay, d2	13.4	249.2		2.9	346.7		25.1	11.3			99.0	
Delay (s)	45.6	287.7		26.9	373.2		71.9	43.4			108.5	
Level of Service	D	F		C	F		E	D			F	
Approach Delay (s)		284.3			366.4			45.0			108.5	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	232.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕	↖	↗	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3124		1583	3148		1583	3167	1417	1583	3167	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	222	3124		222	3148		1583	3167	1417	1583	3167	1417
Volume (vph)	70	914	91	124	1550	62	148	925	146	43	857	170
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	72	942	94	128	1598	64	153	954	151	44	884	175
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	80	0	0	27
Lane Group Flow (vph)	72	1027	0	128	1659	0	153	954	71	44	884	148
Turn Type	Perm			Perm			Prot		Perm	Prot		Perm
Protected Phases	6			2			3	8		7		4
Permitted Phases	6			2					8			4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		10.0	41.6	41.6	5.4	37.0	37.0
Effective Green, g (s)	30.0	30.0		30.0	30.0		10.0	42.6	42.6	5.4	38.0	38.0
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.11	0.47	0.47	0.06	0.42	0.42
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	74	1041		74	1049		176	1499	671	95	1337	598
v/s Ratio Prot		0.33			0.53		c0.10	c0.30		0.03	0.28	
v/s Ratio Perm	0.32			c0.58					0.05			0.10
v/c Ratio	0.97	0.99		1.73	1.58		0.87	0.64	0.11	0.46	0.66	0.25
Uniform Delay, d1	29.6	29.8		30.0	30.0		39.4	17.9	13.1	40.9	20.8	16.8
Progression Factor	0.53	0.54		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.5	5.9		378.4	266.1		33.6	2.1	0.3	3.5	2.6	1.0
Delay (s)	41.1	21.9		408.4	296.1		73.0	19.9	13.5	44.4	23.4	17.8
Level of Service	D	C		F	F		E	B	B	D	C	B
Approach Delay (s)		23.2			304.2			25.6			23.4	
Approach LOS		C			F			C			C	

Intersection Summary

HCM Average Control Delay	119.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑			↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	1.00			0.96			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	4503		1583	4543			3047			3067	
Flt Permitted	0.09	1.00		0.15	1.00			1.00			0.65	
Satd. Flow (perm)	152	4503		256	4543			3047			1996	
Volume (vph)	60	1086	81	288	2068	21	0	522	176	140	911	222
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	1168	87	310	2224	23	0	561	189	151	980	239
RTOR Reduction (vph)	0	9	0	0	1	0	0	25	0	0	1	0
Lane Group Flow (vph)	65	1246	0	310	2246	0	0	725	0	0	1369	0
Turn Type	Perm		Perm				Perm					
Protected Phases	6		2				8					
Permitted Phases	6		2				4					
Actuated Green, G (s)	42.3	42.3		42.3	42.3			36.0			36.0	
Effective Green, g (s)	44.0	44.0		44.0	44.0			38.0			38.0	
Actuated g/C Ratio	0.49	0.49		0.49	0.49			0.42			0.42	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	74	2201		125	2221			1287			843	
v/s Ratio Prot	0.28		0.49				0.24					
v/s Ratio Perm	0.43		c1.21				c0.69					
v/c Ratio	0.88	0.57		2.48	1.01			0.56			1.62	
Uniform Delay, d1	20.6	16.3		23.0	23.0			19.7			26.0	
Progression Factor	0.42	0.49		0.61	0.53			1.00			1.00	
Incremental Delay, d2	37.8	0.4		668.2	8.8			0.6			286.2	
Delay (s)	46.5	8.4		682.2	21.0			20.3			312.2	
Level of Service	D	A		F	C			C			F	
Approach Delay (s)	10.3		101.2				20.3					
Approach LOS	B		F				C					

Intersection Summary

HCM Average Control Delay	119.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.08		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	129.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4475		1583	4477		1583	4472		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	215	4475		215	4477		1583	4472		1583	4550	1417
Volume (vph)	53	1142	141	117	1721	205	520	1272	165	268	1135	186
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	57	1228	152	126	1851	220	559	1368	177	288	1220	200
RTOR Reduction (vph)	0	17	0	0	16	0	0	18	0	0	0	3
Lane Group Flow (vph)	57	1363	0	126	2055	0	559	1527	0	288	1220	197
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	29.0	29.0		29.0	29.0		14.0	31.0		15.0	31.0	31.0
Effective Green, g (s)	31.0	31.0		31.0	31.0		15.0	32.0		15.0	32.0	32.0
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.17	0.36		0.17	0.36	0.36
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1541		74	1542		264	1590		264	1618	504
v/s Ratio Prot		0.30			0.46		c0.35			0.18	0.27	
v/s Ratio Perm	0.27			c0.59			c0.34					0.14
v/c Ratio	0.77	0.88		1.70	1.33		2.12	0.96		1.09	0.75	0.39
Uniform Delay, d1	26.3	27.8		29.5	29.5		37.5	28.4		37.5	25.5	21.7
Progression Factor	1.00	1.00		0.45	0.43		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	53.7	7.8		321.4	150.0		515.4	14.9		81.8	3.3	2.3
Delay (s)	80.0	35.6		334.7	162.8		552.9	43.3		119.3	28.8	24.0
Level of Service	F	D		F	F		F	D		F	C	C
Approach Delay (s)		37.4			172.7			178.7			43.5	
Approach LOS		D			F			F			D	

Intersection Summary

HCM Average Control Delay	118.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1583	4529		1564	4522			1592			1657	1364
Flt Permitted	0.06	1.00		0.16	1.00			0.94			0.97	1.00
Satd. Flow (perm)	98	4529		268	4522			1505			1611	1364
Volume (vph)	84	1214	21	26	2046	47	27	165	48	17	200	102
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	93	1349	23	29	2273	52	30	183	53	19	222	113
RTOR Reduction (vph)	0	2	0	0	2	0	0	9	0	0	0	7
Lane Group Flow (vph)	93	1370	0	29	2323	0	0	257	0	0	241	106
Confl. Peds. (#/hr)	47		44	44		47	18		31	31		18
Confl. Bikes (#/hr)			3			2			4			1
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	67	3080		182	3075			361			387	327
v/s Ratio Prot		0.30			0.51							
v/s Ratio Perm	c0.95			0.11				c0.17			0.15	0.08
v/c Ratio	1.39	0.44		0.16	0.76			0.71			0.62	0.32
Uniform Delay, d1	16.0	7.3		5.7	10.5			34.8			34.0	31.3
Progression Factor	0.78	0.39		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	206.1	0.2		1.9	1.8			11.3			7.4	2.6
Delay (s)	218.5	3.0		7.6	12.3			46.1			41.3	33.9
Level of Service	F	A		A	B			D			D	C
Approach Delay (s)		16.7			12.2			46.1			39.0	
Approach LOS		B			B			D			D	

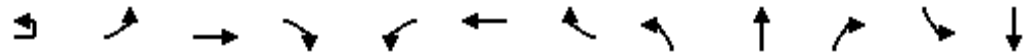
Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑		↙↗	↑↑↗		↙↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.91	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	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	0.99		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)	1583	3167	1295	1571	3111		3072	4448		3072	4435	
Flt Permitted	0.11	1.00	1.00	0.31	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	187	3167	1295	519	3111		3072	4448		3072	4435	
Volume (vph)	193	478	43	307	1317	97	176	1318	90	22	2194	249
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	210	520	47	334	1432	105	191	1433	98	24	2385	271
RTOR Reduction (vph)	0	0	33	0	4	0	0	6	0	0	12	0
Lane Group Flow (vph)	210	520	14	334	1533	0	191	1525	0	24	2644	0
Conf. Peds. (#/hr)	63		49	49		63	51		51	51		51
Conf. Bikes (#/hr)			3			3			6			3
Turn Type	pm+pt		Perm	pm+pt		Prot		Prot		Prot		
Protected Phases	1	6		5	2	3	8		7	4		
Permitted Phases	6		6	2								
Actuated Green, G (s)	49.0	34.3	34.3	49.6	34.6	14.5	50.4		2.9	38.8		
Effective Green, g (s)	49.4	35.7	35.7	50.0	36.0	14.5	51.4		2.9	39.8		
Actuated g/C Ratio	0.41	0.30	0.30	0.42	0.30	0.12	0.43		0.02	0.33		
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4	4.0	5.0		4.0	5.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	236	942	385	339	933	371	1905		74	1471		
v/s Ratio Prot	0.10	0.16		c0.11	c0.49	0.06	c0.34		0.01	c0.60		
v/s Ratio Perm	0.26		0.01	0.30								
v/c Ratio	0.89	0.55	0.04	0.99	1.64	0.51	0.80		0.32	1.80		
Uniform Delay, d1	31.9	35.4	29.9	30.7	42.0	49.5	29.8		57.6	40.1		
Progression Factor	1.60	0.74	0.65	1.00	1.00	0.76	0.63		1.26	0.39		
Incremental Delay, d2	26.0	0.6	0.0	44.5	294.1	1.1	3.2		0.2	359.1		
Delay (s)	77.1	26.7	19.4	75.2	336.1	38.8	21.9		73.0	374.8		
Level of Service	E	C	B	E	F	D	C		E	F		
Approach Delay (s)		39.9			289.6		23.7			372.1		
Approach LOS		D			F		C			F		

Intersection Summary

HCM Average Control Delay	228.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	129.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97	
Frt	1.00		0.99		1.00	1.00	0.85	1.00		0.85	1.00	
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1583		4522		1583	4300	1218	1583		1417	3072	
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (perm)	1583		4522		1583	4300	1218	1583		1417	3072	
Volume (vph)	2	0	595	25	6	1673	844	16	0	13	804	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	0	640	27	6	1799	908	17	0	14	865	0
RTOR Reduction (vph)	0	0	2	0	0	0	288	0	0	13	0	0
Lane Group Flow (vph)	2	0	665	0	6	1799	620	17	0	1	865	0
Turn Type	Prot				Prot		Perm	Prot		custom	custom	
Protected Phases	5		2		1		6			7		
Permitted Phases							6				7	8
Actuated Green, G (s)	3.2		71.2		1.4		68.5			4.6		21.0
Effective Green, g (s)	5.1		72.2		3.3		70.4			5.6		22.9
Actuated g/C Ratio	0.04		0.60		0.03		0.59			0.05		0.19
Clearance Time (s)	5.9		5.0		5.9		5.9			5.0		5.9
Vehicle Extension (s)	3.0		3.0		3.0		3.0			3.0		3.0
Lane Grp Cap (vph)	67		2721		44		2523			74		586
v/s Ratio Prot	0.00		c0.15		0.00		0.42			c0.01		
v/s Ratio Perm							c0.51				0.00	c0.28
v/c Ratio	0.03		0.24		0.14		0.71			0.23		1.48
Uniform Delay, d1	55.1		11.2		57.0		17.6			20.9		55.1
Progression Factor	1.07		1.45		1.10		0.82			3.57		1.00
Incremental Delay, d2	0.1		0.2		0.1		0.2			1.4		1.6
Delay (s)	58.9		16.4		62.9		14.6			56.7		56.7
Level of Service	E		B		E		B			E		D
Approach Delay (s)			16.5				35.2			55.8		243.1
Approach LOS			B				D			E		F
Intersection Summary												
HCM Average Control Delay			82.6				HCM Level of Service			F		
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			75.4%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												



Movement		SBR
Lane Configurations		7
Ideal Flow (vphpl)		1700
Total Lost time (s)		4.0
Lane Util. Factor		1.00
Frt		0.85
Flt Protected		1.00
Satd. Flow (prot)		1417
Flt Permitted		1.00
Satd. Flow (perm)		1417
Volume (vph)		203
Peak-hour factor, PHF		0.93
Adj. Flow (vph)		218
RTOR Reduction (vph)		161
Lane Group Flow (vph)		57
Turn Type		custom
Protected Phases		
Permitted Phases		8
Actuated Green, G (s)		21.0
Effective Green, g (s)		22.9
Actuated g/C Ratio		0.19
Clearance Time (s)		5.9
Vehicle Extension (s)		3.0
Lane Grp Cap (vph)		270
v/s Ratio Prot		
v/s Ratio Perm		0.04
v/c Ratio		0.21
Uniform Delay, d1		40.9
Progression Factor		3.21
Incremental Delay, d2		0.9
Delay (s)		132.4
Level of Service		F
Approach Delay (s)		
Approach LOS		
Intersection Summary		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4548			4390	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4548			4390	
Volume (vph)	0	1087	290	0	1587	302	317	1341	4	0	1906	585
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1109	296	0	1619	308	323	1368	4	0	1945	597
RTOR Reduction (vph)	0	0	2	0	0	32	0	0	0	0	2	0
Lane Group Flow (vph)	0	1109	294	0	1619	276	323	1372	0	0	2540	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		39.0	49.0		39.0	39.0	10.0	69.0			53.5	
Effective Green, g (s)		41.0	52.5		41.0	41.0	11.5	71.0			55.5	
Actuated g/C Ratio		0.34	0.44		0.34	0.34	0.10	0.59			0.46	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1959	667		1959	484	152	2691			2030	
v/s Ratio Prot		0.19	0.04		c0.28		c0.20	0.30			c0.58	
v/s Ratio Perm			0.17			0.19						
v/c Ratio		0.57	0.44		0.83	0.57	2.12	0.51			1.25	
Uniform Delay, d1		32.2	23.5		36.2	32.3	54.2	14.3			32.2	
Progression Factor		1.31	1.89		1.00	1.00	1.23	0.77			0.34	
Incremental Delay, d2		0.4	0.2		4.2	4.8	524.7	0.6			113.5	
Delay (s)		42.8	44.6		40.4	37.1	591.6	11.6			124.4	
Level of Service		D	D		D	D	F	B			F	
Approach Delay (s)		43.2			39.9			122.1			124.4	
Approach LOS		D			D			F			F	

Intersection Summary

HCM Average Control Delay	87.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	111.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.95			0.98		1.00	1.00		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1558			1623		1583	4530		1583	4461	
Flt Permitted		0.90			0.94		0.06	1.00		0.11	1.00	
Satd. Flow (perm)		1417			1539		99	4530		180	4461	
Volume (vph)	49	60	68	16	65	12	89	1556	47	72	1748	263
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	52	63	72	17	68	13	94	1638	49	76	1840	277
RTOR Reduction (vph)	0	19	0	0	5	0	0	2	0	0	17	0
Lane Group Flow (vph)	0	168	0	0	93	0	94	1685	0	76	2100	0
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		4		8		8		2		2		6
Permitted Phases		4		8		8		2		2		6
Actuated Green, G (s)		30.0		30.0		30.0		83.4		83.4		83.4
Effective Green, g (s)		29.0		29.0		29.0		83.0		83.0		83.0
Actuated g/C Ratio		0.24		0.24		0.24		0.69		0.69		0.69
Clearance Time (s)		3.0		3.0		3.0		3.6		3.6		3.6
Vehicle Extension (s)		3.0		3.0		3.0		5.0		5.0		5.0
Lane Grp Cap (vph)		342		372		372		68		3133		125
v/s Ratio Prot								0.37				0.47
v/s Ratio Perm		c0.12		0.06		0.06		c0.95		0.42		0.42
v/c Ratio		0.49		0.25		0.25		1.38		0.54		0.61
Uniform Delay, d1		39.2		36.7		36.7		18.5		9.1		9.8
Progression Factor		1.00		1.00		1.00		1.00		1.00		0.79
Incremental Delay, d2		5.0		1.6		1.6		240.5		0.7		2.0
Delay (s)		44.1		38.3		38.3		259.0		9.7		9.8
Level of Service		D		D		D		F		A		A
Approach Delay (s)		44.1		38.3		38.3		22.9		22.9		4.6
Approach LOS		D		D		D		C		C		A

Intersection Summary

HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 39: Wilshire Blvd & La Cienega Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		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	1.00		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4331		1583	4518		1583	4429		1583	4425	
Flt Permitted	0.11	1.00		0.12	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	192	4331		192	4518		183	4429		193	4425	
Volume (vph)	130	1106	219	128	2149	53	530	1619	213	86	1640	174
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	137	1164	231	135	2262	56	558	1704	224	91	1726	183
RTOR Reduction (vph)	0	30	0	0	3	0	0	16	0	0	12	0
Lane Group Flow (vph)	137	1365	0	135	2315	0	558	1912	0	91	1897	0
Conf. Peds. (#/hr)	90		93	93		90	90		48	48		90
Conf. Bikes (#/hr)			4			7			3			1
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.0	35.3		43.8	35.2		44.5	36.5		40.7	34.6	
Effective Green, g (s)	42.5	34.8		42.3	34.7		43.5	36.5		39.7	34.6	
Actuated g/C Ratio	0.42	0.35		0.42	0.35		0.44	0.36		0.40	0.35	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	189	1507		187	1568		178	1617		148	1531	
v/s Ratio Prot	c0.06	0.32		0.05	c0.51		c0.22	0.43		0.03	0.43	
v/s Ratio Perm	0.25			0.25			c1.15			0.21		
v/c Ratio	0.72	0.91		0.72	1.48		3.13	1.18		0.61	1.24	
Uniform Delay, d1	24.2	31.0		21.4	32.6		48.7	31.8		25.3	32.7	
Progression Factor	1.02	1.17		1.65	1.28		1.84	0.91		1.00	1.00	
Incremental Delay, d2	10.2	8.7		7.6	216.9		967.0	85.1		5.2	113.2	
Delay (s)	34.8	45.2		42.9	258.6		1056.7	114.1		30.5	145.9	
Level of Service	C	D		D	F		F	F		C	F	
Approach Delay (s)		44.3			246.7			325.7			140.7	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	208.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	142.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑↑↑		↕	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.96			0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes		1.00			0.99		0.99	1.00		1.00	1.00	
Frt		0.95			0.99		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1504			1590		1572	4459		1583	4350	
Flt Permitted		0.79			0.59		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1204			952		103	4459		104	4350	
Volume (vph)	58	150	128	181	319	50	125	2204	194	20	1732	214
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	158	135	191	336	53	132	2320	204	21	1823	225
RTOR Reduction (vph)	0	10	0	0	4	0	0	10	0	0	15	0
Lane Group Flow (vph)	0	344	0	0	576	0	132	2514	0	21	2033	0
Confl. Peds. (#/hr)	39		76	76		39	104		34	34		104
Confl. Bikes (#/hr)			2			2			6			4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		337			267		66	2854		67	2784	
v/s Ratio Prot								0.56			0.47	
v/s Ratio Perm		0.29			c0.61		c1.28			0.20		
v/c Ratio		1.02			2.16		2.00	0.88		0.31	0.73	
Uniform Delay, d1		36.0			36.0		18.0	14.9		8.1	12.2	
Progression Factor		1.00			1.00		1.00	1.00		1.51	1.50	
Incremental Delay, d2		54.4			533.7		499.2	4.3		1.1	0.2	
Delay (s)		90.4			569.7		517.2	19.2		13.4	18.3	
Level of Service		F			F		F	B		B	B	
Approach Delay (s)		90.4			569.7			43.9			18.3	
Approach LOS		F			F			D			B	

Intersection Summary			
HCM Average Control Delay	91.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91		
Frt	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1583	4483		1583	4536		1583	4531		1583	4456		
Flt Permitted	0.15	1.00		0.13	1.00		0.12	1.00		0.12	1.00		
Satd. Flow (perm)	256	4483		222	4536		196	4531		196	4456		
Volume (vph)	257	1544	167	246	2470	52	179	2132	60	134	1630	261	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	265	1592	172	254	2546	54	185	2198	62	138	1680	269	
RTOR Reduction (vph)	0	14	0	0	2	0	0	3	0	0	17	0	
Lane Group Flow (vph)	265	1750	0	254	2598	0	185	2257	0	138	1932	0	
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt				
Protected Phases	6		5		2		3		8		7		4
Permitted Phases	6		2				8				4		
Actuated Green, G (s)	25.0	25.0		36.0	36.0		40.0	33.0		40.0	33.0		
Effective Green, g (s)	26.0	26.0		37.0	37.0		41.0	34.0		41.0	34.0		
Actuated g/C Ratio	0.29	0.29		0.41	0.41		0.46	0.38		0.46	0.38		
Clearance Time (s)	5.0	5.0		3.5	5.0		4.0	5.0		4.0	5.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	74	1295		197	1865		197	1712		197	1683		
v/s Ratio Prot		0.39		0.10	c0.57		c0.07	c0.50		0.05	0.43		
v/s Ratio Perm	c1.03			0.43			0.35			0.26			
v/c Ratio	3.58	1.35		1.29	1.39		0.94	1.32		0.70	1.15		
Uniform Delay, d1	32.0	32.0		43.7	26.5		21.3	28.0		41.9	28.0		
Progression Factor	0.70	0.70		1.00	1.00		1.71	0.34		1.00	1.00		
Incremental Delay, d2	1174.9	160.1		162.8	180.1		8.6	143.6		10.7	73.9		
Delay (s)	1197.2	182.4		206.5	206.6		44.9	153.1		52.6	101.9		
Level of Service	F	F		F	F		D	F		D	F		
Approach Delay (s)		314.9			206.6			144.9			98.7		
Approach LOS		F			F			F			F		

Intersection Summary

HCM Average Control Delay	190.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	139.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.97		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3082		1583	3125		1583	4510		1583	4485	
Flt Permitted	0.15	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	252	3082		219	3125		202	4510		230	4485	
Volume (vph)	75	890	192	137	1577	150	361	2199	138	80	1719	179
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	77	918	198	141	1626	155	372	2267	142	82	1772	185
RTOR Reduction (vph)	0	20	0	0	1	0	0	8	0	0	10	0
Lane Group Flow (vph)	77	1096	0	141	1780	0	372	2401	0	82	1947	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4		6		2					
Actuated Green, G (s)	25.5	25.5	38.0		38.0		42.0	42.0	28.0		28.0	
Effective Green, g (s)	26.5	26.5	39.0		39.0		43.0	43.0	29.0		29.0	
Actuated g/C Ratio	0.29	0.29	0.43		0.43		0.48	0.48	0.32		0.32	
Clearance Time (s)	5.0	5.0	3.0		5.0		4.0	5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	74	907	224		1354		250	2155	74		1445	
v/s Ratio Prot	0.36		0.06		c0.57		c0.17	0.53				0.43
v/s Ratio Perm	0.31		0.21		c0.55							0.36
v/c Ratio	1.04	1.21	0.63		1.31		1.49	1.11	1.11		1.35	
Uniform Delay, d1	31.8	31.8	40.5		25.5		42.2	23.5	30.5		30.5	
Progression Factor	1.00	1.00	0.72		0.95		1.00	1.00	1.01		0.99	
Incremental Delay, d2	116.2	103.9	0.5		142.2		239.7	58.6	65.4		156.7	
Delay (s)	148.0	135.7	29.7		166.4		281.9	82.1	96.2		186.8	
Level of Service	F		C		F		F	F	F		F	
Approach Delay (s)	136.5		156.3		108.8		183.2					
Approach LOS	F		F		F		F					

Intersection Summary

HCM Average Control Delay	143.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	139.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3090		1559	3099		1583	3142		1569	3033	
Flt Permitted	0.06	1.00		0.30	1.00		0.09	1.00		0.12	1.00	
Satd. Flow (perm)	100	3090		489	3099		147	3142		206	3033	
Volume (vph)	80	607	77	75	1491	134	119	844	30	103	827	152
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	90	682	87	84	1675	151	134	948	34	116	929	171
RTOR Reduction (vph)	0	8	0	0	6	0	0	2	0	0	9	0
Lane Group Flow (vph)	90	761	0	84	1820	0	134	980	0	116	1091	0
Confl. Peds. (#/hr)	50		50	50		50	50		50	50		50
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		4		4	
Permitted Phases	6		2		2		8		4		4	
Actuated Green, G (s)	64.6	64.6		64.6	64.6		44.1	44.1		44.1	44.1	
Effective Green, g (s)	66.5	66.5		66.5	66.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.38	0.38		0.38	0.38	
Clearance Time (s)	5.9	5.9		5.9	5.9		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	55	1712		271	1717		56	1191		78	1150	
v/s Ratio Prot		0.25			0.59			0.31			0.36	
v/s Ratio Perm	c0.90			0.17			c0.91			0.56		
v/c Ratio	1.64	0.44		0.31	1.06		2.39	0.82		1.49	0.95	
Uniform Delay, d1	26.8	15.8		14.4	26.8		37.2	33.6		37.2	36.1	
Progression Factor	1.00	1.00		0.41	0.75		1.15	1.13		1.00	1.00	
Incremental Delay, d2	354.4	0.8		0.3	28.6		662.5	4.5		275.3	16.8	
Delay (s)	381.1	16.7		6.2	48.6		705.2	42.7		312.6	52.9	
Level of Service	F	B		A	D		F	D		F	D	
Approach Delay (s)		54.8			46.7			122.2			77.7	
Approach LOS		D			D			F			E	

Intersection Summary

HCM Average Control Delay	72.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		




























c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.97			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1583	4532		1583	4542			1604			1596	
Flt Permitted	0.06	1.00		0.16	1.00			0.89			0.95	
Satd. Flow (perm)	100	4532		266	4542			1437			1525	
Volume (vph)	21	1292	35	44	2688	32	53	149	52	22	111	50
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	1346	36	46	2800	33	55	155	54	23	116	52
RTOR Reduction (vph)	0	3	0	0	1	0	0	9	0	0	2	0
Lane Group Flow (vph)	22	1379	0	46	2832	0	0	255	0	0	189	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	68.0	68.0		68.0	68.0			26.0			26.0	
Effective Green, g (s)	67.0	67.0		67.0	67.0			25.0			25.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	67	3036		178	3043			359			381	
v/s Ratio Prot		0.30			c0.62							
v/s Ratio Perm	0.22			0.17				c0.18			0.12	
v/c Ratio	0.33	0.45		0.26	0.93			0.71			0.50	
Uniform Delay, d1	7.0	7.8		6.6	14.5			34.2			32.1	
Progression Factor	0.57	0.32		0.24	0.77			1.00			1.00	
Incremental Delay, d2	8.9	0.3		0.3	0.7			11.3			4.5	
Delay (s)	12.9	2.8		1.9	11.9			45.5			36.6	
Level of Service	B	A		A	B			D			D	
Approach Delay (s)		3.0			11.7			45.5			36.6	
Approach LOS		A			B			D			D	

Intersection Summary

HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			  							
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	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)	1583	3167	1417	1583	4550	1417	1583	1667	1417	1583	1645	
Flt Permitted	0.23	1.00	1.00	0.26	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	388	3167	1417	433	4550	1417	1583	1667	1417	1583	1645	
Volume (vph)	86	608	83	108	1488	78	70	593	35	40	748	70
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	92	654	89	116	1600	84	75	638	38	43	804	75
RTOR Reduction (vph)	0	0	63	0	0	60	0	0	21	0	5	0
Lane Group Flow (vph)	92	654	26	116	1600	24	75	638	17	43	874	0
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			4		1	2		1	6	
Permitted Phases	4		4	4		4			2			
Actuated Green, G (s)	16.2	16.2	16.2	16.2	16.2	16.2	3.4	26.6	26.6	3.4	26.6	
Effective Green, g (s)	17.2	17.2	17.2	17.2	17.2	17.2	3.4	27.4	27.4	3.4	27.4	
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.29	0.06	0.46	0.46	0.06	0.46	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.8	4.8	4.0	4.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	908	406	124	1304	406	90	761	647	90	751	
v/s Ratio Prot		0.21			c0.35		c0.05	0.38		0.03	c0.53	
v/s Ratio Perm	0.24		0.02	0.27		0.02			0.01			
v/c Ratio	0.83	0.72	0.06	0.94	1.23	0.06	0.83	0.84	0.03	0.48	1.16	
Uniform Delay, d1	20.0	19.2	15.5	20.9	21.4	15.5	28.0	14.4	9.0	27.4	16.3	
Progression Factor	1.00	1.00	1.00	1.29	1.37	1.70	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	48.3	4.9	0.3	55.8	107.6	0.2	45.4	10.7	0.1	4.0	87.7	
Delay (s)	68.3	24.1	15.8	82.6	136.9	26.6	73.4	25.0	9.0	31.4	104.0	
Level of Service	E	C	B	F	F	C	E	C	A	C	F	
Approach Delay (s)		28.1			128.3			29.1			100.7	
Approach LOS		C			F			C			F	
Intersection Summary												
HCM Average Control Delay			85.7				HCM Level of Service		F			
HCM Volume to Capacity ratio			1.16									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			106.9%				ICU Level of Service		G			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↗		↖	↕↕↗		↖	↕↗		↖	↕↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4478		1583	4529		1583	3109		1583	3103	
Flt Permitted	0.09	1.00		0.10	1.00		0.13	1.00		0.14	1.00	
Satd. Flow (perm)	153	4478		172	4529		215	3109		233	3103	
Volume (vph)	94	1176	139	52	2509	78	168	712	99	53	832	129
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	101	1265	149	56	2698	84	181	766	106	57	895	139
RTOR Reduction (vph)	0	14	0	0	3	0	0	10	0	0	12	0
Lane Group Flow (vph)	101	1400	0	56	2779	0	181	862	0	57	1022	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	51.1	44.7		49.7	44.0		40.0	32.0		35.2	29.6	
Effective Green, g (s)	49.1	43.7		47.7	43.0		38.0	31.0		33.2	28.6	
Actuated g/C Ratio	0.49	0.44		0.48	0.43		0.38	0.31		0.33	0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	152	1957		148	1947		177	964		139	887	
v/s Ratio Prot	c0.04	0.31		0.02	c0.61		c0.07	0.28		0.02	c0.33	
v/s Ratio Perm	0.29			0.16			0.32			0.12		
v/c Ratio	0.66	0.72		0.38	1.43		1.02	0.89		0.41	1.15	
Uniform Delay, d1	23.4	23.1		16.2	28.5		28.1	32.9		24.8	35.7	
Progression Factor	2.15	2.01		1.29	1.48		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.6	1.8		0.2	193.4		73.7	12.5		0.7	81.4	
Delay (s)	56.8	48.3		21.1	235.4		101.8	45.4		25.5	117.1	
Level of Service	E	D		C	F		F	D		C	F	
Approach Delay (s)		48.8			231.2			55.1			112.3	
Approach LOS		D			F			E			F	

Intersection Summary

HCM Average Control Delay	140.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	116.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4485		1583	4541		1583	3082		1583	3096	
Flt Permitted	0.11	1.00		0.10	1.00		0.15	1.00		0.17	1.00	
Satd. Flow (perm)	183	4485		172	4541		257	3082		282	3096	
Volume (vph)	72	1506	159	199	2617	35	166	940	204	60	850	149
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	77	1602	169	212	2784	37	177	1000	217	64	904	159
RTOR Reduction (vph)	0	14	0	0	2	0	0	19	0	0	15	0
Lane Group Flow (vph)	77	1757	0	212	2819	0	177	1198	0	64	1048	0
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.0	37.4		47.8	39.8		34.9	26.9		30.3	24.6	
Effective Green, g (s)	41.0	36.4		45.8	38.8		32.9	25.9		28.3	23.6	
Actuated g/C Ratio	0.46	0.40		0.51	0.43		0.37	0.29		0.31	0.26	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	155	1814		197	1958		197	887		157	812	
v/s Ratio Prot	0.03	0.39		c0.08	c0.62		c0.07	c0.39		0.02	0.34	
v/s Ratio Perm	0.20			0.46			0.26			0.11		
v/c Ratio	0.50	0.97		1.08	1.44		0.90	1.35		0.41	1.29	
Uniform Delay, d1	21.4	26.2		21.6	25.6		43.1	32.0		25.1	33.2	
Progression Factor	1.00	1.00		1.92	0.42		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	14.9		43.4	198.2		36.2	165.1		0.6	139.7	
Delay (s)	22.3	41.1		85.0	208.9		79.3	197.2		25.8	172.9	
Level of Service	C	D		F	F		E	F		C	F	
Approach Delay (s)		40.3			200.2			182.2			164.6	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	151.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	117.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗	↗	↗	↗↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4475		1583	4535		1583	1667	1417	1583	3032	
Flt Permitted	0.09	1.00		0.10	1.00		0.12	1.00	1.00	0.13	1.00	
Satd. Flow (perm)	156	4475		171	4535		206	1667	1417	218	3032	
Volume (vph)	88	1178	144	69	2700	60	155	521	93	50	689	273
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	1240	152	73	2842	63	163	548	98	53	725	287
RTOR Reduction (vph)	0	15	0	0	2	0	0	0	66	0	42	0
Lane Group Flow (vph)	93	1377	0	73	2903	0	163	548	32	53	970	0
Turn Type	pm+pt			pm+pt			pm+pt		Perm	pm+pt		
Protected Phases	5	2		1	6		3	8	8		7	4
Permitted Phases	2			6			8		8		4	
Actuated Green, G (s)	49.4	43.8		49.4	43.8		40.4	33.4	33.4	36.8	31.6	
Effective Green, g (s)	47.4	42.8		47.4	42.8		38.4	32.4	32.4	34.8	30.6	
Actuated g/C Ratio	0.47	0.43		0.47	0.43		0.38	0.32	0.32	0.35	0.31	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	140	1915		146	1941		162	540	459	133	928	
v/s Ratio Prot	c0.03	0.31		0.02	c0.64		c0.06	c0.33		0.02	0.32	
v/s Ratio Perm	0.29			0.21			0.33		0.02	0.12		
v/c Ratio	0.66	0.72		0.50	1.50		1.01	1.01	0.07	0.40	1.05	
Uniform Delay, d1	23.9	23.6		16.8	28.6		28.1	33.8	23.4	25.0	34.7	
Progression Factor	0.80	1.10		2.12	1.73		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.5	2.0		0.1	223.2		72.3	42.5	0.3	0.7	42.2	
Delay (s)	26.5	28.1		35.7	272.8		100.5	76.3	23.7	25.7	76.9	
Level of Service	C	C		D	F		F	E	C	C	E	
Approach Delay (s)		28.0			267.0			74.8			74.3	
Approach LOS		C			F			E			E	

Intersection Summary

HCM Average Control Delay	154.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	119.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2221		1118	2232		1118	2181		1118	2231	
Flt Permitted	0.07	1.00		0.10	1.00		0.27	1.00		0.66	1.00	
Satd. Flow (perm)	77	2221		113	2232		314	2181		775	2231	
Volume (vph)	27	1513	69	53	2151	22	10	119	23	114	508	7
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	28	1560	71	55	2218	23	10	123	24	118	524	7
RTOR Reduction (vph)	0	4	0	0	1	0	0	18	0	0	1	0
Lane Group Flow (vph)	28	1627	0	55	2240	0	10	129	0	118	530	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	60.5	60.5		60.5	60.5		20.8	20.8		20.8	20.8	
Effective Green, g (s)	61.0	61.0		61.0	61.0		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1505		77	1513		73	509		181	521	
v/s Ratio Prot		0.73			c1.00			0.06			c0.24	
v/s Ratio Perm	0.36			0.49			0.03			0.15		
v/c Ratio	0.54	1.08		0.71	1.48		0.14	0.25		0.65	1.02	
Uniform Delay, d1	7.4	14.5		9.1	14.5		27.3	28.1		31.2	34.5	
Progression Factor	0.35	0.37		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.6	38.0		43.6	219.9		3.9	1.2		16.8	44.0	
Delay (s)	6.2	43.3		52.7	234.4		31.2	29.3		48.0	78.5	
Level of Service	A	D		D	F		C	C		D	E	
Approach Delay (s)		42.7			230.1			29.4			72.9	
Approach LOS		D			F			C			E	

Intersection Summary

HCM Average Control Delay	136.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	132.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		0.98						1.00			1.00	
Frt		0.99						0.97			1.00	
Flt Protected		0.98						1.00			0.99	
Satd. Flow (prot)		3017						3059			3146	
Flt Permitted		0.98						1.00			0.90	
Satd. Flow (perm)		3017						3059			2862	
Volume (vph)	256	227	17	0	0	0	0	105	26	38	291	0
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	332	295	22	0	0	0	0	136	34	49	378	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	0	647		0	0	0	0	145	0	0	427	
Conf. Peds. (#/hr)	28		18	18			28	6		7	7	6
Conf. Bikes (#/hr)			1							1		1
Turn Type	Perm						Perm					
Protected Phases		2						8			4	
Permitted Phases	2								4			
Actuated Green, G (s)		37.0						17.0			17.0	
Effective Green, g (s)		36.0						16.0			16.0	
Actuated g/C Ratio		0.60						0.27			0.27	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1810						816			763	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.21									c0.15	
v/c Ratio		0.36						0.18			0.56	
Uniform Delay, d1		6.1						16.9			19.0	
Progression Factor		1.12						1.00			1.00	
Incremental Delay, d2		0.4						0.5			3.0	
Delay (s)		7.3						17.4			21.9	
Level of Service		A						B			C	
Approach Delay (s)		7.3			0.0			17.4			21.9	
Approach LOS		A			A			B			C	
Intersection Summary												
HCM Average Control Delay		13.7			HCM Level of Service			B				
HCM Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		59.2%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑				↗		↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99				0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		0.98	1.00
Frt	1.00	1.00		1.00	0.97				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.96	1.00
Satd. Flow (prot)	1583	4527		1583	4388				1396		1573	1371
Flt Permitted	0.95	1.00		0.95	1.00				1.00		0.96	1.00
Satd. Flow (perm)	1583	4527		1583	4388				1396		1573	1371
Volume (vph)	48	1358	26	104	2465	506	0	0	46	124	22	166
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	50	1415	27	108	2568	527	0	0	48	129	23	173
RTOR Reduction (vph)	0	2	0	0	26	0	0	0	37	0	0	133
Lane Group Flow (vph)	50	1440	0	108	3069	0	0	0	11	0	152	40
Confl. Peds. (#/hr)	18		42	42		18	15		14	14		15
Confl. Bikes (#/hr)			2			1			1			
Turn Type	Prot			Prot				custom	Perm		Perm	Perm
Protected Phases	5	2		1	6						4	
Permitted Phases								8	4			4
Actuated Green, G (s)	5.4	56.3		10.7	61.6			24.0			24.0	24.0
Effective Green, g (s)	4.4	55.3		9.7	60.6			23.0			23.0	23.0
Actuated g/C Ratio	0.04	0.55		0.10	0.61			0.23			0.23	0.23
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	2.0	5.0		2.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	70	2503		154	2659			321			362	315
v/s Ratio Prot	0.03	0.32		c0.07	c0.70							
v/s Ratio Perm								0.01			0.10	0.03
v/c Ratio	0.71	0.58		0.70	1.15			0.03			0.42	0.13
Uniform Delay, d1	47.2	14.7		43.7	19.7			29.9			32.8	30.5
Progression Factor	1.00	1.00		0.68	1.82			1.00			1.00	1.00
Incremental Delay, d2	24.8	1.0		1.1	69.9			0.2			3.6	0.8
Delay (s)	72.0	15.6		31.0	105.7			30.1			36.4	31.4
Level of Service	E	B		C	F			C			D	C
Approach Delay (s)		17.5			103.1			30.1			33.7	
Approach LOS		B			F			C			C	
Intersection Summary												
HCM Average Control Delay			72.8			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			97.8%			ICU Level of Service		F				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2230		1118	2233		1118	2217		1118	2204	
Flt Permitted	0.07	1.00		0.07	1.00		0.15	1.00		0.28	1.00	
Satd. Flow (perm)	84	2230		84	2233		181	2217		333	2204	
Volume (vph)	32	1618	25	283	1963	15	26	536	31	26	780	81
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	1651	26	289	2003	15	27	547	32	27	796	83
RTOR Reduction (vph)	0	1	0	0	1	0	0	5	0	0	9	0
Lane Group Flow (vph)	33	1676	0	289	2017	0	27	574	0	27	870	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			8		4
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8		25.8	25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1388		52	1389		52	640		96	637	
v/s Ratio Prot		0.75			0.90			0.26			c0.40	
v/s Ratio Perm	0.39			c3.44			0.15			0.08		
v/c Ratio	0.63	1.21		5.56	1.45		0.52	0.90		0.28	1.37	
Uniform Delay, d1	10.6	17.0		17.0	17.0		26.8	30.7		24.8	32.0	
Progression Factor	1.00	1.00		0.59	0.59		0.44	0.36		1.00	1.00	
Incremental Delay, d2	46.8	100.4		2054.8	203.9		12.7	7.6		7.2	174.9	
Delay (s)	57.4	117.4		2064.7	213.9		24.5	18.6		31.9	206.9	
Level of Service	E	F		F	F		C	B		C	F	
Approach Delay (s)		116.2			445.8			18.9			201.7	
Approach LOS		F			F			B			F	

Intersection Summary			
HCM Average Control Delay	257.1	HCM Level of Service	F
HCM Volume to Capacity ratio	4.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	145.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 			 		
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0		
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00		0.95		
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		0.99		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1118	2205		1118	2231		1118	2235	1000		2215		
Flt Permitted	0.07	1.00		0.24	1.00		0.15	1.00	1.00		1.00		
Satd. Flow (perm)	84	2205		284	2231		181	2235	1000		2215		
Volume (vph)	54	803	80	123	1779	24	65	513	96	0	999	65	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	60	892	89	137	1977	27	72	570	107	0	1110	72	
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	76	0	5	0	
Lane Group Flow (vph)	60	979	0	137	2003	0	72	570	31	0	1177	0	
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm		
Protected Phases	2		6		6		8		8		4		
Permitted Phases	2		6		6		8		8		4		
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8	25.8		25.8		
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0	26.0		26.0		
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29	0.29		0.29		
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2	4.2		4.2		
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0	3.0		3.0		
Lane Grp Cap (vph)	52	1372		177	1388		52	646	289		640		
v/s Ratio Prot		0.44			c0.90			0.26			c0.53		
v/s Ratio Perm	0.71			0.48			0.40		0.03				
v/c Ratio	1.15	0.71		0.77	1.44		1.38	0.88	0.11		1.84		
Uniform Delay, d1	17.0	11.6		12.4	17.0		32.0	30.5	23.5		32.0		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.64		
Incremental Delay, d2	173.1	3.2		27.4	203.5		257.0	16.0	0.7		378.1		
Delay (s)	190.1	14.7		39.8	220.5		289.0	46.6	24.2		398.7		
Level of Service	F	B		D	F		F	D	C		F		
Approach Delay (s)		24.8			208.9			66.7			398.7		
Approach LOS		C			F			E			F		
Intersection Summary													
HCM Average Control Delay			194.5			HCM Level of Service				F			
HCM Volume to Capacity ratio			1.57										
Actuated Cycle Length (s)			90.0			Sum of lost time (s)				8.0			
Intersection Capacity Utilization			153.4%			ICU Level of Service				H			
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		0.99						0.98			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.95						0.97			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		2943						2982			3145	
Flt Permitted		1.00						1.00			0.65	
Satd. Flow (perm)		2943						2982			2053	
Volume (vph)	35	210	131	0	0	0	0	778	236	86	727	0
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	38	231	144	0	0	0	0	855	259	95	799	0
RTOR Reduction (vph)	0	53	0	0	0	0	0	48	0	0	0	0
Lane Group Flow (vph)	0	360		0	0	0	0	1066	0	0	894	
Conf. Peds. (#/hr)	123		3	3			123	1		108	108	1
Conf. Bikes (#/hr)							6			4		2
Turn Type	Perm						Perm					
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		27.0						27.0			27.0	
Effective Green, g (s)		26.0						26.0			26.0	
Actuated g/C Ratio		0.43						0.43			0.43	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1275						1292			890	
v/s Ratio Prot								0.36				
v/s Ratio Perm		0.12									c0.44	
v/c Ratio		0.28						0.83			1.00	
Uniform Delay, d1		11.0						15.0			17.0	
Progression Factor		1.17						1.00			1.00	
Incremental Delay, d2		0.5						6.1			31.3	
Delay (s)		13.3						21.1			48.3	
Level of Service		B						C			D	
Approach Delay (s)		13.3			0.0			21.1			48.3	
Approach LOS		B			A			C			D	
Intersection Summary												
HCM Average Control Delay		29.8			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.64										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		86.7%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕	↖		↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00		0.95	1.00
Frbp, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00	0.86		1.00	0.86
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1583	4379		1583	4487		1583	3167	1219		3167	1220
Flt Permitted	0.09	1.00		0.08	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	152	4379		140	4487		1583	3167	1219		3167	1220
Volume (vph)	61	1244	205	269	2221	91	278	914	100	0	797	190
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	1296	214	280	2314	95	290	952	104	0	830	198
RTOR Reduction (vph)	0	23	0	0	4	0	0	0	68	0	0	122
Lane Group Flow (vph)	64	1487	0	280	2405	0	290	952	36	0	830	76
Conf. Peds. (#/hr)	144		81	81		144	96		97	97		96
Conf. Bikes (#/hr)						3			1			1
Turn Type	pm+pt			pm+pt			Prot		Perm			Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6					8			4
Actuated Green, G (s)	50.4	45.0		57.0	48.6		8.9	34.9	34.9		22.9	22.9
Effective Green, g (s)	48.4	44.0		55.6	47.6		8.0	34.0	34.0		22.0	22.0
Actuated g/C Ratio	0.49	0.45		0.57	0.49		0.08	0.35	0.35		0.22	0.22
Clearance Time (s)	3.0	3.0		3.0	3.0		3.1	3.1	3.1		3.1	3.1
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	139	1966		197	2179		129	1099	423		711	274
v/s Ratio Prot	0.02	0.34		c0.12	0.54		c0.18	0.30			c0.26	
v/s Ratio Perm	0.21			c0.69					0.03			0.06
v/c Ratio	0.46	0.76		1.42	1.10		2.25	0.87	0.09		1.17	0.28
Uniform Delay, d1	21.9	22.5		24.8	25.2		45.0	29.9	21.5		38.0	31.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9	2.8		216.6	54.2		585.7	9.2	0.4		90.1	2.5
Delay (s)	22.7	25.3		241.4	79.4		630.7	39.1	21.9		128.1	33.9
Level of Service	C	C		F	E		F	D	C		F	C
Approach Delay (s)		25.2			96.3			165.2			109.9	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	95.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↕↕		↗	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.95			0.99		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2986			3048		1583	3153		1583	3131	
Flt Permitted		0.84			0.72		0.15	1.00		0.12	1.00	
Satd. Flow (perm)		2537			2261		245	3153		197	3131	
Volume (vph)	29	107	69	284	246	55	132	1243	36	44	959	78
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	110	71	293	254	57	136	1281	37	45	989	80
RTOR Reduction (vph)	0	49	0	0	9	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	162	0	0	595	0	136	1316	0	45	1063	0
Turn Type		Perm		Perm		pm+pt		pm+pt		pm+pt		
Protected Phases		4		8		5		2		1		6
Permitted Phases		4		8		2				6		
Actuated Green, G (s)		29.0		29.0		55.0		48.3		47.9		44.2
Effective Green, g (s)		28.0		28.0		54.0		47.3		45.9		43.2
Actuated g/C Ratio		0.31		0.31		0.60		0.53		0.51		0.48
Clearance Time (s)		3.0		3.0		3.0		3.0		3.0		3.0
Vehicle Extension (s)		3.0		3.0		2.0		5.0		2.0		5.0
Lane Grp Cap (vph)		789		703		248		1657		142		1503
v/s Ratio Prot						c0.04		c0.42		0.01		0.34
v/s Ratio Perm		0.06		c0.26		0.29				0.15		
v/c Ratio		0.21		0.89dl		0.55		0.79		0.32		0.71
Uniform Delay, d1		22.8		29.0		11.5		17.4		13.3		18.4
Progression Factor		1.00		1.00		1.00		1.00		1.00		1.00
Incremental Delay, d2		0.6		9.3		1.3		4.0		0.5		2.8
Delay (s)		23.4		38.2		12.8		21.4		13.8		21.3
Level of Service		C		D		B		C		B		C
Approach Delay (s)		23.4		38.2				20.6				20.9
Approach LOS		C		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)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4525		1583	4550		1583	3118			3064	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1583	4525		1583	4550		1583	3118			3064	
Volume (vph)	40	1860	69	10	3276	0	40	728	83	0	427	118
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	40	1879	70	10	3309	0	40	735	84	0	431	119
RTOR Reduction (vph)	0	4	0	0	0	0	0	9	0	0	28	0
Lane Group Flow (vph)	40	1945	0	10	3309	0	40	810	0	0	522	0
Turn Type	Prot		Prot		Split							
Protected Phases	1!	2!		5!	6!		8	8			7	
Permitted Phases												
Actuated Green, G (s)	5.4	33.6		4.8	33.2		14.0	14.0			22.0	
Effective Green, g (s)	4.9	33.1		4.8	33.2		14.0	14.0			22.0	
Actuated g/C Ratio	0.05	0.37		0.05	0.37		0.16	0.16			0.24	
Clearance Time (s)	3.5	3.5		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			3.0	
Lane Grp Cap (vph)	86	1664		84	1678		246	485			749	
v/s Ratio Prot	c0.03	0.43		0.01	c0.73		0.03	c0.26			c0.17	
v/s Ratio Perm												
v/c Ratio	0.47	1.17		0.12	1.97		0.16	1.67			0.70	
Uniform Delay, d1	41.3	28.4		40.6	28.4		32.9	38.0			31.0	
Progression Factor	1.23	0.99		1.50	0.39		1.00	1.00			1.00	
Incremental Delay, d2	0.4	76.7		0.1	437.6		0.3	310.3			5.3	
Delay (s)	50.9	104.9		61.1	448.6		33.2	348.3			36.3	
Level of Service	D	F		E	F		C	F			D	
Approach Delay (s)		103.8			447.4			333.6			36.3	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	297.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		

- ! Phase conflict between lane groups.
- c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑		↑	↑↑		↑	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt		0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4519		1583	4518		1583	3160		1583	3167	
Flt Permitted		1.00		0.95	1.00		0.32	1.00		0.18	1.00	
Satd. Flow (perm)		4519		1583	4518		527	3160		303	3167	
Volume (vph)	0	1841	87	26	2947	146	287	935	13	62	464	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1938	92	27	3102	154	302	984	14	65	488	0
RTOR Reduction (vph)	0	5	0	0	6	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	2025	0	27	3250	0	302	997	0	65	488	0
Turn Type				Prot			Perm			Perm		
Protected Phases		2!		5!	6			7			7	
Permitted Phases							7			7		
Actuated Green, G (s)		33.6		4.8	33.2		22.0	22.0		22.0	22.0	
Effective Green, g (s)		33.1		4.8	33.2		22.0	22.0		22.0	22.0	
Actuated g/C Ratio		0.37		0.05	0.37		0.24	0.24		0.24	0.24	
Clearance Time (s)		3.5		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	3.0	
Lane Grp Cap (vph)		1662		84	1667		129	772		74	774	
v/s Ratio Prot		0.45		c0.02	c0.72			0.32			0.15	
v/s Ratio Perm							c0.57			0.21		
v/c Ratio		1.22		0.32	1.95		2.34	1.29		0.88	0.63	
Uniform Delay, d1		28.4		41.0	28.4		34.0	34.0		32.7	30.4	
Progression Factor		0.30		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		98.8		2.2	429.6		626.9	140.9		74.4	3.9	
Delay (s)		107.3		43.2	458.0		660.9	174.9		107.1	34.2	
Level of Service		F		D	F		F	F		F	C	
Approach Delay (s)		107.3			454.6			287.8			42.8	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	294.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	26.0
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		

- ! Phase conflict between lane groups.
- c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕		↙	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frbp, ped/bikes		1.00						0.97		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.95	1.00	
Frt		1.00						0.94		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3135						2890		1507	3167	
Flt Permitted		1.00						1.00		0.64	1.00	
Satd. Flow (perm)		3135						2890		1013	3167	
Volume (vph)	16	330	5	0	0	0	0	93	62	59	429	0
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	19	384	6	0	0	0	0	108	72	69	499	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	53	0	0	0	0
Lane Group Flow (vph)	0	408	0	0	0	0	0	127	0	69	499	0
Conf. Peds. (#/hr)	51		52	52			51	5		55	55	
Conf. Bikes (#/hr)							3					5
Turn Type		Perm									Perm	
Protected Phases		2						4			4	
Permitted Phases		2									4	
Actuated Green, G (s)		17.0						17.0		17.0	17.0	
Effective Green, g (s)		16.0						16.0		16.0	16.0	
Actuated g/C Ratio		0.27						0.27		0.27	0.27	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Vehicle Extension (s)		5.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		836						771		270	845	
v/s Ratio Prot								0.04			c0.16	
v/s Ratio Perm		0.13								0.07		
v/c Ratio		0.49						0.16		0.26	0.59	
Uniform Delay, d1		18.5						16.9		17.3	19.1	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		2.0						0.5		2.3	3.0	
Delay (s)		20.6						17.3		19.6	22.2	
Level of Service		C						B		B	C	
Approach Delay (s)		20.6			0.0			17.3			21.9	
Approach LOS		C			A			B			C	
Intersection Summary												
HCM Average Control Delay			20.7					HCM Level of Service			C	
HCM Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		28.0		
Intersection Capacity Utilization			83.0%					ICU Level of Service		E		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖			↖↖↖		↖	↖		↖	↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00			0.99		1.00	0.90		1.00	1.00	0.78
Flpb, ped/bikes	1.00	1.00			1.00		0.84	1.00		1.00	1.00	1.00
Frt	1.00	1.00			1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4525			4512		1334	1420		1583	1667	1102
Flt Permitted	0.08	1.00			1.00		0.62	1.00		0.95	1.00	1.00
Satd. Flow (perm)	133	4525			4512		873	1420		1583	1667	1102
Volume (vph)	39	1285	14	0	2553	47	108	76	42	94	209	110
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	1339	15	0	2659	49	112	79	44	98	218	115
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	41	1353	0	0	2706	0	112	123	0	98	218	115
Confl. Peds. (#/hr)	244		131	131		244	166		211	211		166
Confl. Bikes (#/hr)			3			5			2			3
Turn Type	Perm			Perm			Prot			custom		
Protected Phases	2		6		8		7					
Permitted Phases	2				8				4		4	
Actuated Green, G (s)	51.3	51.3			51.3		21.0	21.0		8.7	32.7	32.7
Effective Green, g (s)	50.3	50.3			50.3		20.0	20.0		7.7	31.7	31.7
Actuated g/C Ratio	0.56	0.56			0.56		0.22	0.22		0.09	0.35	0.35
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	2529			2522		194	316		135	587	388
v/s Ratio Prot		0.30			c0.60			0.09		c0.06		
v/s Ratio Perm	0.31						c0.13				0.13	0.10
v/c Ratio	0.55	0.53			1.07		0.58	0.39		0.73	0.37	0.30
Uniform Delay, d1	12.7	12.5			19.9		31.2	29.8		40.1	21.7	21.1
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	26.7	0.8			41.2		11.9	3.6		17.6	1.8	1.9
Delay (s)	39.4	13.3			61.1		43.2	33.4		57.7	23.5	23.0
Level of Service	D	B			E		D	C		E	C	C
Approach Delay (s)		14.1			61.1			38.0			31.2	
Approach LOS		B			E			D			C	

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			





























Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBR2
Lane Configurations		↔	↔↔↔		↔	↔↔↔			↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0
Lane Util. Factor		1.00	0.91		1.00	0.91			1.00
Frbp, ped/bikes		1.00	1.00		1.00	0.99			1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00
Frt		1.00	1.00		1.00	0.99			0.86
Flt Protected		0.95	1.00		0.95	1.00			1.00
Satd. Flow (prot)		1583	4522		1583	4484			1442
Flt Permitted		0.95	1.00		0.95	1.00			1.00
Satd. Flow (perm)		1583	4522		1583	4484			1442
Volume (vph)	343	261	1354	36	632	1977	42	41	113
Peak-hour factor, PHF	0.92	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92
Adj. Flow (vph)	373	272	1410	38	658	2059	44	43	123
RTOR Reduction (vph)	0	0	3	0	0	2	0	0	108
Lane Group Flow (vph)	0	645	1445	0	658	2144	0	0	15
Confl. Peds. (#/hr)	63	81		28	28		63	81	35
Confl. Bikes (#/hr)				5			9	10	1
Turn Type	Prot	Prot			Prot				custom
Protected Phases	1	1	2		8	6			1
Permitted Phases									
Actuated Green, G (s)		13.0	52.0		26.0	81.0			13.0
Effective Green, g (s)		12.0	51.0		25.0	80.0			12.0
Actuated g/C Ratio		0.12	0.51		0.25	0.80			0.12
Clearance Time (s)		3.0	3.0		3.0	3.0			3.0
Vehicle Extension (s)		2.5	5.0		3.0	5.0			2.5
Lane Grp Cap (vph)		190	2306		396	3587			173
v/s Ratio Prot		c0.41	0.32		c0.42	c0.48			0.01
v/s Ratio Perm									
v/c Ratio		3.39	0.63		1.66	0.60			0.09
Uniform Delay, d1		44.0	17.6		37.5	3.8			39.1
Progression Factor		1.25	1.95		1.00	1.00			1.00
Incremental Delay, d2		1078.8	0.1		308.7	0.7			0.2
Delay (s)		1133.8	34.6		346.2	4.6			39.3
Level of Service		F	C		F	A			D
Approach Delay (s)			373.3			84.8			
Approach LOS			F			F			
Intersection Summary									
HCM Average Control Delay			204.0			HCM Level of Service			F
HCM Volume to Capacity ratio			1.24						
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			8.0
Intersection Capacity Utilization			104.5%			ICU Level of Service			G
Analysis Period (min)			15						
c Critical Lane Group									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗↘		↖	↖↗↘			↕	↖		↖↗↘	↖
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	0.86	0.86		1.00	0.91			0.95	1.00		0.86	0.86
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	961	3016		1118	3194			2235	1000		3035	860
Flt Permitted	0.95	0.69		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)	961	2081		1118	3194			2235	1000		3035	860
Volume (vph)	746	1872	16	273	1844	69	0	1003	161	0	1749	818
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	777	1950	17	284	1921	72	0	1045	168	0	1822	852
RTOR Reduction (vph)	0	1	0	0	4	0	0	0	119	0	0	319
Lane Group Flow (vph)	545	2198	0	284	1989	0	0	1045	49	0	1822	533
Turn Type	Prot		Prot				Perm				Over	
Protected Phases	7	4		3	8			2			6	7
Permitted Phases							2					
Actuated Green, G (s)	20.9	36.4		20.9	36.4			28.4	28.4		28.4	20.9
Effective Green, g (s)	22.0	37.0		22.0	37.0			29.0	29.0		29.0	22.0
Actuated g/C Ratio	0.22	0.37		0.22	0.37			0.29	0.29		0.29	0.22
Clearance Time (s)	5.1	4.6		5.1	4.6			4.6	4.6		4.6	5.1
Vehicle Extension (s)	3.0	3.0		5.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	211	976		246	1182			648	290		880	189
v/s Ratio Prot	0.57	0.50		0.25	c0.62			0.47			c0.60	c0.62
v/s Ratio Perm	c0.34						0.05					
v/c Ratio	2.58	2.25		1.15	1.68			1.61	0.17		2.07	2.82
Uniform Delay, d1	39.0	31.5		39.0	31.5			35.5	26.5		35.5	39.0
Progression Factor	1.00	1.00		1.04	0.58			1.00	1.00		1.00	1.00
Incremental Delay, d2	726.0	566.9		74.1	307.7			282.8	1.2		485.6	833.5
Delay (s)	765.0	598.4		114.8	325.9			318.3	27.7		521.1	872.5
Level of Service	F	F		F	F			F	C		F	F
Approach Delay (s)	631.5		299.5				278.1				633.1	
Approach LOS	F		F				F				F	

Intersection Summary

HCM Average Control Delay	499.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.26		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	193.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt		0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3154		1118	3208		1118	2235	1000	1118	2127	
Flt Permitted		0.72		0.95	1.00		0.14	1.00	1.00	0.38	1.00	
Satd. Flow (perm)		2299		1118	3208		162	2235	1000	453	2127	
Volume (vph)	500	1354	65	276	1511	13	65	419	279	27	911	435
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	526	1425	68	291	1591	14	68	441	294	28	959	458
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	209	0	58	0
Lane Group Flow (vph)	0	2015	0	291	1604	0	68	441	85	28	1359	0
Turn Type		Prot		Prot			Perm		Perm	Perm		
Protected Phases		7	4	3	8			2			6	
Permitted Phases							2		2		6	
Actuated Green, G (s)		36.4		20.9	36.4		28.4	28.4	28.4	28.4	28.4	
Effective Green, g (s)		37.0		22.0	37.0		29.0	29.0	29.0	29.0	29.0	
Actuated g/C Ratio		0.37		0.22	0.37		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)		4.6		5.1	4.6		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		5.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1039		246	1187		47	648	290	131	617	
v/s Ratio Prot		c0.43		0.26	c0.50			0.20			c0.64	
v/s Ratio Perm		c0.29					0.42		0.09	0.06		
v/c Ratio		1.94		1.18	1.35		1.45	0.68	0.29	0.21	2.20	
Uniform Delay, d1		31.5		39.0	31.5		35.5	31.4	27.6	26.9	35.5	
Progression Factor		0.61		0.92	1.38		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		423.1		110.6	162.8		287.7	5.7	2.6	3.7	546.8	
Delay (s)		442.3		146.7	206.3		323.2	37.1	30.1	30.6	582.3	
Level of Service		F		F	F		F	D	C	C	F	
Approach Delay (s)		442.3			197.2			58.8			571.6	
Approach LOS		F			F			E			F	
Intersection Summary												
HCM Average Control Delay			347.2			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.89									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			194.2%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.86	1.00	0.97	0.86	0.97	0.88
Frbp, ped/bikes		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
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)		4047	968	2168	4047	2168	1760
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		4047	968	2168	4047	2168	1760
Volume (vph)	0	1647	558	1347	2221	214	458
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1698	575	1389	2290	221	472
RTOR Reduction (vph)	0	0	48	0	0	0	338
Lane Group Flow (vph)	0	1698	527	1389	2290	221	134
Conf. Peds. (#/hr)			33	33			38
Conf. Bikes (#/hr)			14				1
Turn Type	Prot		pm+ov	Prot			Over
Protected Phases	1	6	4	3	2 3	4	3
Permitted Phases			6				
Actuated Green, G (s)		39.0	69.1	35.0	80.0	30.1	35.0
Effective Green, g (s)		41.0	74.0	34.0	79.0	33.0	34.0
Actuated g/C Ratio		0.34	0.62	0.28	0.66	0.28	0.28
Clearance Time (s)		6.0	6.9	3.0		6.9	3.0
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1383	629	614	2664	596	499
v/s Ratio Prot		c0.42	c0.23	c0.64	0.57	0.10	0.08
v/s Ratio Perm			0.31				
v/c Ratio		1.23	0.84	2.26	0.86	0.37	0.27
Uniform Delay, d1		39.5	18.2	43.0	16.1	35.1	33.3
Progression Factor		0.44	1.40	1.00	1.00	1.00	1.00
Incremental Delay, d2		105.5	4.5	573.2	3.0	0.4	0.3
Delay (s)		123.0	30.0	616.2	19.1	35.5	33.6
Level of Service		F	C	F	B	D	C
Approach Delay (s)		99.4			244.6	34.2	
Approach LOS		F			F	C	

Intersection Summary

HCM Average Control Delay	173.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	128.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↖		↖	↑↑↑		↖	↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88				1.00	0.91			0.95	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1504	1504	2493				1583	4550			3167	1417
Flt Permitted	0.95	0.95	1.00				0.50	1.00			1.00	1.00
Satd. Flow (perm)	1504	1504	2493				835	4550			3167	1417
Volume (vph)	150	0	133	0	0	0	466	1221	0	0	334	610
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	170	0	151	0	0	0	530	1388	0	0	380	693
RTOR Reduction (vph)	0	0	126	0	0	0	0	0	0	0	0	470
Lane Group Flow (vph)	85	85	25	0	0	0	530	1388	0	0	380	223
Turn Type	Split	custom					pm+pt			Perm		Over
Protected Phases	4	4	7 1		3		5	2			6	4
Permitted Phases							2			6		
Actuated Green, G (s)	16.5	16.5	14.5				45.6	40.6			40.6	16.5
Effective Green, g (s)	17.1	17.1	15.1				46.8	41.8			41.8	17.1
Actuated g/C Ratio	0.19	0.19	0.17				0.52	0.46			0.46	0.19
Clearance Time (s)	4.6	4.6					4.0	5.2			5.2	4.6
Vehicle Extension (s)	3.0	3.0					3.0	3.2			3.4	3.0
Lane Grp Cap (vph)	286	286	418				476	2113			1471	269
v/s Ratio Prot	0.06	0.06	c0.01				c0.06	0.31			0.12	c0.16
v/s Ratio Perm							c0.52					
v/c Ratio	0.30	0.30	0.06				1.11	0.66			0.26	0.83
Uniform Delay, d1	31.3	31.3	31.5				20.6	18.6			14.7	35.1
Progression Factor	0.92	0.92	1.27				1.18	1.11			1.00	1.00
Incremental Delay, d2	0.6	0.6	0.0				70.9	1.2			0.4	24.7
Delay (s)	29.4	29.4	40.1				95.1	21.9			15.1	59.7
Level of Service	C	C	D				F	C			B	E
Approach Delay (s)		34.4			0.0			42.1			43.9	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM Average Control Delay		42.0	HCM Level of Service D
HCM Volume to Capacity ratio		0.90	
Actuated Cycle Length (s)		90.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization		77.7%	ICU Level of Service D
Analysis Period (min)		15	
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑	↑↑↑		↑↑	↑↑	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		0.91	1.00		0.86		0.97	0.91		0.97	0.95	0.88
Frt		1.00	0.85		0.97		1.00	0.98		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		4550	1417		5588		3072	4455		3072	3167	2493
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		4550	1417		5588		3072	4455		3072	3167	2493
Volume (vph)	0	2003	114	0	2997	608	446	595	96	499	485	366
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2044	116	0	3058	620	455	607	98	509	495	373
RTOR Reduction (vph)	0	0	53	0	41	0	0	1	0	0	0	3
Lane Group Flow (vph)	0	2044	63	0	3637	0	455	704	0	509	495	370
Turn Type		pm+ov					Prot			Prot		Perm
Protected Phases		6	3		2		3	8		7	4	
Permitted Phases		6										4
Actuated Green, G (s)		35.5	47.5		35.5		12.0	27.7		12.0	27.7	27.7
Effective Green, g (s)		37.0	49.0		37.0		12.0	29.0		12.0	29.0	29.0
Actuated g/C Ratio		0.41	0.54		0.41		0.13	0.32		0.13	0.32	0.32
Clearance Time (s)		5.5	4.0		5.5		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)		4.9	3.0		5.2		3.0	5.1		3.0	5.1	5.1
Lane Grp Cap (vph)		1871	834		2297		410	1436		410	1020	803
v/s Ratio Prot		0.45	0.01		c0.65		0.15	c0.16		c0.17	0.16	
v/s Ratio Perm			0.03									0.15
v/c Ratio		1.09	0.08		1.58		1.11	0.49		1.24	0.49	0.46
Uniform Delay, d1		26.5	9.7		26.5		39.0	24.5		39.0	24.5	24.3
Progression Factor		1.00	1.00		0.33		1.00	1.00		0.97	0.84	0.83
Incremental Delay, d2		50.9	0.0		262.8		77.6	1.2		127.8	0.8	0.9
Delay (s)		77.4	9.8		271.5		116.6	25.7		165.6	21.3	21.1
Level of Service		E	A		F		F	C		F	C	C
Approach Delay (s)		73.8			271.5		61.4			74.6		
Approach LOS		E			F		E			E		

Intersection Summary

HCM Average Control Delay	159.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↑↑↑	↗	↖↗	↑↑↑	↖↗	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	0.97	0.91	0.94	0.88
Frbp, 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	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1118	4047	1000	2168	3212	3152	1760
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1118	4047	1000	2168	3212	3152	1760
Volume (vph)	8	1718	800	300	2145	287	484
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	8	1735	808	303	2167	290	489
RTOR Reduction (vph)	0	0	498	0	0	0	385
Lane Group Flow (vph)	8	1735	310	303	2167	290	104
Conf. Peds. (#/hr)			55	55		1	111
Conf. Bikes (#/hr)			15				7
Turn Type	Prot		Over	Prot			Over
Protected Phases	1	6	8	5	2	8	5
Permitted Phases							
Actuated Green, G (s)	1.0	46.7	30.1	25.6	70.3	30.1	25.6
Effective Green, g (s)	2.0	49.4	33.0	25.6	73.0	33.0	25.6
Actuated g/C Ratio	0.02	0.41	0.28	0.21	0.61	0.28	0.21
Clearance Time (s)	5.0	6.7	6.9	4.0	6.7	6.9	4.0
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	19	1666	275	463	1954	867	375
v/s Ratio Prot	0.01	c0.43	c0.31	0.14	c0.67	0.09	0.06
v/s Ratio Perm							
v/c Ratio	0.42	1.04	1.13	0.65	1.11	0.33	0.28
Uniform Delay, d1	58.4	35.3	43.5	43.2	23.5	34.7	39.5
Progression Factor	0.48	1.36	6.36	1.12	1.37	1.00	1.00
Incremental Delay, d2	1.4	20.8	62.0	1.8	53.7	0.2	0.4
Delay (s)	29.6	68.8	338.6	50.1	86.0	35.0	39.9
Level of Service	C	E	F	D	F	C	D
Approach Delay (s)		154.2			81.6	38.0	
Approach LOS		F			F	D	

Intersection Summary			
HCM Average Control Delay	107.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙↗	↑↑↑	↗	↙↗	↑↑↑	↙↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Frbp, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.92	1.00	1.00	0.90	1.00	0.94	0.94
Flpb, ped/bikes	0.99	1.00	1.00	0.99	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	0.91	0.91
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1575	3167	1349	1562	3167	1307	3072	4550	1274	3072	3884	3884
Flt Permitted	0.27	1.00	1.00	0.29	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	441	3167	1349	481	3167	1307	3072	4550	1274	3072	3884	3884
Volume (vph)	102	781	154	302	533	89	258	1288	607	244	124	210
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	115	878	173	339	599	100	290	1447	682	274	139	236
RTOR Reduction (vph)	0	0	74	0	0	67	0	0	47	0	166	0
Lane Group Flow (vph)	115	878	99	339	599	33	290	1447	635	274	209	0
Conf. Peds. (#/hr)	69		51	51		69	66		76	76		66
Conf. Bikes (#/hr)			2						2			5
Turn Type	pm+pt		pm+ov	Perm		Perm	Prot		Perm		Prot	
Protected Phases	1	6	3		2		3	8		7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	38.8	38.8	49.9	28.5	28.5	28.5	11.1	26.2	26.2	11.0	26.1	
Effective Green, g (s)	40.3	40.3	51.4	30.0	30.0	30.0	11.1	26.7	26.7	11.0	26.6	
Actuated g/C Ratio	0.45	0.45	0.57	0.33	0.33	0.33	0.12	0.30	0.30	0.12	0.30	
Clearance Time (s)	3.5	5.5	4.0	5.5	5.5	5.5	4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	3.0	4.0	2.0	4.0	4.0	4.0	2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	277	1418	830	160	1056	436	379	1350	378	375	1148	
v/s Ratio Prot	0.03	c0.28	0.01		0.19		0.09	0.32		c0.09	0.05	
v/s Ratio Perm	0.16		0.06	c0.70		0.03			c0.50			
v/c Ratio	0.42	0.62	0.12	2.12	0.57	0.08	0.77	1.07	1.68	0.73	0.18	
Uniform Delay, d1	15.9	19.0	8.9	30.0	24.7	20.5	38.2	31.6	31.6	38.1	23.6	
Progression Factor	1.50	1.47	4.34	1.04	1.05	1.25	1.02	0.73	0.68	1.00	1.00	
Incremental Delay, d2	0.4	0.4	0.0	505.3	0.1	0.0	5.6	42.6	313.6	6.2	0.3	
Delay (s)	24.3	28.4	38.6	536.6	25.9	25.6	44.4	65.8	335.3	44.3	23.9	
Level of Service	C	C	D	F	C	C	D	E	F	D	C	
Approach Delay (s)		29.5			192.7			139.2			32.5	
Approach LOS		C			F			F			C	

Intersection Summary			
HCM Average Control Delay	112.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↘	↑↑↑	↗	↘	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor					1.00	1.00	1.00	0.91	1.00	1.00	0.91	
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1583	1417	1583	4550	1417	1583	4550	
Flt Permitted					0.76	1.00	0.37	1.00	1.00	0.07	1.00	
Satd. Flow (perm)					1262	1417	617	4550	1417	110	4550	
Volume (vph)	0	0	0	152	0	232	2	1941	43	15	620	0
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	171	0	261	2	2181	48	17	697	0
RTOR Reduction (vph)	0	0	0	0	0	5	0	0	16	0	0	0
Lane Group Flow (vph)	0	0	0	0	171	256	2	2181	32	17	697	0
Turn Type	Perm			Perm			Perm	Perm	Perm		Perm	
Protected Phases	4			4			4		2		2	
Permitted Phases	4			4			4	2	2		2	
Actuated Green, G (s)				20.2			20.2	59.8	59.8	59.8	59.8	59.8
Effective Green, g (s)				21.2			21.2	60.8	60.8	60.8	60.8	60.8
Actuated g/C Ratio				0.24			0.24	0.68	0.68	0.68	0.68	0.68
Clearance Time (s)				5.0			5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)				3.0			3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				297			334	417	3074	957	74	3074
v/s Ratio Prot							c0.48				0.15	
v/s Ratio Perm				0.14			c0.18	0.00	0.02		0.16	
v/c Ratio				0.58			0.77	0.00	0.71	0.03	0.23	0.23
Uniform Delay, d1				30.4			32.1	4.8	9.1	4.8	5.6	5.6
Progression Factor				1.00			1.00	0.42	0.71	0.26	0.73	0.73
Incremental Delay, d2				2.7			10.0	0.0	0.8	0.0	0.7	0.0
Delay (s)				33.1			42.1	2.0	7.3	1.3	4.8	4.1
Level of Service				C			D	A	A	A	A	A
Approach Delay (s)	0.0			38.5			7.1				4.1	
Approach LOS	A			D			A				A	

Intersection Summary			
HCM Average Control Delay	10.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
70: Olympic OnRamp & Ave of the Stars



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕	↗	↖	↕↕↕		↖↖	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	0.95	1.00	0.91		0.97	0.91	
Frt		0.92			0.96	0.85	1.00	0.99		1.00	0.97	
Flt Protected		0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2855			1473	1346	1583	4484		3072	4414	
Flt Permitted		0.88			0.82	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2549			1243	1346	1583	4484		3072	4414	
Volume (vph)	5	2	9	118	36	419	57	1524	163	39	603	150
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	6	2	10	134	41	476	65	1732	185	44	685	170
RTOR Reduction (vph)	0	8	0	0	20	1	0	11	0	0	36	0
Lane Group Flow (vph)	0	10	0	0	229	401	65	1906	0	44	819	0
Turn Type	Perm		Perm		pm+ov		Prot		Prot			
Protected Phases	8		4		4	5	1	6	5		2	
Permitted Phases	8		4		4							
Actuated Green, G (s)	20.6				20.6	28.9	7.9	46.9	8.3		47.3	
Effective Green, g (s)	22.1				22.1	30.4	7.9	47.6	8.3		48.0	
Actuated g/C Ratio	0.25				0.25	0.34	0.09	0.53	0.09		0.53	
Clearance Time (s)	5.5				5.5	4.0	4.0	4.7	4.0		4.7	
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	626				305	514	139	2372	283		2354	
v/s Ratio Prot					c0.07		0.04	c0.43	0.01		0.19	
v/s Ratio Perm	0.00				0.18	0.23						
v/c Ratio	0.02				0.75	0.78	0.47	0.80	0.16		0.35	
Uniform Delay, d1	25.7				31.4	26.8	39.0	17.4	37.6		12.0	
Progression Factor	1.00				1.00	1.00	1.41	0.27	0.80		1.50	
Incremental Delay, d2	0.0				10.0	7.4	1.1	1.3	0.3		0.4	
Delay (s)	25.7				41.4	34.1	56.1	6.0	30.4		18.4	
Level of Service	C				D	C	E	A	C		B	
Approach Delay (s)	25.7				36.9		7.7				19.0	
Approach LOS	C				D		A				B	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔	↔		↔	↔↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	1.00		1.00	0.95	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3072		1417	1583		1417	3072	4534		1583	4311	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3072		1417	1583		1417	3072	4534		1583	4311	
Volume (vph)	14	0	12	26	0	102	210	1653	40	14	469	253
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	17	0	15	32	0	126	259	2041	49	17	579	312
RTOR Reduction (vph)	0	0	13	0	0	83	0	2	0	0	97	0
Lane Group Flow (vph)	17	0	2	32	0	43	259	2088	0	17	794	0
Turn Type	Prot		custom	Prot		custom	Prot			Prot		
Protected Phases	3		3 5	4		1 4	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.8		13.8	20.3		31.8	10.0	41.4		6.6	38.0	
Effective Green, g (s)	4.7		13.9	21.2		31.0	9.2	42.3		5.8	38.9	
Actuated g/C Ratio	0.05		0.15	0.24		0.34	0.10	0.47		0.06	0.43	
Clearance Time (s)	4.9			4.9			3.2	4.9		3.2	4.9	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	160		219	373		488	314	2131		102	1863	
v/s Ratio Prot	c0.01		0.00	0.02		c0.03	c0.08	c0.46		0.01	0.18	
v/s Ratio Perm												
v/c Ratio	0.11		0.01	0.09		0.09	0.82	0.98		0.17	0.43	
Uniform Delay, d1	40.6		32.2	26.8		20.0	39.6	23.4		39.8	17.8	
Progression Factor	1.00		1.00	1.00		1.00	1.47	0.57		1.19	0.57	
Incremental Delay, d2	0.3		0.0	0.1		0.1	1.7	2.8		0.7	0.7	
Delay (s)	40.9		32.2	26.9		20.0	59.7	16.1		48.1	10.8	
Level of Service	D		C	C		C	E	B		D	B	
Approach Delay (s)		36.9			21.4			20.9			11.5	
Approach LOS		D			C			C			B	
Intersection Summary												
HCM Average Control Delay			18.6									HCM Level of Service B
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			90.0									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												

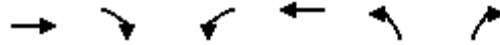


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑↑	↑↑↑↔		↔↔	↔↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.91	0.91		0.97	0.88
Frt	1.00	1.00	0.96		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3072	4550	4376		3072	2493
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3072	4550	4376		3072	2493
Volume (vph)	1362	1772	1607	549	111	242
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1513	1969	1786	610	123	269
RTOR Reduction (vph)	0	0	61	0	0	194
Lane Group Flow (vph)	1513	1969	2335	0	123	75
Turn Type	Prot					Prot
Protected Phases	5	2 5	6		4	4
Permitted Phases						
Actuated Green, G (s)	12.0	55.5	38.5		24.0	24.0
Effective Green, g (s)	13.0	57.0	40.0		25.0	25.0
Actuated g/C Ratio	0.14	0.63	0.44		0.28	0.28
Clearance Time (s)	5.0		5.5		5.0	5.0
Vehicle Extension (s)	2.0		3.0		3.0	3.0
Lane Grp Cap (vph)	444	2882	1945		853	693
v/s Ratio Prot	c0.49	0.43	c0.53		c0.04	0.03
v/s Ratio Perm						
v/c Ratio	3.41	0.68	1.20		0.14	0.11
Uniform Delay, d1	38.5	10.7	25.0		24.5	24.2
Progression Factor	1.00	1.00	1.00		1.38	3.91
Incremental Delay, d2	1089.2	1.3	95.4		0.1	0.1
Delay (s)	1127.7	12.0	120.4		33.7	94.8
Level of Service	F	B	F		C	F
Approach Delay (s)		496.8	120.4		75.6	
Approach LOS		F	F		E	

Intersection Summary

HCM Average Control Delay	326.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 73: Santa Monica Blvd & Century Park West




















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	0.91
Frbp, 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	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3212	1000	2168	3212	2168	910
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3212	1000	2168	3212	2168	910
Volume (vph)	2481	936	250	2039	382	118
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2532	955	255	2081	390	120
RTOR Reduction (vph)	0	340	0	0	0	90
Lane Group Flow (vph)	2532	615	255	2081	390	30
Confl. Peds. (#/hr)		59	59		11	
Confl. Bikes (#/hr)		14				
Turn Type		Over	Prot			Perm
Protected Phases	6	4	5	2	4	
Permitted Phases						4
Actuated Green, G (s)	59.5	28.1	17.3	80.8	28.1	28.1
Effective Green, g (s)	60.7	30.0	17.3	82.0	30.0	30.0
Actuated g/C Ratio	0.51	0.25	0.14	0.68	0.25	0.25
Clearance Time (s)	5.2	5.9	4.0	5.2	5.9	5.9
Vehicle Extension (s)	3.7	3.8	1.0	3.5	3.8	3.8
Lane Grp Cap (vph)	1625	250	313	2195	542	228
v/s Ratio Prot	c0.79	c0.62	0.12	c0.65	0.18	
v/s Ratio Perm						0.03
v/c Ratio	1.56	2.46	0.81	0.95	0.72	0.13
Uniform Delay, d1	29.6	45.0	49.8	17.1	41.2	34.9
Progression Factor	1.62	1.75	1.27	0.47	1.00	1.00
Incremental Delay, d2	251.4	658.5	4.7	3.8	8.0	1.2
Delay (s)	299.5	737.1	67.9	11.9	49.2	36.1
Level of Service	F	F	E	B	D	D
Approach Delay (s)	419.3			18.0	46.1	
Approach LOS	F			B	D	

Intersection Summary

HCM Average Control Delay	241.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
74: Constellation Blvd & Century Park West

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 			  
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	0.95	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3072	2493	3167	1417	1583	4550
Flt Permitted	0.95	1.00	1.00	1.00	0.51	1.00
Satd. Flow (perm)	3072	2493	3167	1417	857	4550
Volume (vph)	66	334	300	447	728	315
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	73	371	333	497	809	350
RTOR Reduction (vph)	0	317	0	10	0	0
Lane Group Flow (vph)	73	54	333	487	809	350
Turn Type		Perm		pm+ov	pm+pt	
Protected Phases	4		2	4	1	6
Permitted Phases		4		2	6	
Actuated Green, G (s)	12.7	12.7	54.3	67.0	67.3	67.3
Effective Green, g (s)	13.2	13.2	55.8	69.0	68.8	68.8
Actuated g/C Ratio	0.15	0.15	0.62	0.77	0.76	0.76
Clearance Time (s)	4.5	4.5	5.5	4.5	3.0	5.5
Vehicle Extension (s)	3.0	3.0	5.0	3.0	3.0	5.0
Lane Grp Cap (vph)	451	366	1964	1149	728	3478
v/s Ratio Prot	0.02		0.11	c0.06	c0.11	0.08
v/s Ratio Perm		0.02		0.28	c0.74	
v/c Ratio	0.16	0.15	0.17	0.42	1.11	0.10
Uniform Delay, d1	33.6	33.5	7.3	3.6	9.2	2.7
Progression Factor	0.69	2.19	0.10	2.94	1.00	1.00
Incremental Delay, d2	0.1	0.2	0.0	0.0	68.2	0.1
Delay (s)	23.4	73.4	0.8	10.7	77.4	2.8
Level of Service	C	E	A	B	E	A
Approach Delay (s)	65.1		6.7			54.9
Approach LOS	E		A			D
Intersection Summary						
HCM Average Control Delay			40.3		HCM Level of Service	D
HCM Volume to Capacity ratio			0.96			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	4.0
Intersection Capacity Utilization			82.7%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
 75: Olympic Blvd & Century Park West



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔	↔↔	↔↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
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)	3072	4550	4550	1417	3072	2493
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3072	4550	4550	1417	3072	2493
Volume (vph)	1225	3044	2101	198	20	112
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1263	3138	2166	204	21	115
RTOR Reduction (vph)	0	0	0	107	0	0
Lane Group Flow (vph)	1263	3138	2166	97	21	115
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	15.0	55.1	36.1	36.1	25.0	25.0
Effective Green, g (s)	15.0	56.3	37.3	37.3	25.7	25.7
Actuated g/C Ratio	0.17	0.63	0.41	0.41	0.29	0.29
Clearance Time (s)	4.0	5.2	5.2	5.2	4.7	4.7
Vehicle Extension (s)	3.0	4.8	4.6	4.6	3.0	3.0
Lane Grp Cap (vph)	512	2846	1886	587	877	712
v/s Ratio Prot	c0.41	c0.69	0.48		0.01	
v/s Ratio Perm				0.07		c0.05
v/c Ratio	2.47	1.10	1.15	0.17	0.02	0.16
Uniform Delay, d1	37.5	16.9	26.4	16.6	23.1	24.1
Progression Factor	1.55	0.76	1.00	1.00	0.88	0.91
Incremental Delay, d2	660.6	46.8	73.5	0.6	0.0	0.1
Delay (s)	718.6	59.6	99.9	17.2	20.3	22.0
Level of Service	F	E	F	B	C	C
Approach Delay (s)		248.7	92.7		21.8	
Approach LOS		F	F		C	

Intersection Summary

HCM Average Control Delay	190.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4550	1417	1583	4534		1583	3109		1583	3099	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.13	1.00		0.15	1.00	
Satd. Flow (perm)	1583	4550	1417	1583	4534		215	3109		247	3099	
Volume (vph)	125	2268	433	110	2784	66	184	969	135	162	979	162
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	126	2291	437	111	2812	67	186	979	136	164	989	164
RTOR Reduction (vph)	0	0	164	0	2	0	0	9	0	0	11	0
Lane Group Flow (vph)	126	2291	273	111	2877	0	186	1106	0	164	1142	0
Turn Type	Prot		Perm	Prot			pm+pt			Perm		
Protected Phases	1	6		5	2		3	8			4	
Permitted Phases			6				8			4		
Actuated Green, G (s)	12.7	54.0	54.0	12.0	53.3		40.0	40.0		26.0	26.0	
Effective Green, g (s)	12.7	55.0	55.0	12.0	54.3		41.0	41.0		27.0	27.0	
Actuated g/C Ratio	0.11	0.46	0.46	0.10	0.45		0.34	0.34		0.22	0.22	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		3.5	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	2085	649	158	2052		187	1062		56	697	
v/s Ratio Prot	c0.08	0.50		0.07	c0.63		0.08	c0.36			0.37	
v/s Ratio Perm			0.19				0.26			c0.66		
v/c Ratio	0.75	1.10	0.42	0.70	1.40		0.99	1.04		2.93	1.64	
Uniform Delay, d1	52.1	32.5	21.8	52.3	32.9		57.1	39.5		46.5	46.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.49	1.41		1.00	1.00	
Incremental Delay, d2	15.3	52.6	2.0	10.9	183.9		18.4	21.8		914.2	293.9	
Delay (s)	67.4	85.1	23.8	63.2	216.7		103.5	77.4		960.7	340.4	
Level of Service	E	F	C	E	F		F	E		F	F	
Approach Delay (s)		74.9			211.0			81.1			417.6	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	177.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	130.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↗	↔↔	↑↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Volume (vph)	73	2430	211	51	2091	252	89	1035	187	730	1225	134
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	74	2480	215	52	2134	257	91	1056	191	745	1250	137
RTOR Reduction (vph)	0	0	76	0	0	33	0	0	113	0	0	66
Lane Group Flow (vph)	74	2480	139	52	2134	224	91	1056	78	745	1250	71
Turn Type	Prot		Perm	Prot		pm+ov	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2	7	3	8		7		4
Permitted Phases			6			2			8			4
Actuated Green, G (s)	6.2	29.7	29.7	8.8	32.3	54.3	9.1	39.6	39.6	22.0	52.5	52.5
Effective Green, g (s)	6.2	31.2	31.2	8.8	33.8	55.8	9.1	42.0	42.0	22.0	54.9	54.9
Actuated g/C Ratio	0.05	0.26	0.26	0.07	0.28	0.46	0.08	0.35	0.35	0.18	0.46	0.46
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	4.0	4.0	6.4	6.4	4.0	6.4	6.4
Vehicle Extension (s)	2.0	4.5	4.5	2.0	5.2	2.0	2.0	4.7	4.7	2.0	4.7	4.7
Lane Grp Cap (vph)	112	835	260	159	905	465	164	782	350	397	1023	458
v/s Ratio Prot	0.03	c0.77		0.02	c0.66	0.09	0.04	c0.47		c0.34	0.56	
v/s Ratio Perm			0.14			0.14			0.08			0.07
v/c Ratio	0.66	2.97	0.53	0.33	2.36	0.48	0.55	1.35	0.22	1.88	1.22	0.16
Uniform Delay, d1	55.9	44.4	38.2	52.8	43.1	22.1	53.5	39.0	27.5	49.0	32.5	19.0
Progression Factor	1.21	1.62	2.47	0.91	0.93	0.67	1.00	1.00	1.00	0.78	0.66	0.12
Incremental Delay, d2	1.0	886.8	0.7	0.2	612.5	0.1	2.3	166.1	0.6	398.4	103.7	0.1
Delay (s)	68.8	958.7	94.8	48.1	652.4	15.0	55.8	205.1	28.1	436.7	125.3	2.3
Level of Service	E	F	F	D	F	B	E	F	C	F	F	A
Approach Delay (s)		867.8			572.5			169.7			226.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	519.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	162.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	0.86		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		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)	1583	4550	1417	1583	5707		1583	3167	1417	1583	3167	1417
Flt Permitted	0.12	1.00	1.00	0.12	1.00		0.27	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	198	4550	1417	202	5707		442	3167	1417	215	3167	1417
Volume (vph)	306	3395	123	52	2423	76	69	964	258	308	907	321
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	309	3429	124	53	2447	77	70	974	261	311	916	324
RTOR Reduction (vph)	0	0	43	0	4	0	0	0	4	0	0	0
Lane Group Flow (vph)	309	3429	81	53	2520	0	70	974	257	311	916	324
Turn Type	pm+pt		Perm	pm+pt			Perm		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2			8	5	7	4	1
Permitted Phases	6		6	2			8	8	8	4		4
Actuated Green, G (s)	40.1	33.1	33.1	38.9	32.5		25.5	25.5	31.9	36.5	36.5	43.5
Effective Green, g (s)	40.6	33.6	33.6	39.4	33.0		27.0	27.0	33.4	38.0	38.0	45.0
Actuated g/C Ratio	0.45	0.37	0.37	0.44	0.37		0.30	0.30	0.37	0.42	0.42	0.50
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5		5.5	5.5	4.0	4.0	5.5	4.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		5.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	197	1699	529	187	2093		133	950	589	197	1337	771
v/s Ratio Prot	c0.12	c0.75		0.02	0.44			0.31	0.03	c0.12	0.29	0.03
v/s Ratio Perm	0.58		0.06	0.10			0.16		0.15	c0.54		0.20
v/c Ratio	1.57	2.02	0.15	0.28	1.20		0.53	1.03	0.44	1.58	0.69	0.42
Uniform Delay, d1	43.7	28.2	18.7	20.8	28.5		26.2	31.5	21.2	22.3	21.1	14.2
Progression Factor	1.50	0.68	0.20	0.75	0.33		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	258.1	458.4	0.1	0.2	93.1		7.0	35.8	0.5	283.3	1.9	0.4
Delay (s)	323.7	477.7	3.8	15.9	102.4		33.2	67.3	21.7	305.6	23.0	14.6
Level of Service	F	F	A	B	F		C	E	C	F	C	B
Approach Delay (s)		450.1			100.7			56.4			77.9	
Approach LOS		F			F			E			E	

Intersection Summary

HCM Average Control Delay	235.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	139.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1583	3065		1583	3158		1504	1583	1417		1624	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1583	3065		1583	3158		1504	1583	1417		1624	
Volume (vph)	22	998	272	713	1281	24	172	180	124	35	109	18
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	24	1109	302	792	1423	27	191	200	138	39	121	20
RTOR Reduction (vph)	0	20	0	0	1	0	0	0	85	0	0	0
Lane Group Flow (vph)	24	1391	0	792	1449	0	191	200	53	0	180	0
Turn Type	Prot		Prot		Split		pm+ov		Split			
Protected Phases	1	6		5	2		3	3	5		4	4
Permitted Phases									3			
Actuated Green, G (s)	3.6	36.1		36.2	68.7		10.0	10.0	46.2		20.0	
Effective Green, g (s)	2.6	36.9		35.2	69.5		10.9	10.9	46.1		21.0	
Actuated g/C Ratio	0.02	0.31		0.29	0.58		0.09	0.09	0.38		0.18	
Clearance Time (s)	3.0	4.8		3.0	4.8		4.9	4.9	3.0		5.0	
Vehicle Extension (s)	3.0	6.0		3.0	6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	34	942		464	1829		137	144	592		284	
v/s Ratio Prot	0.02	c0.45		c0.50	0.46		c0.13	0.13	0.03		c0.11	
v/s Ratio Perm									0.01			
v/c Ratio	0.71	1.48		1.71	0.79		1.39	1.39	0.09		0.63	
Uniform Delay, d1	58.3	41.5		42.4	19.6		54.5	54.5	23.6		45.9	
Progression Factor	0.82	0.87		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	5.9	215.0		327.2	3.6		215.6	211.9	0.1		4.6	
Delay (s)	53.6	251.1		369.6	23.3		270.2	266.4	23.6		50.5	
Level of Service	D	F		F	C		F	F	C		D	
Approach Delay (s)		247.8			145.6			204.4			50.5	
Approach LOS		F			F			F			D	

Intersection Summary

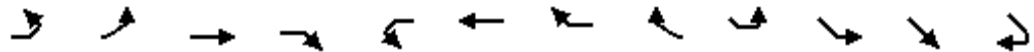
HCM Average Control Delay	182.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	118.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	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	0.90		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1504	1513	1417	1583	1497		1583	1657		1583	1667	1417
Flt Permitted	0.72	0.70	1.00	0.95	1.00		0.23	1.00		0.27	1.00	1.00
Satd. Flow (perm)	1138	1105	1417	1583	1497		376	1657		447	1667	1417
Volume (vph)	261	10	36	17	19	39	80	519	21	54	588	309
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	266	10	37	17	19	40	82	530	21	55	600	315
RTOR Reduction (vph)	0	0	32	0	30	0	0	2	0	0	0	172
Lane Group Flow (vph)	133	143	5	17	29	0	82	549	0	55	600	143
Turn Type	Perm		Perm	Split			Perm			Perm		Perm
Protected Phases		4		3	3			2			2	
Permitted Phases	4		4				2			2		2
Actuated Green, G (s)	10.0	10.0	10.0	17.0	17.0		32.6	32.6		32.6	32.6	32.6
Effective Green, g (s)	11.0	11.0	11.0	18.0	18.0		34.0	34.0		34.0	34.0	34.0
Actuated g/C Ratio	0.15	0.15	0.15	0.24	0.24		0.45	0.45		0.45	0.45	0.45
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	167	162	208	380	359		170	751		203	756	642
v/s Ratio Prot				0.01	c0.02			0.33			c0.36	
v/s Ratio Perm	0.12	c0.13	0.00				0.22			0.12		0.10
v/c Ratio	0.80	0.88	0.03	0.04	0.08		0.48	0.73		0.27	0.79	0.22
Uniform Delay, d1	30.9	31.4	27.4	21.9	22.1		14.3	16.8		12.8	17.5	12.5
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	22.5	38.9	0.1	0.2	0.4		9.5	6.2		3.3	8.4	0.8
Delay (s)	53.5	70.3	27.5	22.1	22.5		23.8	23.0		16.0	25.9	13.3
Level of Service	D	E	C	C	C		C	C		B	C	B
Approach Delay (s)		58.1			22.4			23.1			21.2	
Approach LOS		E			C			C			C	

Intersection Summary

HCM Average Control Delay	27.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	SEL2	SEL	SET	SER
Lane Configurations			↕	↗		↕↗				↘	↕↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0		4.0				4.0	4.0	
Lane Util. Factor			1.00	1.00		0.95				1.00	0.95	
Frt			1.00	0.85		0.99				1.00	0.99	
Flt Protected			0.99	1.00		0.98				0.95	1.00	
Satd. Flow (prot)			1166	1000		2169				1583	3133	
Flt Permitted			0.80	1.00		0.67				0.45	1.00	
Satd. Flow (perm)			941	1000		1475				744	3133	
Volume (vph)	19	42	285	19	243	404	40	20	4	34	301	23
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	20	43	294	20	251	416	41	21	4	35	310	24
RTOR Reduction (vph)	0	0	0	10	0	3	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	357	10	0	726	0	0	0	39	326	0
Turn Type		Perm		Perm	Perm				Perm	Perm		
Protected Phases			6			2					4	
Permitted Phases		6		6	2				4	4		
Actuated Green, G (s)			34.0	34.0		34.0				30.0	30.0	
Effective Green, g (s)			36.0	36.0		36.0				31.0	31.0	
Actuated g/C Ratio			0.48	0.48		0.48				0.41	0.41	
Clearance Time (s)			6.0	6.0		6.0				5.0	5.0	
Vehicle Extension (s)			3.0	3.0		3.0				3.0	3.0	
Lane Grp Cap (vph)			452	480		708				308	1295	
v/s Ratio Prot											0.10	
v/s Ratio Perm			0.38	0.01		0.49				0.05		
v/c Ratio			0.79	0.02		1.03				0.13	0.25	
Uniform Delay, d1			16.3	10.2		19.5				13.6	14.4	
Progression Factor			1.08	1.45		1.00				1.00	1.00	
Incremental Delay, d2			10.4	0.1		40.6				0.8	0.5	
Delay (s)			28.0	14.9		60.1				14.5	14.9	
Level of Service			C	B		E				B	B	
Approach Delay (s)			27.3			60.1					14.8	
Approach LOS			C			E					B	
Intersection Summary												
HCM Average Control Delay			31.4			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			120.8%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	NWL	NWT	NWR	NWR2
Lane Configurations				
Ideal Flow (vphpl)	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1583	1667	1417	
Flt Permitted	0.54	1.00	1.00	
Satd. Flow (perm)	895	1667	1417	
Volume (vph)	61	328	212	340
Peak-hour factor, PHF	0.97	0.97	0.97	0.97
Adj. Flow (vph)	63	338	219	351
RTOR Reduction (vph)	0	0	77	0
Lane Group Flow (vph)	63	338	493	0
Turn Type	Perm		Perm	
Protected Phases		8		
Permitted Phases	8		8	
Actuated Green, G (s)	30.0	30.0	30.0	
Effective Green, g (s)	31.0	31.0	31.0	
Actuated g/C Ratio	0.41	0.41	0.41	
Clearance Time (s)	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	
Lane Grp Cap (vph)	370	689	586	
v/s Ratio Prot		0.20		
v/s Ratio Perm	0.07		0.35	
v/c Ratio	0.17	0.49	0.84	
Uniform Delay, d1	13.9	16.2	19.8	
Progression Factor	0.95	0.92	0.94	
Incremental Delay, d2	0.1	0.2	1.4	
Delay (s)	13.3	15.1	20.0	
Level of Service	B	B	B	
Approach Delay (s)		17.9		
Approach LOS		B		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86			1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	1.00
Satd. Flow (prot)	2168	3967		1118	3959			1148		1118	1176	1000
Flt Permitted	0.95	1.00		0.05	1.00			0.90		0.24	1.00	1.00
Satd. Flow (perm)	2168	3967		54	3959			1039		285	1176	1000
Volume (vph)	204	2400	363	96	2603	445	9	249	53	44	292	204
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	206	2424	367	97	2629	449	9	252	54	44	295	206
RTOR Reduction (vph)	0	18	0	0	14	0	0	5	0	0	0	0
Lane Group Flow (vph)	206	2773	0	97	3064	0	0	310	0	44	295	206
Turn Type	Prot		Perm			Perm			Perm		pm+ov	
Protected Phases	5	2			6			4			4	5
Permitted Phases				6			4			4		4
Actuated Green, G (s)	18.5	109.0		86.5	86.5			32.0		32.0	32.0	50.5
Effective Green, g (s)	18.5	109.0		86.5	86.5			33.0		33.0	33.0	51.5
Actuated g/C Ratio	0.12	0.73		0.58	0.58			0.22		0.22	0.22	0.34
Clearance Time (s)	4.0	4.0		4.0	4.0			5.0		5.0	5.0	4.0
Vehicle Extension (s)	1.5	4.0		4.0	4.0			3.0		3.0	3.0	1.5
Lane Grp Cap (vph)	267	2883		31	2283			229		63	259	370
v/s Ratio Prot	0.10	c0.70			0.77						0.25	0.07
v/s Ratio Perm				c1.78				c0.30		0.15		0.14
v/c Ratio	0.77	0.96		3.13	1.34			1.36		0.70	1.14	0.56
Uniform Delay, d1	63.7	18.6		31.8	31.8			58.5		53.9	58.5	40.0
Progression Factor	1.39	0.58		1.00	1.00			1.00		1.11	1.12	0.92
Incremental Delay, d2	1.2	1.3		1036.9	157.1			185.6		24.1	93.7	0.8
Delay (s)	89.8	12.1		1068.7	188.8			244.1		83.7	159.1	37.6
Level of Service	F	B		F	F			F		F	F	D
Approach Delay (s)		17.5			215.7			244.1			107.1	
Approach LOS		B			F			F			F	

Intersection Summary

HCM Average Control Delay	124.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.42		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	131.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↑↑	↗	↖	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00	0.57	1.00	1.00	0.88
Flpb, ped/bikes	0.96	1.00		0.99	1.00		0.95	1.00	1.00	0.74	1.00	1.00
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1520	1562		1569	1651		1497	3167	801	1173	3167	1248
Flt Permitted	0.62	1.00		0.46	1.00		0.44	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	988	1562		759	1651		693	3167	801	549	3167	1248
Volume (vph)	99	172	80	191	211	10	45	431	146	39	437	59
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	101	176	82	195	215	10	46	440	149	40	446	60
RTOR Reduction (vph)	0	22	0	0	2	0	0	0	81	0	0	38
Lane Group Flow (vph)	101	236	0	195	223	0	46	440	68	40	446	22
Conf. Peds. (#/hr)	66		43	43		66	111		339	339		111
Conf. Bikes (#/hr)			4			6			18			1
Turn Type	Perm			pm+pt			Perm		pm+ov	Perm		Perm
Protected Phases		6		5	2			8	5			4
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	27.6	27.6		37.6	37.6		27.0	27.0	33.5	27.0	27.0	27.0
Effective Green, g (s)	29.0	29.0		39.0	39.0		28.0	28.0	34.0	28.0	28.0	28.0
Actuated g/C Ratio	0.39	0.39		0.52	0.52		0.37	0.37	0.45	0.37	0.37	0.37
Clearance Time (s)	5.4	5.4		3.5	5.4		5.0	5.0	3.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	382	604		459	859		259	1182	406	205	1182	466
v/s Ratio Prot		0.15		c0.03	0.13			0.14	0.01		c0.14	
v/s Ratio Perm	0.10			c0.19			0.07		0.07	0.07		0.02
v/c Ratio	0.26	0.39		0.42	0.26		0.18	0.37	0.17	0.20	0.38	0.05
Uniform Delay, d1	15.7	16.6		10.4	10.0		15.8	17.1	12.1	15.9	17.1	15.0
Progression Factor	1.16	1.19		1.00	1.00		1.82	1.84	4.60	1.00	1.00	1.00
Incremental Delay, d2	1.7	1.9		0.6	0.7		1.3	0.8	0.2	2.1	0.9	0.2
Delay (s)	19.9	21.7		11.0	10.7		30.0	32.3	56.0	18.0	18.1	15.2
Level of Service	B	C		B	B		C	C	E	B	B	B
Approach Delay (s)		21.2			10.8			37.7			17.7	
Approach LOS		C			B			D			B	

Intersection Summary

HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕			↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95			0.95	1.00
Frbp, ped/bikes		1.00	1.00		0.96		1.00	0.94			1.00	0.30
Flpb, ped/bikes		0.93	1.00		0.92		0.82	1.00			0.94	1.00
Frt		1.00	0.85		0.98		1.00	0.99			1.00	0.85
Flt Protected		0.99	1.00		0.99		0.95	1.00			0.99	1.00
Satd. Flow (prot)		1526	1417		1437		1296	2956			2951	420
Flt Permitted		0.87	1.00		0.93		0.27	1.00			0.62	1.00
Satd. Flow (perm)		1348	1417		1347		362	2956			1839	420
Volume (vph)	57	136	29	31	124	21	99	586	50	186	562	21
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	61	146	31	33	133	23	106	630	54	200	604	23
RTOR Reduction (vph)	0	0	31	0	1	0	0	3	0	0	0	8
Lane Group Flow (vph)	0	207	0	0	188	0	106	681	0	0	804	15
Confl. Peds. (#/hr)	570		715	715		570	814		795	795		814
Confl. Bikes (#/hr)			9			12			43			28
Turn Type	Perm		NA	Perm			Perm			Perm		Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		2
Actuated Green, G (s)		30.5	0.0		30.5		34.1	34.1			34.1	34.1
Effective Green, g (s)		32.0	0.0		32.0		35.0	35.0			35.0	35.0
Actuated g/C Ratio		0.43	0.00		0.43		0.47	0.47			0.47	0.47
Clearance Time (s)		5.5			5.5		4.9	4.9			4.9	4.9
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		575	0		575		169	1379			858	196
v/s Ratio Prot								0.23				
v/s Ratio Perm		c0.15			0.14		0.29				c0.44	0.04
v/c Ratio		0.36	0.00		0.33		0.63	0.49			1.03dl	0.08
Uniform Delay, d1		14.6	37.5		14.3		15.1	13.9			19.0	11.1
Progression Factor		1.00	1.00		1.00		1.00	1.00			0.93	0.82
Incremental Delay, d2		1.8	0.0		1.5		16.3	1.3			18.2	0.7
Delay (s)		16.3	37.5		15.8		31.4	15.1			35.9	9.8
Level of Service		B	D		B		C	B			D	A
Approach Delay (s)		19.1			15.8			17.3			35.1	
Approach LOS		B			B			B			D	

Intersection Summary

HCM Average Control Delay	24.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕	↗		↕↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			0.95	1.00		0.95	
Frbp, ped/bikes		0.84			0.98			1.00	0.67		0.98	
Flpb, ped/bikes		0.99			0.91			1.00	1.00		1.00	
Frt		0.92			0.99			1.00	0.85		0.99	
Flt Protected		1.00			0.97			1.00	1.00		1.00	
Satd. Flow (prot)		1702			1914			2235	668		2187	
Flt Permitted		0.90			0.61			1.00	1.00		0.93	
Satd. Flow (perm)		1534			1206			2235	668		2039	
Volume (vph)	24	158	201	282	186	33	0	988	289	9	461	20
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	24	161	205	288	190	34	0	1008	295	9	470	20
RTOR Reduction (vph)	0	24	0	0	4	0	0	0	105	0	2	0
Lane Group Flow (vph)	0	366	0	0	508	0	0	1008	190	0	497	0
Conf. Peds. (#/hr)	138		216	216		138	330		211	211		330
Conf. Bikes (#/hr)			2			2			16			3
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			4			2				2
Permitted Phases	4			4			2		2	2		
Actuated Green, G (s)		68.5			68.5			71.0	71.0		71.0	
Effective Green, g (s)		70.0			70.0			72.0	72.0		72.0	
Actuated g/C Ratio		0.47			0.47			0.48	0.48		0.48	
Clearance Time (s)		5.5			5.5			5.0	5.0		5.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		716			563			1073	321		979	
v/s Ratio Prot								c0.45				
v/s Ratio Perm		0.24			c0.42				0.28		0.24	
v/c Ratio		0.51			1.29dl			0.94	0.59		0.51	
Uniform Delay, d1		28.0			36.9			36.9	28.4		26.8	
Progression Factor		0.73			1.36			1.59	3.06		1.00	
Incremental Delay, d2		0.2			11.1			2.2	0.7		1.9	
Delay (s)		20.8			61.1			61.0	87.5		28.7	
Level of Service		C			E			E	F		C	
Approach Delay (s)		20.8			61.1			67.0			28.7	
Approach LOS		C			E			E			C	

Intersection Summary

HCM Average Control Delay	52.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.97	0.86		0.97	0.86		1.00	0.91		1.00	0.86	0.86
Frbp, ped/bikes	1.00	0.94		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.93	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	2168	3718		2168	3972		1102	2896		1039	3035	727
Flt Permitted	0.95	1.00		0.95	1.00		0.20	1.00		0.22	1.00	1.00
Satd. Flow (perm)	2168	3718		2168	3972		227	2896		243	3035	727
Volume (vph)	423	2797	635	212	2524	106	438	720	199	53	598	280
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	445	2944	668	223	2657	112	461	758	209	56	629	295
RTOR Reduction (vph)	0	27	0	0	4	0	0	33	0	0	0	1
Lane Group Flow (vph)	445	3585	0	223	2765	0	461	934	0	56	629	294
Conf. Peds. (#/hr)	197		162	162		197	210		216	216		210
Conf. Bikes (#/hr)			3			2			13			5
Turn Type	Prot			Prot			pm+pt			Perm		pm+ov
Protected Phases	5	2		1	6		3	8			4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	32.8	76.5		13.0	56.7		45.1	45.1		31.1	31.1	63.9
Effective Green, g (s)	32.8	78.0		13.0	58.2		47.0	47.0		33.0	33.0	65.8
Actuated g/C Ratio	0.22	0.52		0.09	0.39		0.31	0.31		0.22	0.22	0.44
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.9		5.9	5.9	4.0
Vehicle Extension (s)	2.0	4.0		2.0	4.0		3.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	474	1933		188	1541		129	907		53	668	338
v/s Ratio Prot	0.21	c0.96		0.10	c0.70		c0.24	0.32			0.21	0.19
v/s Ratio Perm							c0.88			0.23		0.21
v/c Ratio	0.94	1.85		1.19	1.79		3.57	1.03		1.06	0.94	0.87
Uniform Delay, d1	57.6	36.0		68.5	45.9		47.0	51.5		58.5	57.6	38.2
Progression Factor	1.34	1.09		0.80	0.71		1.00	1.00		1.03	1.02	1.14
Incremental Delay, d2	4.0	384.7		88.9	357.8		1177.2	37.8		126.0	18.0	16.8
Delay (s)	81.2	423.7		144.1	390.3		1224.2	89.3		186.0	76.9	60.3
Level of Service	F	F		F	F		F	F		F	E	E
Approach Delay (s)		386.2			372.0			455.7			78.2	
Approach LOS		F			F			F			E	

Intersection Summary			
HCM Average Control Delay	360.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.36		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	169.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.95		1.00	0.95	
Frt		0.97			0.92		1.00	0.95		1.00	1.00	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1105			1063		1118	2126		1118	2228	
Flt Permitted		0.59			0.80		0.19	1.00		0.15	1.00	
Satd. Flow (perm)		676			869		228	2126		181	2228	
Volume (vph)	133	28	48	179	16	273	42	1242	598	379	906	21
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	137	29	49	185	16	281	43	1280	616	391	934	22
RTOR Reduction (vph)	0	18	0	0	11	0	0	97	0	0	3	0
Lane Group Flow (vph)	0	197	0	0	471	0	43	1799	0	391	953	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		25.0			25.0		25.6	25.6		25.6	25.6	
Effective Green, g (s)		26.0			26.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio		0.43			0.43		0.43	0.43		0.43	0.43	
Clearance Time (s)		5.0			5.0		4.4	4.4		4.4	4.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		293			377		99	921		78	965	
v/s Ratio Prot								0.85			0.43	
v/s Ratio Perm		0.29			0.54		0.19			0.16		
v/c Ratio		0.67			1.25		0.43	1.95		5.01	0.99	
Uniform Delay, d1		13.6			17.0		11.9	17.0		17.0	16.8	
Progression Factor		1.00			1.00		0.26	0.17		1.00	1.00	
Incremental Delay, d2		6.0			132.1		1.3	429.4		1834.2	26.2	
Delay (s)		19.6			149.1		4.4	432.3		1851.2	43.0	
Level of Service		B			F		A	F		F	D	
Approach Delay (s)		19.6			149.1			422.8			567.9	
Approach LOS		B			F			F			F	

Intersection Summary

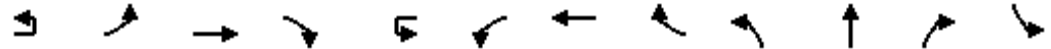
HCM Average Control Delay	417.0	HCM Level of Service	F
HCM Volume to Capacity ratio	3.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	173.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	1125		1118	1163		1118	2222		1118	2212	
Flt Permitted	0.34	1.00		0.31	1.00		0.15	1.00		0.15	1.00	
Satd. Flow (perm)	397	1125		370	1163		174	2222		174	2212	
Volume (vph)	195	328	136	60	408	35	103	1602	65	22	982	73
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	203	342	142	62	425	36	107	1669	68	23	1023	76
RTOR Reduction (vph)	0	25	0	0	4	0	0	5	0	0	9	0
Lane Group Flow (vph)	203	459	0	62	458	0	107	1732	0	23	1090	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	23.4	23.4		23.4	23.4		26.5	26.5		26.5	26.5	
Effective Green, g (s)	25.0	25.0		25.0	25.0		27.0	27.0		27.0	27.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.45	0.45		0.45	0.45	
Clearance Time (s)	5.6	5.6		5.6	5.6		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)	165	469		154	485		78	1000		78	995	
v/s Ratio Prot		0.41			0.39			c0.78			0.49	
v/s Ratio Perm	c0.51			0.17			0.61			0.13		
v/c Ratio	1.23	0.98		0.40	0.94		1.37	1.73		0.29	1.10	
Uniform Delay, d1	17.5	17.2		12.3	16.8		16.5	16.5		10.5	16.5	
Progression Factor	0.55	0.51		1.00	1.00		2.32	2.42		0.45	0.56	
Incremental Delay, d2	108.6	8.1		1.7	27.1		174.6	329.8		0.9	44.6	
Delay (s)	118.4	16.9		14.0	43.9		212.9	369.7		5.6	53.9	
Level of Service	F	B		B	D		F	F		A	D	
Approach Delay (s)		46.9			40.4			360.6			52.9	
Approach LOS		D			D			F			D	

Intersection Summary

HCM Average Control Delay	186.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	149.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↔↔↔	↔		↔↔	↔↔↔	↔	↔	↔↔		↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		0.97	0.91	1.00		0.97	0.91	1.00	1.00	0.95		1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		3072	4550	1417		3072	4550	1417	1583	3153		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (perm)		3072	4550	1417		3072	4550	1417	1583	3153		1583
Volume (vph)	2	127	2644	105	50	153	2195	330	142	1354	39	222
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2	131	2726	108	52	158	2263	340	146	1396	40	229
RTOR Reduction (vph)	0	0	0	35	0	0	0	78	0	2	0	0
Lane Group Flow (vph)	0	133	2726	73	0	210	2263	262	146	1434	0	229
Turn Type	Prot	Prot	pm+ov		Prot	Prot	pm+ov		Prot			Prot
Protected Phases	1	1	6	3	5	5	2	7	3	8		7
Permitted Phases			6				2					
Actuated Green, G (s)		10.5	32.1	44.1		13.4	35.0	47.0	12.0	42.3		12.0
Effective Green, g (s)		10.5	33.6	45.6		13.4	36.5	48.5	12.0	45.0		12.0
Actuated g/C Ratio		0.09	0.28	0.38		0.11	0.30	0.40	0.10	0.38		0.10
Clearance Time (s)		4.0	5.5	4.0		4.0	5.5	4.0	4.0	6.7		4.0
Vehicle Extension (s)		3.0	5.0	3.0		3.0	5.0	3.0	3.0	4.0		3.0
Lane Grp Cap (vph)		269	1274	586		343	1384	620	158	1182		158
v/s Ratio Prot		0.04	c0.60	0.01		c0.07	c0.50	0.04	0.09	c0.45		c0.14
v/s Ratio Perm				0.04				0.14				
v/c Ratio		0.49	2.14	0.13		0.61	1.64	0.42	0.92	1.21		1.45
Uniform Delay, d1		52.2	43.2	24.2		50.8	41.8	25.7	53.5	37.5		54.0
Progression Factor		0.58	1.29	2.64		0.45	0.89	1.47	1.00	1.00		1.03
Incremental Delay, d2		0.1	513.1	0.0		0.3	286.1	0.0	49.4	104.0		211.3
Delay (s)		30.2	568.8	64.0		23.0	323.3	37.8	103.0	141.5		266.9
Level of Service		C	F	E		C	F	D	F	F		F
Approach Delay (s)			526.3			266.4			137.9			
Approach LOS			F			F			F			

Intersection Summary													
HCM Average Control Delay	302.6			HCM Level of Service				F					
HCM Volume to Capacity ratio	1.52												
Actuated Cycle Length (s)	120.0				Sum of lost time (s)				20.0				
Intersection Capacity Utilization	133.9%			ICU Level of Service				H					
Analysis Period (min)	15												
c Critical Lane Group													



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3167	1417
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3167	1417
Volume (vph)	935	109
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	964	112
RTOR Reduction (vph)	0	70
Lane Group Flow (vph)	964	42
Turn Type		Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	42.3	42.3
Effective Green, g (s)	45.0	45.0
Actuated g/C Ratio	0.38	0.38
Clearance Time (s)	6.7	6.7
Vehicle Extension (s)	4.0	4.0
Lane Grp Cap (vph)	1188	531
v/s Ratio Prot	0.30	
v/s Ratio Perm		0.03
v/c Ratio	0.81	0.08
Uniform Delay, d1	33.7	24.2
Progression Factor	0.86	1.42
Incremental Delay, d2	1.2	0.0
Delay (s)	30.2	34.3
Level of Service	C	C
Approach Delay (s)	72.1	
Approach LOS	E	

Intersection Summary

































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↗		↖	↕↗		↖	↕↗		↖	↕↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4533		1583	5680		1583	3108		1583	3144	
Flt Permitted	0.13	1.00		0.11	1.00		0.20	1.00		0.13	1.00	
Satd. Flow (perm)	214	4533		189	5680		339	3108		215	3144	
Volume (vph)	51	2651	67	101	2432	160	52	1212	169	156	964	49
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	54	2820	71	107	2587	170	55	1289	180	166	1026	52
RTOR Reduction (vph)	0	3	0	0	11	0	0	12	0	0	0	0
Lane Group Flow (vph)	54	2888	0	107	2746	0	55	1457	0	166	1078	0
Turn Type	Perm		pm+pt		Perm		pm+pt		Perm		pm+pt	
Protected Phases	2		1		6		8		7		4	
Permitted Phases	2		6		8		4		8		4	
Actuated Green, G (s)	30.2	30.2		41.2	41.2		25.6	25.6		38.4	38.4	
Effective Green, g (s)	31.2	31.2		42.2	42.2		27.0	27.0		39.8	39.8	
Actuated g/C Ratio	0.35	0.35		0.47	0.47		0.30	0.30		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.5	5.0		5.4	5.4		3.5	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1571		197	2663		102	932		229	1390	
v/s Ratio Prot	c0.64		0.04		c0.48		c0.47		0.07		c0.34	
v/s Ratio Perm	0.25		0.21		0.16		0.25		0.25		0.25	
v/c Ratio	0.73	1.84		0.54	1.03		0.54	1.56		0.72	0.78	
Uniform Delay, d1	25.7	29.4		41.0	23.9		26.3	31.5		21.0	21.3	
Progression Factor	0.61	0.68		2.18	1.77		0.85	0.86		1.00	1.00	
Incremental Delay, d2	5.6	377.6		0.3	15.9		10.4	256.3		10.8	4.3	
Delay (s)	21.3	397.5		89.8	58.1		32.7	283.3		31.8	25.6	
Level of Service	C		F		E		C		F		C	
Approach Delay (s)	390.6		59.2		274.3		26.4		26.4		26.4	
Approach LOS	F		E		F		C		C		C	

Intersection Summary

HCM Average Control Delay	206.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	131.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 91: Pico Blvd & Westwood Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	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	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4550	1417	1583	3167	1417	1583	3135	3135
Flt Permitted	0.14	1.00	1.00	0.14	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	232	4550	1417	233	4550	1417	1583	3167	1417	1583	3135	3135
Volume (vph)	214	2057	83	83	1811	274	198	996	114	303	806	57
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	218	2099	85	85	1848	280	202	1016	116	309	822	58
RTOR Reduction (vph)	0	0	49	0	0	24	0	0	0	0	6	0
Lane Group Flow (vph)	218	2099	36	85	1848	256	202	1016	116	309	874	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	Prot		pm+ov		Prot	
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	33.3	26.8	35.7	33.1	26.7	33.2	8.9	32.2	38.6	6.5	29.8	
Effective Green, g (s)	34.7	28.7	37.1	34.5	28.6	34.6	8.4	33.4	39.3	6.0	31.0	
Actuated g/C Ratio	0.39	0.32	0.41	0.38	0.32	0.38	0.09	0.37	0.44	0.07	0.34	
Clearance Time (s)	3.5	5.9	3.5	3.5	5.9	3.5	3.5	5.2	3.5	3.5	5.2	
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	
Lane Grp Cap (vph)	180	1451	584	178	1446	608	148	1175	682	106	1080	
v/s Ratio Prot	c0.08	c0.46	0.01	0.03	0.41	0.03	c0.13	c0.32	0.01	c0.20	0.28	
v/s Ratio Perm	0.39		0.02	0.15		0.15			0.07			
v/c Ratio	1.21	1.45	0.06	0.48	1.28	0.42	1.36	0.86	0.17	2.92	0.81	
Uniform Delay, d1	26.4	30.6	16.0	22.6	30.7	20.3	40.8	26.2	15.4	42.0	26.8	
Progression Factor	1.95	0.29	0.06	1.00	1.00	1.00	1.00	1.00	1.00	1.39	0.89	
Incremental Delay, d2	99.9	201.3	0.0	2.0	130.6	0.5	201.3	7.4	0.1	876.0	3.0	
Delay (s)	151.3	210.3	1.0	24.6	161.3	20.8	242.1	33.6	15.5	934.5	27.0	
Level of Service	F	F	A	C	F	C	F	C	B	F	C	
Approach Delay (s)		197.5			138.3			63.6			262.8	
Approach LOS		F			F			E			F	
Intersection Summary												
HCM Average Control Delay			165.0				HCM Level of Service				F	
HCM Volume to Capacity ratio			1.31									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			115.2%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 92: Le Conte Ave & Gayley Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.92		1.00	1.00	0.84	1.00	0.96		1.00	1.00	
Flpb, ped/bikes	0.86	1.00		0.90	1.00	1.00	0.94	1.00		0.95	1.00	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	0.94		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1362	1400		1424	1667	1196	1488	2867		1497	3143	
Flt Permitted	0.74	1.00		0.65	1.00	1.00	0.44	1.00		0.49	1.00	
Satd. Flow (perm)	1055	1400		975	1667	1196	694	2867		780	3143	
Volume (vph)	19	56	75	116	31	56	25	259	152	89	484	12
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	20	60	80	123	33	60	27	276	162	95	515	13
RTOR Reduction (vph)	0	58	0	0	0	43	0	63	0	0	2	0
Lane Group Flow (vph)	20	82	0	123	33	17	27	375	0	95	526	0
Conf. Peds. (#/hr)	130		66	66		130	66		85	85		66
Conf. Bikes (#/hr)			1			1			5			14
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2			2		
Actuated Green, G (s)	20.2	20.2		20.2	20.2	20.2	45.3	45.3		45.3	45.3	
Effective Green, g (s)	21.0	21.0		21.0	21.0	21.0	46.0	46.0		46.0	46.0	
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.8	4.8		4.8	4.8	4.8	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	392		273	467	335	426	1758		478	1928	
v/s Ratio Prot		0.06			0.02			0.13			c0.17	
v/s Ratio Perm	0.02			c0.13		0.01	0.04			0.12		
v/c Ratio	0.07	0.21		0.45	0.07	0.05	0.06	0.21		0.20	0.27	
Uniform Delay, d1	19.8	20.7		22.2	19.8	19.7	5.8	6.5		6.4	6.7	
Progression Factor	1.00	1.00		0.93	0.99	1.11	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.2		5.2	0.3	0.3	0.3	0.3		0.9	0.3	
Delay (s)	20.3	21.9		26.0	19.9	22.1	6.1	6.7		7.3	7.1	
Level of Service	C	C		C	B	C	A	A		A	A	
Approach Delay (s)		21.7			24.0			6.7			7.1	
Approach LOS		C			C			A			A	

Intersection Summary

HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↘		↗	↕	↘	↗	↕	↘
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor				1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes				1.00	0.89		1.00	1.00	0.81	1.00	1.00	
Flpb, ped/bikes				1.00	1.00		0.98	1.00	1.00	0.97	1.00	
Frt				1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)				1118	902		1098	2235	807	1087	2234	
Flt Permitted				0.95	1.00		0.44	1.00	1.00	0.19	1.00	
Satd. Flow (perm)				1118	902		512	2235	807	218	2234	
Volume (vph)	0	0	0	126	4	68	3	1100	164	231	507	2
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	130	4	70	3	1134	169	238	523	2
RTOR Reduction (vph)	0	0	0	0	49	0	0	0	68	0	0	0
Lane Group Flow (vph)	0	0	0	130	25	0	3	1134	101	238	525	0
Confl. Peds. (#/hr)	55						55	20		161	161	20
Confl. Bikes (#/hr)							1		14			
Turn Type	Split		Perm			Perm		Perm custom				
Protected Phases	3	3			4			6				
Permitted Phases				4			6		6	2	2	
Actuated Green, G (s)				21.0	21.0		44.4	44.4	44.4	44.4	44.4	
Effective Green, g (s)				22.0	22.0		45.0	45.0	45.0	45.0	45.0	
Actuated g/C Ratio				0.29	0.29		0.60	0.60	0.60	0.60	0.60	
Clearance Time (s)				5.0	5.0		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)				328	265		307	1341	484	131	1340	
v/s Ratio Prot					0.03			0.51				
v/s Ratio Perm				c0.12			0.01		0.13	c1.09	0.23	
v/c Ratio				0.40	0.09		0.01	0.85	0.21	1.82	0.39	
Uniform Delay, d1				21.2	19.2		6.0	12.2	6.9	15.0	7.8	
Progression Factor				1.46	2.73		0.92	0.88	1.05	1.00	1.00	
Incremental Delay, d2				0.4	0.1		0.0	0.7	0.1	395.9	0.9	
Delay (s)				31.2	52.7		5.6	11.4	7.3	410.9	8.7	
Level of Service				C	D		A	B	A	F	A	
Approach Delay (s)		0.0			39.0			10.8			134.2	
Approach LOS		A			D			B			F	

Intersection Summary			
HCM Average Control Delay	54.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86		1.00	0.95	1.00	1.00	1.00	0.88
Frbp, ped/bikes	1.00	0.98		1.00	0.95		1.00	1.00	0.67	1.00	1.00	0.89
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.96	1.00	1.00	0.86	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3940		1118	3759		1076	2235	673	964	1176	1570
Flt Permitted	0.95	1.00		0.06	1.00		0.37	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)	2168	3940		71	3759		421	2235	673	394	1176	1570
Volume (vph)	343	3759	183	44	2652	516	66	512	72	132	190	305
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	365	3999	195	47	2821	549	70	545	77	140	202	324
RTOR Reduction (vph)	0	5	0	0	22	0	0	0	0	0	0	0
Lane Group Flow (vph)	365	4189	0	47	3348	0	70	545	77	140	202	324
Confl. Peds. (#/hr)	165		141	141		165	128		258	258		128
Confl. Bikes (#/hr)			8			7			18			3
Turn Type	Prot			Perm			pm+pt		Perm	Perm		pm+ov
Protected Phases	1	6			2		3	8			4	1
Permitted Phases				2			8		8	4		4
Actuated Green, G (s)	27.7	97.0		65.3	65.3		42.2	42.2	42.2	30.4	30.4	58.1
Effective Green, g (s)	27.7	98.0		66.3	66.3		44.0	44.0	44.0	32.2	32.2	59.9
Actuated g/C Ratio	0.18	0.65		0.44	0.44		0.29	0.29	0.29	0.21	0.21	0.40
Clearance Time (s)	4.0	5.0		5.0	5.0		4.0	5.8	5.8	5.8	5.8	4.0
Vehicle Extension (s)	2.0	4.0		4.0	4.0		2.0	3.0	3.0	3.0	3.0	2.0
Lane Grp Cap (vph)	400	2574		31	1661		158	656	197	85	252	669
v/s Ratio Prot	0.17	c1.06			c0.89		0.02	c0.24			0.17	0.09
v/s Ratio Perm				0.66			0.11		0.11	c0.35		0.12
v/c Ratio	0.91	1.63		1.52	2.02		0.44	0.83	0.39	1.65	0.80	0.48
Uniform Delay, d1	60.0	26.0		41.9	41.9		40.9	49.5	42.3	58.9	55.9	33.5
Progression Factor	0.99	1.08		0.44	0.43		1.00	1.00	1.00	1.01	1.01	1.16
Incremental Delay, d2	3.3	282.6		246.7	457.2		0.7	8.8	1.3	334.8	15.6	0.2
Delay (s)	62.6	310.7		264.9	475.2		41.6	58.3	43.6	394.3	71.8	39.1
Level of Service	E	F		F	F		D	E	D	F	E	D
Approach Delay (s)		290.8			472.4			55.0			123.7	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	327.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.81		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	150.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 95: Sunset Blvd & Veteran Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑		↖		↖		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0		4.0			
Lane Util. Factor		0.95		1.00	0.95		1.00		1.00			
Frt		0.99		1.00	1.00		1.00		0.85			
Flt Protected		1.00		0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3125		1583	3167		1583		1417			
Flt Permitted		1.00		0.06	1.00		0.76		1.00			
Satd. Flow (perm)		3125		107	3167		1262		1417			
Volume (vph)	0	2016	194	925	1394	0	70	0	691	0	0	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2078	200	954	1437	0	72	0	712	0	0	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	183	0	0	0
Lane Group Flow (vph)	0	2272	0	954	1437	0	72	0	529	0	0	0
Turn Type				pm+pt			custom		Over	Perm		
Protected Phases		2		1	6				1		4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		57.2		100.3	100.3		10.7		39.1			
Effective Green, g (s)		58.2		101.3	101.3		10.7		39.1			
Actuated g/C Ratio		0.49		0.84	0.84		0.09		0.33			
Clearance Time (s)		5.0		4.0	5.0		4.0		4.0			
Vehicle Extension (s)		4.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		1516		571	2673		113		462			
v/s Ratio Prot		0.73		c0.54	0.45				0.37			
v/s Ratio Perm				c0.86			c0.06					
v/c Ratio		1.50		1.67	0.54		0.64		1.15			
Uniform Delay, d1		30.9		36.7	2.7		52.8		40.5			
Progression Factor		1.00		1.19	0.62		1.00		1.00			
Incremental Delay, d2		227.9		308.1	0.6		11.2		88.3			
Delay (s)		258.8		351.8	2.3		64.0		128.8			
Level of Service		F		F	A		E		F			
Approach Delay (s)		258.8			141.7			122.8			0.0	
Approach LOS		F			F			F			A	

Intersection Summary

HCM Average Control Delay	187.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	140.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑↑	↔	↔	↑↑	↔↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		0.97	0.86		1.00	0.95	1.00	1.00	0.95	0.88
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3931		2168	3979		1104	2235	955	1106	2235	1667
Flt Permitted	0.95	1.00		0.95	1.00		0.33	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	2168	3931		2168	3979		389	2235	955	321	2235	1667
Volume (vph)	941	4223	455	17	2859	288	256	558	132	514	319	322
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1023	4590	495	18	3108	313	278	607	143	559	347	350
RTOR Reduction (vph)	0	12	0	0	11	0	0	0	0	0	0	3
Lane Group Flow (vph)	1023	5073	0	18	3410	0	278	607	143	559	347	347
Confl. Peds. (#/hr)	13		43	43		13	53		19	19		53
Confl. Bikes (#/hr)			16			5			13			18
Turn Type	Prot			Prot			pm+pt		pm+ov	Perm		pm+ov
Protected Phases	5	2		1	6		3	8	1		4	5
Permitted Phases							8		8	4		4
Actuated Green, G (s)	30.0	91.5		5.0	66.5		37.1	37.1	42.1	28.1	28.1	58.1
Effective Green, g (s)	30.0	93.0		5.0	68.0		40.0	40.0	45.0	31.0	31.0	61.0
Actuated g/C Ratio	0.20	0.62		0.03	0.45		0.27	0.27	0.30	0.21	0.21	0.41
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.9	4.0	6.9	6.9	4.0
Vehicle Extension (s)	1.0	4.0		1.0	4.0		3.0	2.0	1.0	2.0	2.0	1.0
Lane Grp Cap (vph)	434	2437		72	1804		128	596	312	66	462	678
v/s Ratio Prot	c0.47	c1.29		0.01	c0.86		c0.07	0.27	0.02		0.16	0.10
v/s Ratio Perm							0.51		0.13	c1.74		0.11
v/c Ratio	2.36	2.08		0.25	1.89		2.17	1.02	0.46	8.47	0.75	0.51
Uniform Delay, d1	60.0	28.5		70.7	41.0		56.6	55.0	42.6	59.5	55.9	33.3
Progression Factor	0.73	0.42		1.27	0.67		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	611.4	486.8		0.1	400.8		552.2	41.6	0.4	3392.0	6.0	0.3
Delay (s)	654.9	498.7		89.6	428.2		608.8	96.6	43.0	3451.5	61.9	33.6
Level of Service	F	F		F	F		F	F	D	F	E	C
Approach Delay (s)		524.9			426.4			227.6			1562.6	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	580.6	HCM Level of Service	F
HCM Volume to Capacity ratio	3.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	198.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖↖	↑↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86		0.97	0.81		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	4025		2168	4738		1118	2100		1118	2190	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1118	4025		2168	4738		1118	2100		1118	2190	
Volume (vph)	59	3654	135	164	3152	124	108	583	393	374	1143	180
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	60	3729	138	167	3216	127	110	595	401	382	1166	184
RTOR Reduction (vph)	0	3	0	0	4	0	0	78	0	0	0	0
Lane Group Flow (vph)	60	3864	0	167	3339	0	110	918	0	382	1350	0
Turn Type	Prot		Prot		Prot		Prot		Prot			
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	9.1	68.1		15.8	74.8		16.0	33.0		13.6	30.6	
Effective Green, g (s)	9.1	69.6		15.8	76.3		16.0	35.0		13.6	32.6	
Actuated g/C Ratio	0.06	0.46		0.11	0.51		0.11	0.23		0.09	0.22	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	1.0	4.0		1.0	4.0		1.0	4.0		1.0	4.0	
Lane Grp Cap (vph)	68	1868		228	2410		119	490		101	476	
v/s Ratio Prot	0.05	c0.96		0.08	c0.70		0.10	c0.44		c0.34	c0.62	
v/s Ratio Perm												
v/c Ratio	0.88	2.07		0.73	1.39		0.92	1.87		3.78	2.84	
Uniform Delay, d1	69.9	40.2		65.1	36.9		66.4	57.5		68.2	58.7	
Progression Factor	1.02	1.15		0.60	0.33		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.5	481.0		1.0	173.6		58.3	400.6		1275.8	832.1	
Delay (s)	83.1	527.3		39.8	185.7		124.7	458.1		1344.0	890.8	
Level of Service	F	F		D	F		F	F		F	F	
Approach Delay (s)		520.5			178.7			424.9			990.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	472.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.24		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	186.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕	↖	↖	↕↕	↖	↖	↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4522		1583	4550	1417	1583	3167	1417	1583	3132	
Flt Permitted	0.11	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.11	1.00	
Satd. Flow (perm)	190	4522		1583	4550	1417	189	3167	1417	189	3132	
Volume (vph)	55	2378	102	95	2422	139	173	1164	228	45	1082	86
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	57	2477	106	99	2523	145	180	1212	238	47	1127	90
RTOR Reduction (vph)	0	5	0	0	0	8	0	0	75	0	1	0
Lane Group Flow (vph)	57	2578	0	99	2523	137	180	1212	163	47	1216	0
Turn Type	Perm			Prot		Perm	Perm		Perm	Perm		
Protected Phases	8			7	4			6			2	
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	34.1	34.1		8.1	45.7	45.7	34.3	34.3	34.3	34.3	34.3	
Effective Green, g (s)	35.1	35.1		7.6	46.7	46.7	35.3	35.3	35.3	35.3	35.3	
Actuated g/C Ratio	0.39	0.39		0.08	0.52	0.52	0.39	0.39	0.39	0.39	0.39	
Clearance Time (s)	5.0	5.0		3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	74	1764		134	2361	735	74	1242	556	74	1228	
v/s Ratio Prot	c0.57			0.06	c0.55			0.38			0.39	
v/s Ratio Perm	0.30					0.10	c0.95		0.11	0.25		
v/c Ratio	0.77	1.46		0.74	1.07	0.19	2.43	0.98	0.29	0.64	0.99	
Uniform Delay, d1	23.9	27.4		40.2	21.6	11.5	27.4	26.9	18.8	22.1	27.2	
Progression Factor	0.92	0.84		0.89	1.70	2.12	0.65	0.63	0.30	1.00	1.00	
Incremental Delay, d2	39.4	209.8		5.2	33.6	0.1	648.3	3.9	0.1	34.9	23.5	
Delay (s)	61.5	233.0		40.9	70.3	24.6	666.1	20.8	5.8	57.1	50.7	
Level of Service	E	F		D	E	C	F	C	A	E	D	
Approach Delay (s)	229.3			66.9				89.9		50.9		
Approach LOS	F			E				F		D		

Intersection Summary

HCM Average Control Delay	120.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑	↘	↙	↑↑↑		↙	↑↑		↙	↑↑	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4521		1583	3120		1583	3167	1417
Flt Permitted	0.14	1.00	1.00	0.12	1.00		0.95	1.00		0.14	1.00	1.00
Satd. Flow (perm)	228	4550	1417	201	4521		1583	3120		238	3167	1417
Volume (vph)	149	2136	91	102	1599	72	235	1522	167	78	1119	113
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	152	2180	93	104	1632	73	240	1553	170	80	1142	115
RTOR Reduction (vph)	0	0	31	0	5	0	0	9	0	0	0	27
Lane Group Flow (vph)	152	2180	62	104	1700	0	240	1714	0	80	1142	88
Turn Type	Perm		pm+ov	pm+pt			Prot			Perm		Perm
Protected Phases		6	3	5	2		3	8			4	
Permitted Phases	6		6	2						4		4
Actuated Green, G (s)	27.7	27.7	41.2	35.5	35.5		13.5	44.5		27.5	27.5	27.5
Effective Green, g (s)	29.2	29.2	42.2	37.0	37.0		13.0	45.0		28.0	28.0	28.0
Actuated g/C Ratio	0.32	0.32	0.47	0.41	0.41		0.14	0.50		0.31	0.31	0.31
Clearance Time (s)	5.5	5.5	3.5	3.0	5.5		3.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	1476	727	141	1859		229	1560		74	985	441
v/s Ratio Prot		0.48	0.01	0.03	0.38		0.15	0.55			0.36	
v/s Ratio Perm	0.67		0.03	0.27						0.34		0.06
v/c Ratio	2.05	1.48	0.09	0.74	0.91		1.05	1.10		1.08	1.16	0.20
Uniform Delay, d1	30.4	30.4	13.2	22.8	25.0		38.5	22.5		31.0	31.0	22.8
Progression Factor	1.00	1.00	1.00	2.07	1.51		1.00	1.00		0.68	0.70	0.47
Incremental Delay, d2	517.7	218.3	0.0	1.9	0.9		72.6	54.8		76.8	75.0	0.3
Delay (s)	548.1	248.7	13.2	49.2	38.6		111.1	77.3		97.8	96.7	10.9
Level of Service	F	F	B	D	D		F	E		F	F	B
Approach Delay (s)		258.5			39.2			81.5			89.4	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	129.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	127.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↘		↘	↗↘	↗	↘	↗↘	↗	↗↘	↗↘	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	0.86	0.86	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.98	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	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (prot)	1304	3730		1304	3747	1141	1304	2608	1144	2243	2264	
Flt Permitted	0.07	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (perm)	96	3730		1304	3747	1141	1304	2608	1144	2243	2264	
Volume (vph)	32	1797	42	87	1729	1268	138	159	193	1452	237	28
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	34	1912	45	93	1839	1349	147	169	205	1545	252	30
RTOR Reduction (vph)	0	2	0	0	0	456	0	0	0	0	2	0
Lane Group Flow (vph)	34	1955	0	93	1839	893	147	169	205	1030	795	0
Conf. Peds. (#/hr)	5		9	9		5	56		6	6		56
Conf. Bikes (#/hr)			4			5			8			8
Turn Type	Perm			Prot		Perm	Split		pm+ov	Split		
Protected Phases		6		5	2		3	3	5	4	4	
Permitted Phases	6					2			3			
Actuated Green, G (s)	56.0	56.0		10.0	70.0	70.0	15.0	15.0	25.0	50.0	50.0	
Effective Green, g (s)	57.0	57.0		10.0	71.0	71.0	16.0	16.0	26.0	51.0	51.0	
Actuated g/C Ratio	0.38	0.38		0.07	0.47	0.47	0.11	0.11	0.17	0.34	0.34	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	
Vehicle Extension (s)	4.0	4.0		2.0	4.0	4.0	2.0	2.0	2.0	4.0	4.0	
Lane Grp Cap (vph)	36	1417		87	1774	540	139	278	198	763	770	
v/s Ratio Prot		0.52		0.07	0.49		c0.11	0.06	0.07	c0.46	0.35	
v/s Ratio Perm	0.35					c0.78			0.11			
v/c Ratio	0.94	1.38		1.07	1.04	1.65	1.06	0.61	1.04	1.35	1.27dl	
Uniform Delay, d1	45.0	46.5		70.0	39.5	39.5	67.0	64.0	62.0	49.5	49.5	
Progression Factor	1.42	1.41		1.11	1.07	5.91	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	105.9	173.9		49.2	18.8	294.8	92.5	2.6	73.5	166.1	41.1	
Delay (s)	169.7	239.5		126.9	60.9	528.4	159.5	66.6	135.5	215.6	90.6	
Level of Service	F	F		F	E	F	F	E	F	F	F	
Approach Delay (s)		238.3			255.0			119.9			161.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	218.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	144.7%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
 c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑	↗		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00		1.00			0.95	
Frt	1.00	0.99		1.00	1.00	0.85		1.00			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1583	4499		1583	3167	1417		1641			3094	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.41			0.56	
Satd. Flow (perm)	1583	4499		1583	3167	1417		679			1757	
Volume (vph)	187	1111	90	32	1132	127	138	454	19	148	399	42
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	208	1234	100	36	1258	141	153	504	21	164	443	47
RTOR Reduction (vph)	0	8	0	0	0	78	0	1	0	0	7	0
Lane Group Flow (vph)	208	1326	0	36	1258	63	0	677	0	0	647	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	11.6	48.1		3.6	40.1	40.1		26.0			26.0	
Effective Green, g (s)	11.6	48.4		3.6	40.4	40.4		26.0			26.0	
Actuated g/C Ratio	0.13	0.54		0.04	0.45	0.45		0.29			0.29	
Clearance Time (s)	4.0	4.3		4.0	4.3	4.3		4.0			4.0	
Vehicle Extension (s)	3.0	5.7		3.0	5.5	5.5		3.0			3.0	
Lane Grp Cap (vph)	204	2419		63	1422	636		196			508	
v/s Ratio Prot	c0.13	0.29		0.02	c0.40							
v/s Ratio Perm						0.04	c1.00					0.37
v/c Ratio	1.02	0.55		0.57	0.88	0.10		3.46			16.40dl	
Uniform Delay, d1	39.2	13.6		42.4	22.7	14.3		32.0			32.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	68.2	0.9		11.9	8.4	0.3		1117.8			137.8	
Delay (s)	107.4	14.5		54.4	31.0	14.6		1149.8			169.8	
Level of Service	F	B		D	C	B		F			F	
Approach Delay (s)	27.1			30.0			1149.8				169.8	
Approach LOS	C			C			F				F	

Intersection Summary

HCM Average Control Delay	226.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	115.0%	ICU Level of Service	H
Analysis Period (min)	15		
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕↕↕		↘	↕↕↕		↘	↕↕	↗	↘	↕↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.91	1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.97	1.00	1.00	0.96	1.00	
Frt	1.00	1.00		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)	1304	3725		1304	3691		1264	2608	1062	1256	2454	
Flt Permitted	0.06	1.00		0.10	1.00		0.24	1.00	1.00	0.40	1.00	
Satd. Flow (perm)	85	3725		136	3691		318	2608	1062	532	2454	
Volume (vph)	222	1550	37	49	1807	78	113	381	161	188	468	122
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	236	1649	39	52	1922	83	120	405	171	200	498	130
RTOR Reduction (vph)	0	1	0	0	3	0	0	0	19	0	9	0
Lane Group Flow (vph)	236	1687	0	52	2002	0	120	405	152	200	619	0
Confl. Peds. (#/hr)	67		48	48		67	40		47	47		40
Confl. Bikes (#/hr)			7			2			2			5
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		6			2			8				4
Permitted Phases	6			2			8		8		4	
Actuated Green, G (s)	95.5	95.5		95.5	95.5		46.0	46.0	46.0	46.0	46.0	
Effective Green, g (s)	96.0	96.0		96.0	96.0		46.0	46.0	46.0	46.0	46.0	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.31	0.31	0.31	0.31	0.31	
Clearance Time (s)	4.5	4.5		4.5	4.5		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	3.0	3.0	3.0	
Lane Grp Cap (vph)	54	2384		87	2362		98	800	326	163	753	
v/s Ratio Prot		0.45			0.54			0.16			0.25	
v/s Ratio Perm	c2.79			0.38			c0.38		0.14	0.38		
v/c Ratio	4.37	0.71		0.60	0.85		1.22	0.51	0.47	1.23	0.82	
Uniform Delay, d1	27.0	17.8		15.7	21.2		52.0	42.7	42.1	52.0	48.2	
Progression Factor	1.00	1.00		1.46	1.60		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1558.7	1.8		2.7	0.4		163.1	2.3	4.7	144.4	9.8	
Delay (s)	1585.7	19.6		25.8	34.3		215.1	45.0	46.8	196.4	58.0	
Level of Service	F	B		C	C		F	D	D	F	E	
Approach Delay (s)		211.7			34.1			74.8			91.5	
Approach LOS		F			C			E			F	

Intersection Summary

HCM Average Control Delay	109.9	HCM Level of Service	F
HCM Volume to Capacity ratio	3.33		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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
Frt		0.95			0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1572			1617		1583	1645		1583	1667	1417
Flt Permitted		0.94			0.90		0.43	1.00		0.35	1.00	1.00
Satd. Flow (perm)		1481			1464		720	1645		586	1667	1417
Volume (vph)	36	122	93	33	133	32	181	510	49	43	448	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	133	101	36	145	35	197	554	53	47	487	49
RTOR Reduction (vph)	0	40	0	0	13	0	0	5	0	0	0	18
Lane Group Flow (vph)	0	233	0	0	203	0	197	602	0	47	487	31
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		8			4			2			6	
Permitted Phases	8			4			2			6		6
Actuated Green, G (s)		13.6			13.6		37.6	37.6		37.6	37.6	37.6
Effective Green, g (s)		14.1			14.1		37.9	37.9		37.9	37.9	37.9
Actuated g/C Ratio		0.23			0.23		0.63	0.63		0.63	0.63	0.63
Clearance Time (s)		4.5			4.5		4.3	4.3		4.3	4.3	4.3
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		348			344		455	1039		370	1053	895
v/s Ratio Prot							c0.37				0.29	
v/s Ratio Perm		c0.16			0.14		0.27			0.08		0.02
v/c Ratio		0.67			0.59		0.43	0.58		0.13	0.46	0.03
Uniform Delay, d1		20.8			20.4		5.6	6.4		4.4	5.7	4.2
Progression Factor		1.00			1.00		0.45	0.43		1.00	1.00	1.00
Incremental Delay, d2		5.0			2.7		0.7	0.6		0.7	1.5	0.1
Delay (s)		25.8			23.1		3.3	3.4		5.1	7.2	4.2
Level of Service		C			C		A	A		A	A	A
Approach Delay (s)		25.8			23.1			3.3			6.8	
Approach LOS		C			C			A			A	

Intersection Summary

HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑	↗	↗	↑	↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1304	3715		1304	3713		1304	1373	1167	1304	1354	
Flt Permitted	0.17	1.00		0.17	1.00		0.31	1.00	1.00	0.24	1.00	
Satd. Flow (perm)	239	3715		239	3713		427	1373	1167	326	1354	
Volume (vph)	39	1478	88	78	1826	119	109	607	107	48	474	48
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	1540	92	81	1902	124	114	632	111	50	494	50
RTOR Reduction (vph)	0	11	0	0	12	0	0	0	2	0	1	0
Lane Group Flow (vph)	41	1621	0	81	2014	0	114	632	109	50	543	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	2			2			4			4	4	
Permitted Phases	2			2			4			4	4	
Actuated Green, G (s)	22.4	22.4		22.4	22.4		28.0	28.0	28.0	28.0	28.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		29.0	29.0	29.0	29.0	29.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)	4.6	4.6		4.6	4.6		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	92	1424		92	1423		206	664	564	158	654	
v/s Ratio Prot		0.44			c0.54			c0.46			0.40	
v/s Ratio Perm	0.17			0.34			0.27		0.09	0.15		
v/c Ratio	0.45	1.14		0.88	1.42		0.55	0.95	0.19	0.32	0.83	
Uniform Delay, d1	13.8	18.5		17.2	18.5		10.9	14.8	8.8	9.5	13.4	
Progression Factor	1.00	1.00		1.53	1.62		1.00	1.00	1.00	0.68	0.71	
Incremental Delay, d2	14.8	71.3		52.6	189.8		10.3	24.9	0.8	4.5	10.4	
Delay (s)	28.6	89.8		78.8	219.8		21.2	39.7	9.6	11.0	19.8	
Level of Service	C	F		E	F		C	D	A	B	B	
Approach Delay (s)		88.3			214.4			33.4			19.1	
Approach LOS		F			F			C			B	

Intersection Summary			
HCM Average Control Delay	122.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	138.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑		↘	↑↑↑	↗	↘	↑↑		↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.86	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4479		1583	5733	1417	1583	3051		1583	3167	1417
Flt Permitted	0.10	1.00		0.12	1.00	1.00	0.31	1.00		0.12	1.00	1.00
Satd. Flow (perm)	167	4479		196	5733	1417	519	3051		208	3167	1417
Volume (vph)	22	1192	139	136	1883	272	391	950	306	356	593	68
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	1216	142	139	1921	278	399	969	312	363	605	69
RTOR Reduction (vph)	0	16	0	0	0	13	0	16	0	0	0	6
Lane Group Flow (vph)	22	1342	0	139	1921	265	399	1265	0	363	605	63
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		Perm
Protected Phases		6			2	7	3	8		7	4	
Permitted Phases	6			2		2	8			4		4
Actuated Green, G (s)	39.0	39.0		39.0	39.0	45.0	36.1	30.1		36.1	30.1	30.1
Effective Green, g (s)	40.0	40.0		40.0	40.0	46.0	38.0	32.0		38.0	32.0	32.0
Actuated g/C Ratio	0.44	0.44		0.44	0.44	0.51	0.42	0.36		0.42	0.36	0.36
Clearance Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	5.9		4.0	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	1991		87	2548	787	290	1085		179	1126	504
v/s Ratio Prot		0.30			0.34	0.02	0.09	0.41		c0.13	0.19	
v/s Ratio Perm	0.13			c0.71		0.16	0.49			c0.72		0.04
v/c Ratio	0.30	0.67		1.60	0.75	0.34	1.38	1.17		2.03	0.54	0.12
Uniform Delay, d1	16.0	19.8		25.0	20.9	13.0	24.8	29.0		24.1	23.1	19.6
Progression Factor	1.00	1.00		1.25	1.27	1.87	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.0	1.8		273.9	0.2	0.0	189.4	84.9		481.6	1.8	0.5
Delay (s)	26.0	21.7		305.2	26.8	24.3	214.2	113.9		505.7	24.9	20.1
Level of Service	C	C		F	C	C	F	F		F	C	C
Approach Delay (s)		21.7			43.1			137.7			192.9	
Approach LOS		C			D			F			F	

Intersection Summary

HCM Average Control Delay	87.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.98		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3690		1304	3747	1252	
Flt Permitted	1.00		0.07	1.00	0.97	
Satd. Flow (perm)	3690		102	3747	1252	
Volume (vph)	1668	187	42	1875	184	162
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1738	195	44	1953	192	169
RTOR Reduction (vph)	14	0	0	0	10	0
Lane Group Flow (vph)	1919	0	44	1953	351	0
Turn Type			Perm			
Protected Phases	6			2	4	
Permitted Phases			2			
Actuated Green, G (s)	53.5		53.5	53.5	27.7	
Effective Green, g (s)	53.6		53.6	53.6	28.4	
Actuated g/C Ratio	0.60		0.60	0.60	0.32	
Clearance Time (s)	4.1		4.1	4.1	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2198		61	2232	395	
v/s Ratio Prot	0.52			c0.52	c0.28	
v/s Ratio Perm			0.43			
v/c Ratio	0.87		0.72	0.88	0.89	
Uniform Delay, d1	15.3		12.9	15.4	29.3	
Progression Factor	0.52		1.00	1.00	1.00	
Incremental Delay, d2	4.4		53.5	5.2	20.7	
Delay (s)	12.3		66.4	20.5	50.0	
Level of Service	B		E	C	D	
Approach Delay (s)	12.3			21.6	50.0	
Approach LOS	B			C	D	
Intersection Summary						
HCM Average Control Delay			19.8		HCM Level of Service	B
HCM Volume to Capacity ratio			0.88			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			83.4%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗			↕			↖	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.98			1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.99			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	1.00
Satd. Flow (prot)	1300	3738		1295	3739			1199			1339	1123
Flt Permitted	0.08	1.00		0.12	1.00			0.92			0.93	1.00
Satd. Flow (perm)	103	3738		160	3739			1122			1269	1123
Volume (vph)	6	1584	14	33	1906	16	39	10	96	2	3	4
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	1650	15	34	1985	17	41	10	100	2	3	4
RTOR Reduction (vph)	0	1	0	0	1	0	0	15	0	0	0	3
Lane Group Flow (vph)	6	1664	0	34	2001	0	0	136	0	0	5	1
Confl. Peds. (#/hr)	30		38	38		30	24		15	15		24
Confl. Bikes (#/hr)			2			4			2			
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)	65.1	65.1		65.1	65.1			16.9			16.9	16.9
Effective Green, g (s)	65.1	65.1		65.1	65.1			16.9			16.9	16.9
Actuated g/C Ratio	0.72	0.72		0.72	0.72			0.19			0.19	0.19
Clearance Time (s)	4.0	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	3.0
Lane Grp Cap (vph)	75	2704		116	2705			211			238	211
v/s Ratio Prot		0.45			c0.54							
v/s Ratio Perm	0.06			0.21				c0.12			0.00	0.00
v/c Ratio	0.08	0.62		0.29	0.74			0.64			0.02	0.00
Uniform Delay, d1	3.7	6.2		4.4	7.4			33.8			29.8	29.7
Progression Factor	2.71	3.04		0.84	0.78			1.00			1.00	1.00
Incremental Delay, d2	0.2	0.1		2.9	0.9			6.5			0.0	0.0
Delay (s)	10.1	19.0		6.6	6.6			40.3			29.8	29.7
Level of Service	B	B		A	A			D			C	C
Approach Delay (s)		18.9			6.6			40.3			29.8	
Approach LOS		B			A			D			C	

Intersection Summary

HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (prot)	3167	1417	1583	3167	3039	
Flt Permitted	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (perm)	3167	1417	1583	3167	3039	
Volume (vph)	1513	793	94	1490	417	60
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1627	853	101	1602	448	65
RTOR Reduction (vph)	0	75	0	0	13	0
Lane Group Flow (vph)	1627	778	101	1602	500	0
Turn Type		pt+ov	Prot			
Protected Phases	2	2 4	1	6	4	
Permitted Phases						
Actuated Green, G (s)	40.6	73.9	9.0	37.1	29.4	
Effective Green, g (s)	40.5	73.5	8.5	37.0	29.0	
Actuated g/C Ratio	0.45	0.82	0.09	0.41	0.32	
Clearance Time (s)	3.9		3.5	3.9	3.6	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1425	1157	150	1302	979	
v/s Ratio Prot	c0.51	c0.55	c0.06	c0.51	0.16	
v/s Ratio Perm						
v/c Ratio	1.14	0.67	0.67	1.23	0.51	
Uniform Delay, d1	24.8	3.4	39.4	26.5	24.7	
Progression Factor	0.79	0.68	1.00	1.00	1.00	
Incremental Delay, d2	69.1	0.9	11.3	110.6	0.5	
Delay (s)	88.7	3.2	50.7	137.1	25.2	
Level of Service	F	A	D	F	C	
Approach Delay (s)	59.3			132.0	25.2	
Approach LOS	E			F	C	

Intersection Summary

HCM Average Control Delay	81.9	HCM Level of Service	F
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	3696		1304	3681		1304	2562		1301	2414	
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.20	1.00	
Satd. Flow (perm)	188	3696		188	3681		178	2562		276	2414	
Volume (vph)	134	1385	87	158	1590	68	290	740	63	95	686	293
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	138	1428	90	163	1639	70	299	763	65	98	707	302
RTOR Reduction (vph)	0	8	0	0	5	0	0	7	0	0	52	0
Lane Group Flow (vph)	138	1510	0	163	1704	0	299	821	0	98	957	0
Conf. Peds. (#/hr)	106		44	44		106	78		51	51		78
Conf. Bikes (#/hr)			5			5			5			3
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	34.2	28.2		34.2	28.2		41.8	29.8		33.8	25.8	
Effective Green, g (s)	35.2	29.2		35.2	29.2		42.8	30.8		34.8	26.8	
Actuated g/C Ratio	0.39	0.32		0.39	0.32		0.48	0.34		0.39	0.30	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	148	1199		148	1194		235	877		198	719	
v/s Ratio Prot	0.06	0.41		c0.07	c0.46		c0.17	0.32		0.04	0.40	
v/s Ratio Perm	0.30			0.36			c0.44			0.15		
v/c Ratio	0.93	1.26		1.10	1.43		1.27	0.94		0.49	1.33	
Uniform Delay, d1	24.5	30.4		24.8	30.4		24.6	28.7		19.1	31.6	
Progression Factor	1.24	0.90		1.45	0.87		1.33	1.37		1.00	1.00	
Incremental Delay, d2	43.2	121.6		89.8	195.3		142.1	12.0		1.9	158.4	
Delay (s)	73.7	148.9		125.8	221.7		174.8	51.3		21.1	190.0	
Level of Service	E	F		F	F		F	D		C	F	
Approach Delay (s)		142.6			213.4			84.0			175.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	160.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	129.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 110: Texas Ave & Bundy Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		0.98			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.92			0.97			1.00			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1500			1589			3137			3145	
Flt Permitted		0.94			0.71			0.80			0.93	
Satd. Flow (perm)		1423			1151			2513			2926	
Volume (vph)	24	73	129	59	114	40	68	1114	35	14	1006	28
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	78	139	63	123	43	73	1198	38	15	1082	30
RTOR Reduction (vph)	0	59	0	0	10	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	184	0	0	219	0	0	1307	0	0	1125	0
Conf. Peds. (#/hr)	10		8	8		10	19		14	14		19
Conf. Bikes (#/hr)			6			4			4			3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.8			18.8			62.8			62.8	
Effective Green, g (s)		18.8			18.8			63.2			63.2	
Actuated g/C Ratio		0.21			0.21			0.70			0.70	
Clearance Time (s)		4.0			4.0			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		297			240			1765			2055	
v/s Ratio Prot												
v/s Ratio Perm		0.13			0.19			0.52			0.38	
v/c Ratio		0.62			0.91			0.74			0.55	
Uniform Delay, d1		32.3			34.8			8.3			6.5	
Progression Factor		1.00			1.00			1.00			0.68	
Incremental Delay, d2		3.8			35.1			2.8			0.1	
Delay (s)		36.1			69.9			11.2			4.5	
Level of Service		D			E			B			A	
Approach Delay (s)		36.1			69.9			11.2			4.5	
Approach LOS		D			E			B			A	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗		↑↑↑		↘	↑↑	↗	↘	↑↑	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95	1.00		0.91		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.98		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1304	2608	1167		3663		1304	2608	1167	1304	2603	
Flt Permitted	0.08	1.00	1.00		1.00		0.14	1.00	1.00	0.18	1.00	
Satd. Flow (perm)	104	2608	1167		3663		192	2608	1167	253	2603	
Volume (vph)	32	1061	85	0	1632	287	88	947	127	100	1060	14
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	34	1117	89	0	1718	302	93	997	134	105	1116	15
RTOR Reduction (vph)	0	0	29	0	21	0	0	0	18	0	1	0
Lane Group Flow (vph)	34	1117	60	0	1999	0	93	997	116	105	1130	0
Turn Type	Perm		Perm				Perm		Perm	Perm		
Protected Phases		4			8			2				6
Permitted Phases	4		4				2		2		6	
Actuated Green, G (s)	52.0	52.0	52.0		52.0		58.0	58.0	58.0	58.0	58.0	
Effective Green, g (s)	53.0	53.0	53.0		53.0		59.0	59.0	59.0	59.0	59.0	
Actuated g/C Ratio	0.44	0.44	0.44		0.44		0.49	0.49	0.49	0.49	0.49	
Clearance Time (s)	5.0	5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	46	1152	515		1618		94	1282	574	124	1280	
v/s Ratio Prot		0.43			c0.55			0.38			0.43	
v/s Ratio Perm	0.33		0.05				c0.48		0.10	0.41		
v/c Ratio	0.74	0.97	0.12		1.24		0.99	0.78	0.20	0.85	0.88	
Uniform Delay, d1	27.8	32.7	19.7		33.5		30.2	25.1	17.2	26.6	27.4	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	69.6	20.2	0.5		111.6		90.0	4.7	0.8	47.5	9.0	
Delay (s)	97.4	52.9	20.2		145.1		120.2	29.8	18.0	74.1	36.4	
Level of Service	F	D	C		F		F	C	B	E	D	
Approach Delay (s)		51.7			145.1			35.4			39.6	
Approach LOS		D			F			D			D	

Intersection Summary

HCM Average Control Delay	78.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	118.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	3072	4550	1417	1583	3167	1417	1583	3167	1417
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1583	4550	1417	3072	4550	1417	1583	3167	1417	1583	3167	1417
Volume (vph)	152	1449	261	203	1943	208	569	1304	205	306	1191	130
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	155	1479	266	207	1983	212	581	1331	209	312	1215	133
RTOR Reduction (vph)	0	0	15	0	0	97	0	0	4	0	0	0
Lane Group Flow (vph)	155	1479	251	207	1983	115	581	1331	205	312	1215	133
Turn Type	Prot	pm+ov		Prot	Perm		Prot	pm+ov		Prot	pm+ov	
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases		8			4			6			2	
Actuated Green, G (s)	13.0	38.0	51.0	12.0	37.0	37.0	13.0	37.0	49.0	13.0	37.0	50.0
Effective Green, g (s)	13.0	40.0	53.0	12.0	39.0	39.0	13.0	39.0	51.0	13.0	39.0	52.0
Actuated g/C Ratio	0.11	0.33	0.44	0.10	0.32	0.32	0.11	0.32	0.42	0.11	0.32	0.43
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0	4.0	6.0	4.0
Vehicle Extension (s)	3.0	4.7	3.0	3.0	5.0	5.0	3.0	4.5	3.0	3.0	4.6	3.0
Lane Grp Cap (vph)	171	1517	673	307	1479	461	171	1029	649	171	1029	661
v/s Ratio Prot	c0.10	0.33	0.04	0.07	c0.44		c0.37	c0.42	0.03	0.20	0.38	0.02
v/s Ratio Perm			0.14			0.08			0.11			0.07
v/c Ratio	0.91	0.97	0.37	0.67	1.34	0.25	3.40	1.29	0.32	1.82	1.18	0.20
Uniform Delay, d1	52.9	39.5	22.4	52.1	40.5	29.8	53.5	40.5	22.9	53.5	40.5	21.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	42.6	17.5	0.3	5.7	158.0	0.6	1093.7	139.4	0.3	393.0	91.5	0.2
Delay (s)	95.5	57.0	22.7	57.9	198.5	30.4	1147.2	179.9	23.2	446.5	132.0	21.3
Level of Service	F	E	C	E	F	C	F	F	C	F	F	C
Approach Delay (s)		55.3		171.5			429.4			182.2		
Approach LOS		E		F			F			F		

Intersection Summary

HCM Average Control Delay	214.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	136.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	0.91		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	3102		1583	3080		1583	4494		1583	3167	1417
Flt Permitted	0.17	1.00		0.17	1.00		0.11	1.00		0.12	1.00	1.00
Satd. Flow (perm)	284	3102		285	3080		182	4494		194	3167	1417
Volume (vph)	156	1016	161	138	923	206	289	1211	109	90	1165	175
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	158	1026	163	139	932	208	292	1223	110	91	1177	177
RTOR Reduction (vph)	0	14	0	0	21	0	0	11	0	0	0	12
Lane Group Flow (vph)	158	1175	0	139	1119	0	292	1322	0	91	1177	165
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+ov	
Protected Phases	1	6		5	2		3	8		7	4	1
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)	30.9	22.5		30.7	22.4		44.2	35.7		40.2	33.7	42.1
Effective Green, g (s)	31.4	23.5		31.2	23.4		44.7	36.7		40.7	34.7	42.6
Actuated g/C Ratio	0.35	0.26		0.35	0.26		0.50	0.41		0.45	0.39	0.47
Clearance Time (s)	3.5	5.0		3.5	5.0		3.5	5.0		3.5	5.0	3.5
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	4.3		3.0	4.6	3.0
Lane Grp Cap (vph)	213	810		211	801		215	1833		180	1221	734
v/s Ratio Prot	c0.07	c0.38		0.06	0.36		c0.12	0.29		0.03	0.37	0.02
v/s Ratio Perm	0.19			0.17			c0.56			0.19		0.10
v/c Ratio	0.74	1.45		0.66	1.40		1.36	0.72		0.51	0.96	0.22
Uniform Delay, d1	24.3	33.2		24.1	33.3		22.4	22.4		15.8	27.0	14.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	13.0	209.7		7.2	186.0		188.3	1.6		2.2	17.9	0.2
Delay (s)	37.3	242.9		31.3	219.3		210.7	23.9		18.0	44.9	14.1
Level of Service	D	F		C	F		F	C		B	D	B
Approach Delay (s)		218.8			198.9			57.5			39.5	
Approach LOS		F			F			E			D	

Intersection Summary

HCM Average Control Delay	122.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2580		1304	2608	1304	1167
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	2580		198	2608	1304	1167
Volume (vph)	1149	86	241	1777	129	204
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1263	95	265	1953	142	224
RTOR Reduction (vph)	5	0	0	0	0	44
Lane Group Flow (vph)	1353	0	265	1953	142	180
Turn Type			Perm			Perm
Protected Phases	5			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	59.0		59.0	59.0	23.0	23.0
Effective Green, g (s)	59.0		59.0	59.0	23.0	23.0
Actuated g/C Ratio	0.66		0.66	0.66	0.26	0.26
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	4.0		4.0	4.0	3.0	3.0
Lane Grp Cap (vph)	1691		130	1710	333	298
v/s Ratio Prot	0.52			0.75	0.11	
v/s Ratio Perm			c1.34			c0.15
v/c Ratio	0.80		2.04	1.14	0.43	0.60
Uniform Delay, d1	11.2		15.5	15.5	28.0	29.5
Progression Factor	1.63		1.80	1.83	1.00	1.00
Incremental Delay, d2	2.9		469.7	64.7	0.9	3.4
Delay (s)	21.2		497.7	93.0	28.9	32.9
Level of Service	C		F	F	C	C
Approach Delay (s)	21.2			141.3	31.4	
Approach LOS	C			F	C	

Intersection Summary

HCM Average Control Delay	89.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.98		1.00	1.00			0.91			0.94	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	3114		1583	3160			1512			1566	
Flt Permitted	0.14	1.00		0.33	1.00			0.99			0.98	
Satd. Flow (perm)	228	3114		547	3160			1495			1535	
Volume (vph)	14	681	86	219	1403	19	6	27	65	10	65	55
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	15	732	92	235	1509	20	6	29	70	11	70	59
RTOR Reduction (vph)	0	6	0	0	0	0	0	60	0	0	26	0
Lane Group Flow (vph)	15	818	0	235	1529	0	0	45	0	0	114	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		2		2		4		4		4	
Permitted Phases	2		2		4		4		4		4	
Actuated Green, G (s)	68.7	68.7		68.7	68.7			12.1			12.1	
Effective Green, g (s)	69.0	69.0		69.0	69.0			13.0			13.0	
Actuated g/C Ratio	0.77	0.77		0.77	0.77			0.14			0.14	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	175	2387		419	2423			216			222	
v/s Ratio Prot		0.26			c0.48							
v/s Ratio Perm	0.07			0.43				0.03			c0.07	
v/c Ratio	0.09	0.34		0.56	0.63			0.21			0.52	
Uniform Delay, d1	2.6	3.3		4.3	4.7			34.0			35.6	
Progression Factor	0.48	0.49		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.9	0.4		5.3	1.3			0.5			2.0	
Delay (s)	2.1	2.0		9.6	6.0			34.4			37.6	
Level of Service	A	A		A	A			C			D	
Approach Delay (s)		2.0			6.5			34.4			37.6	
Approach LOS		A			A			C			D	

Intersection Summary

HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↑		↘	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.84	1.00	1.00	0.74	1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.98	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	0.99		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)	1583	3167	1192	1546	3167	1055	1583	4418		1583	4344	
Flt Permitted	0.11	1.00	1.00	0.38	1.00	1.00	0.16	1.00		0.15	1.00	
Satd. Flow (perm)	185	3167	1192	618	3167	1055	267	4418		252	4344	
Volume (vph)	143	516	10	193	1158	52	21	1331	130	55	1584	258
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	147	532	10	199	1194	54	22	1372	134	57	1633	266
RTOR Reduction (vph)	0	0	6	0	0	29	0	12	0	0	23	0
Lane Group Flow (vph)	147	532	4	199	1194	25	22	1494	0	57	1876	0
Confl. Peds. (#/hr)	125		125	125		125	125		125	125		125
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	4	1	5	2		1	6	
Permitted Phases	4		4	4		4	2			6		
Actuated Green, G (s)	41.8	34.8	38.8	41.8	34.8	40.3	27.7	23.7		30.7	25.2	
Effective Green, g (s)	43.3	36.1	40.3	43.3	36.1	41.8	29.2	25.0		32.2	26.5	
Actuated g/C Ratio	0.48	0.40	0.45	0.48	0.40	0.46	0.32	0.28		0.36	0.29	
Clearance Time (s)	4.2	5.3	4.2	4.2	5.3	4.2	4.2	5.3		4.2	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	201	1270	587	372	1270	537	148	1227		174	1279	
v/s Ratio Prot	c0.06	0.17	0.00	0.04	c0.38	0.00	0.01	0.34		c0.02	c0.43	
v/s Ratio Perm	0.29		0.00	0.21		0.02	0.04			0.10		
v/c Ratio	0.73	0.42	0.01	0.53	0.94	0.05	0.15	1.22		0.33	1.47	
Uniform Delay, d1	17.9	19.4	13.8	14.2	25.9	13.2	24.3	32.5		23.1	31.8	
Progression Factor	0.84	0.95	0.93	1.01	0.89	0.88	1.50	1.19		1.00	1.00	
Incremental Delay, d2	10.9	0.2	0.0	1.2	11.1	0.0	0.3	102.2		1.1	214.3	
Delay (s)	26.0	18.5	12.8	15.5	34.3	11.6	36.7	141.0		24.2	246.0	
Level of Service	C	B	B	B	C	B	D	F		C	F	
Approach Delay (s)		20.0			30.8			139.5			239.6	
Approach LOS		C			C			F			F	

Intersection Summary

HCM Average Control Delay	131.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.86			0.96		1.00	1.00		1.00	1.00	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1442			1544		1583	4540		1583	4549	
Flt Permitted		1.00			0.80		0.09	1.00		0.09	1.00	
Satd. Flow (perm)		1442			1274		142	4540		142	4549	
Volume (vph)	0	0	4	272	8	131	1	1663	25	62	1703	2
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	4	306	9	147	1	1869	28	70	1913	2
RTOR Reduction (vph)	0	2	0	0	5	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	2	0	0	457	0	1	1895	0	70	1915	0
Turn Type	Perm		Perm			Perm			Perm			
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		35.5			35.5		47.5	47.5		47.5	47.5	
Effective Green, g (s)		35.0			35.0		47.0	47.0		47.0	47.0	
Actuated g/C Ratio		0.39			0.39		0.52	0.52		0.52	0.52	
Clearance Time (s)		3.5			3.5		3.5	3.5		3.5	3.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		561			495		74	2371		74	2376	
v/s Ratio Prot		0.00						0.42			0.42	
v/s Ratio Perm					c0.36		0.01			c0.49		
v/c Ratio		0.00			0.92		0.01	0.80		0.95	0.81	
Uniform Delay, d1		16.8			26.2		10.3	17.6		20.3	17.7	
Progression Factor		1.00			1.00		1.00	1.00		1.03	0.76	
Incremental Delay, d2		0.0			25.3		0.3	2.9		20.7	0.3	
Delay (s)		16.8			51.5		10.7	20.6		41.6	13.7	
Level of Service		B			D		B	C		D	B	
Approach Delay (s)		16.8			51.5			20.6			14.7	
Approach LOS		B			D			C			B	

Intersection Summary

HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	1.00		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4445		1583	4547		1583	4497		1583	4495	
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.12	1.00	
Satd. Flow (perm)	236	4445		238	4547		214	4497		204	4495	
Volume (vph)	275	1171	214	129	2094	10	104	1398	119	141	1409	123
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	289	1233	225	136	2204	11	109	1472	125	148	1483	129
RTOR Reduction (vph)	0	29	0	0	1	0	0	11	0	0	11	0
Lane Group Flow (vph)	289	1429	0	136	2214	0	109	1586	0	148	1601	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	35.2	27.2		34.8	27.0		36.5	30.1		39.5	31.6	
Effective Green, g (s)	35.2	28.2		34.8	28.0		36.5	31.1		39.5	32.6	
Actuated g/C Ratio	0.40	0.32		0.39	0.31		0.41	0.35		0.44	0.37	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	199	1408		196	1431		171	1571		197	1646	
v/s Ratio Prot	c0.11	0.32		0.05	c0.49		0.04	0.35		c0.06	c0.36	
v/s Ratio Perm	0.46			0.22			0.22			0.27		
v/c Ratio	1.45	1.01		0.69	1.55		0.64	1.01		0.75	0.97	
Uniform Delay, d1	24.7	30.4		21.0	30.5		19.8	28.9		19.5	27.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	229.3	27.7		10.2	249.8		7.6	25.1		14.9	16.6	
Delay (s)	254.0	58.1		31.2	280.3		27.4	54.0		34.4	44.4	
Level of Service	F	E		C	F		C	D		C	D	
Approach Delay (s)		90.5			265.9			52.3			43.5	
Approach LOS		F			F			D			D	

Intersection Summary

HCM Average Control Delay	125.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	117.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3154		1583	3151		1583	4492		1583	4509	
Flt Permitted	0.11	1.00		0.11	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	190	3154		190	3151		185	4492		185	4509	
Volume (vph)	220	918	25	147	1624	54	118	1440	134	151	1784	115
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	250	1043	28	167	1845	61	134	1636	152	172	2027	131
RTOR Reduction (vph)	0	2	0	0	2	0	0	12	0	0	8	0
Lane Group Flow (vph)	250	1069	0	167	1904	0	134	1776	0	172	2150	0
Turn Type	pm+pt		pm+pt		Perm		Perm					
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8				4	
Actuated Green, G (s)	42.1	34.1		42.1	34.1		35.2	35.2		35.2	35.2	
Effective Green, g (s)	42.0	35.0		42.0	35.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.47	0.39		0.47	0.39		0.40	0.40		0.40	0.40	
Clearance Time (s)	3.0	4.9		3.0	4.9		4.8	4.8		4.8	4.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	197	1227		197	1225		74	1797		74	1804	
v/s Ratio Prot	c0.10	0.34		0.07	c0.60			0.40			0.48	
v/s Ratio Perm	0.49			0.33			0.72			c0.93		
v/c Ratio	1.27	0.87		0.85	1.55		1.81	0.99		2.32	1.19	
Uniform Delay, d1	43.7	25.4		18.1	27.5		27.0	26.8		27.0	27.0	
Progression Factor	1.73	1.09		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	149.5	7.2		27.1	253.3		412.9	18.3		636.0	92.2	
Delay (s)	225.0	34.9		45.2	280.8		439.9	45.1		663.0	119.2	
Level of Service	F	C		D	F		F	D		F	F	
Approach Delay (s)		70.9			261.8			72.6			159.3	
Approach LOS		E			F			E			F	

Intersection Summary

HCM Average Control Delay	150.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	128.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑	↗		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.90			0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417		1496			1523	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.99	
Satd. Flow (perm)	1583	3167	1417	1583	3167	1417		1496			1523	
Volume (vph)	17	563	9	55	1367	44	12	20	86	25	18	52
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	18	605	10	59	1470	47	13	22	92	27	19	56
RTOR Reduction (vph)	0	0	7	0	0	24	0	70	0	0	43	0
Lane Group Flow (vph)	18	605	3	59	1470	23	0	57	0	0	59	0
Turn Type	Prot		Perm	Prot		Perm	Split				Split	
Protected Phases	1	6		5	2		3	3			4	4
Permitted Phases			6			2						
Actuated Green, G (s)	3.1	26.9	26.9	5.7	29.5	29.5		21.0			21.0	
Effective Green, g (s)	2.1	27.1	27.1	4.7	29.7	29.7		21.6			20.6	
Actuated g/C Ratio	0.02	0.30	0.30	0.05	0.33	0.33		0.24			0.23	
Clearance Time (s)	3.0	4.2	4.2	3.0	4.2	4.2		4.6			3.6	
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0	5.0		3.0			3.0	
Lane Grp Cap (vph)	37	954	427	83	1045	468		359			349	
v/s Ratio Prot	0.01	0.19		c0.04	c0.46			c0.04			c0.04	
v/s Ratio Perm			0.00			0.02						
v/c Ratio	0.49	0.63	0.01	0.71	1.41	0.05		0.16			0.17	
Uniform Delay, d1	43.4	27.2	22.0	42.0	30.1	20.5		27.0			27.8	
Progression Factor	0.81	1.31	1.76	0.63	0.97	0.92		1.00			1.00	
Incremental Delay, d2	5.3	1.7	0.0	9.1	185.0	0.1		0.9			1.0	
Delay (s)	40.5	37.4	38.8	35.8	214.2	19.0		28.0			28.9	
Level of Service	D	D	D	D	F	B		C			C	
Approach Delay (s)		37.5			201.7			28.0			28.9	
Approach LOS		D			F			C			C	

Intersection Summary

HCM Average Control Delay	142.8	HCM Level of Service	F
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 121: Santa Monica Ave & Orange Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.93			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1583	3157		1572	3152			1525			1507	
Flt Permitted	0.08	1.00		0.17	1.00			0.94			0.96	
Satd. Flow (perm)	141	3157		274	3152			1441			1454	
Volume (vph)	28	1193	15	57	1561	32	13	26	39	25	63	123
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	31	1311	16	63	1715	35	14	29	43	27	69	135
RTOR Reduction (vph)	0	1	0	0	1	0	0	34	0	0	13	0
Lane Group Flow (vph)	31	1326	0	63	1749	0	0	52	0	0	218	0
Conf. Peds. (#/hr)	18		27	27		18	4		5	5		4
Conf. Bikes (#/hr)			5			7			1			2
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	63.2	63.2		63.2	63.2			17.7			17.7	
Effective Green, g (s)	63.7	63.7		63.7	63.7			18.3			18.3	
Actuated g/C Ratio	0.71	0.71		0.71	0.71			0.20			0.20	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.6			4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	100	2234		194	2231			293			296	
v/s Ratio Prot		0.42			c0.55							
v/s Ratio Perm	0.22			0.23				0.04			c0.15	
v/c Ratio	0.31	0.59		0.32	0.78			0.18			0.74	
Uniform Delay, d1	4.9	6.6		5.0	8.6			29.6			33.6	
Progression Factor	1.00	1.00		0.62	0.82			1.00			1.00	
Incremental Delay, d2	7.9	1.2		0.4	0.3			0.3			9.2	
Delay (s)	12.8	7.8		3.5	7.3			29.9			42.8	
Level of Service	B	A		A	A			C			D	
Approach Delay (s)		7.9			7.2			29.9			42.8	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2847		1490	2972		1490	2919		1490	2842	
Flt Permitted	0.17	1.00		0.19	1.00		0.10	1.00		0.13	1.00	
Satd. Flow (perm)	261	2847		299	2972		153	2919		209	2842	
Volume (vph)	557	458	195	342	1000	20	124	923	146	27	1146	515
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	580	477	203	356	1042	21	129	961	152	28	1194	536
RTOR Reduction (vph)	0	36	0	0	1	0	0	14	0	0	57	0
Lane Group Flow (vph)	580	644	0	356	1062	0	129	1099	0	28	1673	0
Turn Type	pm+pt		pm+pt		Perm		Perm					
Protected Phases	7	4		3	8			2				2
Permitted Phases	4			8			2			2		
Actuated Green, G (s)	37.0	23.0		37.0	23.0		40.0	40.0		40.0	40.0	
Effective Green, g (s)	37.0	24.0		37.0	24.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.41	0.27		0.41	0.27		0.46	0.46		0.46	0.46	
Clearance Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	5.1		3.0	4.1		5.7	5.7		5.7	5.7	
Lane Grp Cap (vph)	285	759		295	793		70	1330		95	1295	
v/s Ratio Prot	c0.29	0.23		0.17	0.36			0.38			0.59	
v/s Ratio Perm	c0.54			0.32			c0.84			0.13		
v/c Ratio	2.04	0.85		1.21	1.34		1.84	0.83		0.29	1.29	
Uniform Delay, d1	40.7	31.3		21.2	33.0		24.5	21.4		15.4	24.5	
Progression Factor	1.00	1.00		2.21	1.14		1.58	1.56		1.00	1.00	
Incremental Delay, d2	477.9	11.4		96.2	153.2		384.3	0.6		7.7	137.2	
Delay (s)	518.6	42.7		142.9	191.0		422.9	34.0		23.1	161.7	
Level of Service	F	D		F	F		F	C		C	F	
Approach Delay (s)		261.8			178.9			74.4			159.5	
Approach LOS		F			F			E			F	

Intersection Summary

























HCM Average Control Delay	168.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	149.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕↕		↖	↕↕↕↕		↖	↕↕	↗	↖	↕↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1490	4220		1490	4241		1490	2980	1333	1490	4264	
Flt Permitted	0.15	1.00		0.14	1.00		0.16	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	231	4220		216	4241		257	2980	1333	1490	4264	
Volume (vph)	78	1280	137	240	1800	122	101	1015	198	156	1534	46
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1391	149	261	1957	133	110	1103	215	170	1667	50
RTOR Reduction (vph)	0	14	0	0	8	0	0	0	33	0	4	0
Lane Group Flow (vph)	85	1526	0	261	2082	0	110	1103	182	170	1713	0
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Prot		
Protected Phases	3	8		7	4			2	7	1	6	
Permitted Phases	8			4			2		2			
Actuated Green, G (s)	34.0	26.0		40.0	29.0		24.4	24.4	35.4	10.0	23.0	
Effective Green, g (s)	36.4	27.2		40.0	29.0		24.4	24.4	35.4	11.4	24.4	
Actuated g/C Ratio	0.40	0.30		0.44	0.32		0.27	0.27	0.39	0.13	0.27	
Clearance Time (s)	5.2	5.2		4.0	4.0		4.0	4.0	4.0	5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.5	3.0		3.0	3.0	3.5	3.0	3.0	
Lane Grp Cap (vph)	222	1275		252	1367		70	808	584	189	1156	
v/s Ratio Prot	0.04	0.36		c0.13	c0.49			0.37	0.04	c0.11	0.40	
v/s Ratio Perm	0.12			0.33			c0.43		0.10			
v/c Ratio	0.38	1.20		1.04	1.52		1.57	1.37	0.31	0.90	1.48	
Uniform Delay, d1	38.5	31.4		23.8	30.5		32.8	32.8	18.9	38.7	32.8	
Progression Factor	1.25	1.21		1.00	1.00		0.72	0.72	0.97	0.87	1.16	
Incremental Delay, d2	0.9	94.9		66.3	239.1		288.5	168.3	0.2	5.6	217.4	
Delay (s)	49.1	132.9		90.1	269.6		312.3	192.1	18.5	39.2	255.3	
Level of Service	D	F		F	F		F	F	B	D	F	
Approach Delay (s)		128.5			249.7			175.2			235.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	204.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 						  		  			
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.91		1.00	0.91		
Frt	1.00	0.97		1.00	1.00		1.00	1.00		1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1509	2929		1509	1587		1509	4315		1509	4261		
Flt Permitted	0.21	1.00		0.28	1.00		0.22	1.00		0.22	1.00		
Satd. Flow (perm)	334	2929		440	1587		353	4315		353	4261		
Volume (vph)	125	617	151	91	1453	10	18	1341	44	55	1719	224	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	130	643	157	95	1514	10	19	1397	46	57	1791	233	
RTOR Reduction (vph)	0	1	0	0	1	0	0	8	0	0	5	0	
Lane Group Flow (vph)	130	799	0	95	1523	0	19	1435	0	57	2019	0	
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm		
Protected Phases	4		4		4		2		2		2		
Permitted Phases	4		4		4		2		2		2		
Actuated Green, G (s)	19.0	19.0		19.0	19.0		18.0	18.0		18.0	18.0		
Effective Green, g (s)	19.0	19.0		19.0	19.0		18.0	18.0		18.0	18.0		
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.40	0.40		0.40	0.40		
Clearance Time (s)	4.0	4.0		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		3.0	3.0		
Lane Grp Cap (vph)	141	1237		186	670		141	1726		141	1704		
v/s Ratio Prot		0.27			c0.96			0.33			c0.47		
v/s Ratio Perm	0.39			0.22			0.05			0.16			
v/c Ratio	0.92	0.65		0.51	2.27		0.13	0.83		0.40	1.18		
Uniform Delay, d1	12.3	10.3		9.6	13.0		8.6	12.1		9.7	13.5		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.37	1.77		
Incremental Delay, d2	52.6	1.2		2.4	578.0		2.0	4.8		0.8	83.8		
Delay (s)	64.9	11.5		11.9	591.0		10.5	17.0		14.0	107.7		
Level of Service	E	B		B	F		B	B		B	F		
Approach Delay (s)		19.0			557.0			16.9			105.1		
Approach LOS		B			F			B			F		
Intersection Summary													
HCM Average Control Delay			190.9			HCM Level of Service				F			
HCM Volume to Capacity ratio			1.74										
Actuated Cycle Length (s)			45.0			Sum of lost time (s)				8.0			
Intersection Capacity Utilization			160.0%			ICU Level of Service				H			
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘↙		↗	↗↘↙	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2986		1509	2948		1509	4249		1509	4160	
Flt Permitted	0.10	1.00		0.11	1.00		0.15	1.00		0.15	1.00	
Satd. Flow (perm)	151	2986		180	2948		235	4249		235	4160	
Volume (vph)	92	985	44	217	1379	121	153	1225	128	107	1582	187
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	96	1026	46	226	1436	126	159	1276	133	111	1648	195
RTOR Reduction (vph)	0	3	0	0	6	0	0	12	0	0	15	0
Lane Group Flow (vph)	96	1069	0	226	1556	0	159	1397	0	111	1828	0
Conf. Peds. (#/hr)	87		55	55		87	151		33	33		151
Conf. Bikes (#/hr)			5			11			2			7
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	48.0	42.0		56.0	47.0		33.0	27.0		33.0	27.0	
Effective Green, g (s)	47.0	42.0		56.0	47.0		32.0	27.0		32.0	27.0	
Actuated g/C Ratio	0.47	0.42		0.56	0.47		0.32	0.27		0.32	0.27	
Clearance Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		1.0	5.0		1.0	5.0	
Lane Grp Cap (vph)	139	1254		234	1386		139	1147		139	1123	
v/s Ratio Prot	0.03	0.36		c0.10	c0.53		c0.06	0.33		0.04	c0.44	
v/s Ratio Perm	0.29			0.45			0.31			0.22		
v/c Ratio	0.69	0.85		0.97	1.12		1.14	1.22		0.80	1.63	
Uniform Delay, d1	22.0	26.2		23.3	26.5		49.7	36.5		29.6	36.5	
Progression Factor	1.80	1.20		1.00	1.00		1.50	1.38		1.00	1.00	
Incremental Delay, d2	10.1	6.7		48.5	65.1		102.9	102.8		25.0	286.8	
Delay (s)	49.7	38.2		71.9	91.6		177.4	153.2		54.5	323.3	
Level of Service	D	D		E	F		F	F		D	F	
Approach Delay (s)		39.2			89.1			155.6			308.0	
Approach LOS		D			F			F			F	



















Intersection Summary			
HCM Average Control Delay	162.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷			↕		↶	↷		↶	↷	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.98			1.00		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	1.00	0.88			0.98		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1498	1380			1511		1509	2997		1509	2999	
Flt Permitted	0.61	1.00			0.86		0.06	1.00		0.09	1.00	
Satd. Flow (perm)	967	1380			1328		95	2997		148	2999	
Volume (vph)	16	12	41	53	56	20	97	1538	53	12	1749	56
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	17	13	43	56	59	21	102	1619	56	13	1841	59
RTOR Reduction (vph)	0	34	0	0	8	0	0	2	0	0	2	0
Lane Group Flow (vph)	17	22	0	0	128	0	102	1673	0	13	1898	0
Confl. Peds. (#/hr)	7		8	8		7	11		15	15		11
Confl. Bikes (#/hr)						1			2			1
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	20.4	20.4			20.4		71.6	67.4		63.8	62.6	
Effective Green, g (s)	20.4	20.4			20.4		71.6	67.4		62.8	62.6	
Actuated g/C Ratio	0.20	0.20			0.20		0.72	0.67		0.63	0.63	
Clearance Time (s)	4.0	4.0			4.0		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	5.0	5.0			5.0		1.0	0.2		1.0	0.2	
Lane Grp Cap (vph)	197	282			271		139	2020		96	1877	
v/s Ratio Prot		0.02					c0.04	0.56		0.00	c0.63	
v/s Ratio Perm	0.02				c0.10		0.49			0.09		
v/c Ratio	0.09	0.08			0.47		0.73	0.83		0.14	1.01	
Uniform Delay, d1	32.2	32.2			35.1		21.6	12.0		13.1	18.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		0.51	1.32	
Incremental Delay, d2	0.4	0.2			2.7		15.8	4.1		0.0	9.3	
Delay (s)	32.6	32.4			37.8		37.4	16.1		6.7	33.9	
Level of Service	C	C			D		D	B		A	C	
Approach Delay (s)		32.5			37.8			17.3			33.7	
Approach LOS		C			D			B			C	

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	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			

HCM Signalized Intersection Capacity Analysis
 127: Willoughby Ave & La Brea Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frt		0.94			0.98		1.00	0.99		1.00	1.00	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1470			1524		1490	4255		1490	4269	
Flt Permitted		0.94			0.87		0.08	1.00		0.08	1.00	
Satd. Flow (perm)		1392			1336		121	4255		121	4269	
Volume (vph)	24	113	103	81	277	59	50	1689	75	31	1964	41
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	24	115	105	83	283	60	51	1723	77	32	2004	42
RTOR Reduction (vph)	0	5	0	0	7	0	0	5	0	0	2	0
Lane Group Flow (vph)	0	239	0	0	419	0	51	1795	0	32	2044	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		29.0			29.0		51.6	51.6		51.6	51.6	
Effective Green, g (s)		30.0			30.0		52.0	52.0		52.0	52.0	
Actuated g/C Ratio		0.33			0.33		0.58	0.58		0.58	0.58	
Clearance Time (s)		5.0			5.0		4.4	4.4		4.4	4.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		464			445		70	2458		70	2467	
v/s Ratio Prot								0.42			c0.48	
v/s Ratio Perm		0.17			c0.31		0.42			0.27		
v/c Ratio		0.51			0.94		0.73	0.73		0.46	0.83	
Uniform Delay, d1		24.1			29.2		13.9	13.9		10.9	15.4	
Progression Factor		1.00			1.00		1.89	2.05		1.00	1.00	
Incremental Delay, d2		1.0			28.5		5.9	0.2		20.0	3.4	
Delay (s)		25.1			57.6		32.1	28.6		30.9	18.8	
Level of Service		C			E		C	C		C	B	
Approach Delay (s)		25.1			57.6			28.7			19.0	
Approach LOS		C			E			C			B	
Intersection Summary												
HCM Average Control Delay			26.8				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			101.7%				ICU Level of Service			G		
Analysis Period (min)			15									
c	Critical Lane Group											



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2938		1490	2962		1490	4223		1490	4239	
Flt Permitted	0.13	1.00		0.12	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	209	2938		185	2962		161	4223		161	4239	
Volume (vph)	122	863	90	294	1328	55	111	1629	167	40	1891	136
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	130	918	96	313	1413	59	118	1733	178	43	2012	145
RTOR Reduction (vph)	0	9	0	0	2	0	0	14	0	0	9	0
Lane Group Flow (vph)	130	1005	0	313	1470	0	118	1897	0	43	2148	0
Turn Type	Perm		pm+pt			Perm			Perm			
Protected Phases	8		7			4			6			
Permitted Phases	8		4			6			2			
Actuated Green, G (s)	28.6	28.6		41.6	41.6		37.6	37.6		37.6	37.6	
Effective Green, g (s)	30.0	30.0		43.0	43.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.33	0.33		0.48	0.48		0.43	0.43		0.43	0.43	
Clearance Time (s)	5.4	5.4		3.5	5.4		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	70	979		219	1415		70	1830		70	1837	
v/s Ratio Prot		0.34		c0.14	0.50			0.45			0.51	
v/s Ratio Perm	c0.62			0.54			c0.73			0.27		
v/c Ratio	1.86	1.03		1.43	1.04		1.69	1.04		0.61	1.17	
Uniform Delay, d1	30.0	30.0		22.7	23.5		25.5	25.5		19.7	25.5	
Progression Factor	0.77	0.77		1.00	1.00		0.21	0.20		1.02	0.88	
Incremental Delay, d2	428.3	33.6		217.5	34.6		314.2	18.8		20.2	79.7	
Delay (s)	451.4	56.6		240.2	58.1		319.4	24.0		40.3	102.1	
Level of Service	F	E		F	E		F	C		D	F	
Approach Delay (s)		101.5			90.1			41.1			100.9	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	81.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕	↗		↕	↖
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	0.99		1.00	0.99			1.00	0.96		0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99	1.00		0.99	
Frt	1.00	0.99		1.00	0.99			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1498	2977		1506	2971			1522	1292		1442	
Flt Permitted	0.11	1.00		0.21	1.00			0.65	1.00		0.91	
Satd. Flow (perm)	171	2977		336	2971			1022	1292		1325	
Volume (vph)	25	1009	54	72	1610	87	38	14	30	39	43	66
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	1040	56	74	1660	90	39	14	31	40	44	68
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	26	0	19	0
Lane Group Flow (vph)	26	1094	0	74	1748	0	0	53	5	0	133	0
Conf. Peds. (#/hr)	45		31	31		45	9		19	19		9
Conf. Bikes (#/hr)			4			12			2			4
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		2		1	6			8				4
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	70.7	70.7		77.1	77.1			14.9	14.9			14.9
Effective Green, g (s)	70.7	70.7		77.1	77.1			14.9	14.9			14.9
Actuated g/C Ratio	0.71	0.71		0.77	0.77			0.15	0.15			0.15
Clearance Time (s)	4.0	4.0		3.0	4.0			4.0	4.0			4.0
Vehicle Extension (s)	0.2	0.2		1.0	0.2			4.0	4.0			3.0
Lane Grp Cap (vph)	121	2105		287	2291			152	193			197
v/s Ratio Prot		0.37		0.01	c0.59							
v/s Ratio Perm	0.15			0.19				0.05	0.00			c0.10
v/c Ratio	0.21	0.52		0.26	0.76			0.35	0.02			0.68
Uniform Delay, d1	5.1	6.8		3.9	6.4			38.2	36.3			40.3
Progression Factor	2.32	2.13		0.60	0.66			1.00	1.00			1.00
Incremental Delay, d2	3.8	0.9		0.0	0.2			1.9	0.1			8.9
Delay (s)	15.6	15.3		2.4	4.4			40.1	36.4			49.1
Level of Service	B	B		A	A			D	D			D
Approach Delay (s)		15.3			4.3			38.7				49.1
Approach LOS		B			A			D				D

Intersection Summary

HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑	↑↑		↘	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frt	1.00	1.00	0.99		0.88	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1509	3018	3001		1395	
Flt Permitted	0.13	1.00	1.00		0.99	
Satd. Flow (perm)	211	3018	3001		1395	
Volume (vph)	27	885	1445	55	37	217
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	27	894	1460	56	37	219
RTOR Reduction (vph)	0	0	2	0	58	0
Lane Group Flow (vph)	27	894	1514	0	198	0
Turn Type	Perm					
Protected Phases		2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	74.7	74.7	74.7		17.3	
Effective Green, g (s)	74.2	74.2	74.2		17.8	
Actuated g/C Ratio	0.74	0.74	0.74		0.18	
Clearance Time (s)	3.5	3.5	3.5		4.5	
Vehicle Extension (s)	0.2	0.2	0.2		3.0	
Lane Grp Cap (vph)	157	2239	2227		248	
v/s Ratio Prot		0.30	c0.50		c0.14	
v/s Ratio Perm	0.13					
v/c Ratio	0.17	0.40	0.68		0.80	
Uniform Delay, d1	3.8	4.7	6.7		39.4	
Progression Factor	0.34	0.25	0.30		1.00	
Incremental Delay, d2	2.2	0.5	1.1		16.7	
Delay (s)	3.5	1.7	3.1		56.1	
Level of Service	A	A	A		E	
Approach Delay (s)		1.8	3.1		56.1	
Approach LOS		A	A		E	

Intersection Summary

HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.98		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4466		1583	4534		1583	3167	1417	1583	3167	1417
Flt Permitted	0.10	1.00		0.23	1.00		0.13	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	171	4466		377	4534		215	3167	1417	319	3167	1417
Volume (vph)	237	747	104	260	1630	40	102	712	174	218	1143	342
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	266	839	117	292	1831	45	115	800	196	245	1284	384
RTOR Reduction (vph)	0	20	0	0	3	0	0	0	47	0	0	138
Lane Group Flow (vph)	266	936	0	292	1873	0	115	800	149	245	1284	246
Turn Type	pm+pt			pm+pt			Perm	pm+ov	Perm		Perm	
Protected Phases	1	6		5	2			8	5		4	
Permitted Phases	6			2			8	8	4			4
Actuated Green, G (s)	47.0	38.0		47.0	38.0		29.1	29.1	38.1	29.1	29.1	29.1
Effective Green, g (s)	47.0	39.0		47.0	39.0		31.0	31.0	39.0	31.0	31.0	31.0
Actuated g/C Ratio	0.52	0.43		0.52	0.43		0.34	0.34	0.43	0.34	0.34	0.34
Clearance Time (s)	3.0	5.0		3.0	5.0		5.9	5.9	3.0	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	215	1935		304	1965		74	1091	677	110	1091	488
v/s Ratio Prot	c0.11	0.21		0.09	0.41			0.25	0.02		0.41	
v/s Ratio Perm	c0.54			0.42			0.53		0.09	c0.77		0.17
v/c Ratio	1.24	0.48		0.96	0.95		1.55	0.73	0.22	2.23	1.18	0.50
Uniform Delay, d1	22.8	18.3		15.8	24.6		29.5	25.9	16.0	29.5	29.5	23.4
Progression Factor	1.00	1.00		2.85	1.48		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	140.0	0.9		8.3	1.6		305.1	4.4	0.2	580.5	89.4	3.7
Delay (s)	162.9	19.2		53.3	38.0		334.6	30.3	16.1	610.0	118.9	27.1
Level of Service	F	B		D	D		F	C	B	F	F	C
Approach Delay (s)		50.4			40.1			59.3			163.4	
Approach LOS		D			D			E			F	

Intersection Summary

HCM Average Control Delay	82.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2983		1509	3004		1509	2965		1509	2940	
Flt Permitted	0.07	1.00		0.37	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	113	2983		582	3004		176	2965		177	2940	
Volume (vph)	149	546	45	160	1461	45	80	816	107	47	1219	251
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	160	587	48	172	1571	48	86	877	115	51	1311	270
RTOR Reduction (vph)	0	3	0	0	2	0	0	10	0	0	15	0
Lane Group Flow (vph)	160	632	0	172	1617	0	86	982	0	51	1566	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			4			8		
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Effective Green, g (s)	56.0	56.0		56.0	56.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	4.9	4.9		4.9	4.9		4.9	4.9		4.9	4.9	
Lane Grp Cap (vph)	63	1670		326	1682		63	1067		64	1058	
v/s Ratio Prot		0.21			0.54			0.33			0.53	
v/s Ratio Perm	c1.41			0.30			0.49			0.29		
v/c Ratio	2.54	0.38		0.53	0.96		1.37	0.92		0.80	1.48	
Uniform Delay, d1	22.0	12.3		13.7	21.0		32.0	30.6		28.7	32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.16	1.18		1.00	1.00	
Incremental Delay, d2	737.2	0.7		6.0	14.5		234.2	13.2		64.6	221.0	
Delay (s)	759.2	12.9		19.7	35.5		271.3	49.4		93.4	253.0	
Level of Service	F	B		B	D		F	D		F	F	
Approach Delay (s)		163.1			33.9			67.1			248.1	
Approach LOS		F			C			E			F	

Intersection Summary

HCM Average Control Delay	126.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.12		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	129.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
133: Norton Ave & Fairfax Ave



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frbp, ped/bikes	0.97		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.89		1.00	1.00	1.00	
Flt Protected	0.99		0.95	1.00	1.00	
Satd. Flow (prot)	1366		1509	3018	2994	
Flt Permitted	0.99		0.12	1.00	1.00	
Satd. Flow (perm)	1366		190	3018	2994	
Volume (vph)	33	135	97	920	1452	41
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	33	136	98	929	1467	41
RTOR Reduction (vph)	42	0	0	0	2	0
Lane Group Flow (vph)	127	0	98	929	1506	0
Conf. Peds. (#/hr)			32			32
Conf. Bikes (#/hr)		21				3
Turn Type			Perm			
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	23.4		69.0	69.0	69.0	
Effective Green, g (s)	23.4		68.6	68.6	68.6	
Actuated g/C Ratio	0.23		0.69	0.69	0.69	
Clearance Time (s)	4.0		3.6	3.6	3.6	
Vehicle Extension (s)	3.0		0.2	0.2	0.2	
Lane Grp Cap (vph)	320		130	2070	2054	
v/s Ratio Prot	c0.09			0.31	0.50	
v/s Ratio Perm			c0.51			
v/c Ratio	0.40		0.75	0.45	0.73	
Uniform Delay, d1	32.3		10.2	7.1	9.9	
Progression Factor	1.00		1.03	0.08	0.46	
Incremental Delay, d2	3.6		12.4	0.2	0.2	
Delay (s)	36.0		22.9	0.8	4.7	
Level of Service	D		C	A	A	
Approach Delay (s)	36.0			2.9	4.7	
Approach LOS	D			A	A	
Intersection Summary						
HCM Average Control Delay			6.0		HCM Level of Service	A
HCM Volume to Capacity ratio			0.66			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			78.9%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕		↘	↕		↘	↕	↘		↕	↘
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		1.00	0.95	1.00		0.91	0.91
Frbp, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00	0.78		1.00	0.82
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	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1509	2849		1509	2975		1509	3018	1056		2872	1004
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.63	1.00
Satd. Flow (perm)	1509	2849		1509	2975		1509	3018	1056		1813	1004
Volume (vph)	110	755	190	270	1343	60	99	918	90	83	1091	316
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	786	198	281	1399	62	103	956	94	86	1136	329
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	61	0	0	108
Lane Group Flow (vph)	115	982	0	281	1458	0	103	956	33	0	1222	221
Conf. Peds. (#/hr)	144		116	116		144	115		139	139		116
Conf. Bikes (#/hr)			6			2			3			
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Actuated Green, G (s)	7.0	47.0		7.0	47.0		7.0	35.0	35.0		25.0	25.0
Effective Green, g (s)	6.0	47.0		6.0	47.0		6.0	35.0	35.0		25.0	25.0
Actuated g/C Ratio	0.06	0.47		0.06	0.47		0.06	0.35	0.35		0.25	0.25
Clearance Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	1.0	0.2		1.0	0.2		1.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	91	1339		91	1398		91	1056	370		453	251
v/s Ratio Prot	0.08	0.34		c0.19	c0.49		c0.07	0.32				
v/s Ratio Perm									0.03		c0.67	0.22
v/c Ratio	1.26	0.73		3.09	1.04		1.13	0.91	0.09		2.70	0.88
Uniform Delay, d1	47.0	21.4		47.0	26.5		47.0	30.9	21.8		37.5	36.1
Progression Factor	0.66	1.96		1.07	0.88		1.00	1.00	1.00		0.69	0.58
Incremental Delay, d2	168.4	2.7		959.7	32.4		134.3	12.6	0.5		768.2	24.9
Delay (s)	199.4	44.7		1010.0	55.6		181.3	43.5	22.3		794.2	45.8
Level of Service	F	D		F	E		F	D	C		F	D
Approach Delay (s)		60.9			209.5			54.1			635.4	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM Average Control Delay	266.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	139.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.98			0.98		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1608			1616		1583	4542		1583	4514	
Flt Permitted		0.81			0.81		0.10	1.00		0.22	1.00	
Satd. Flow (perm)		1311			1332		161	4542		368	4514	
Volume (vph)	53	126	37	99	215	46	59	1045	12	29	1546	87
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	55	130	38	102	222	47	61	1077	12	30	1594	90
RTOR Reduction (vph)	0	5	0	0	8	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	218	0	0	363	0	61	1088	0	30	1679	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	8		4		4		6		6		2	
Permitted Phases	8		4		4		6		6		2	
Actuated Green, G (s)	26.7		26.7		26.7		53.5		53.5		53.5	
Effective Green, g (s)	28.1		28.1		28.1		53.9		53.9		53.9	
Actuated g/C Ratio	0.31		0.31		0.31		0.60		0.60		0.60	
Clearance Time (s)	5.4		5.4		5.4		4.4		4.4		4.4	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	409		416		416		96		2720		220	
v/s Ratio Prot							0.24				0.37	
v/s Ratio Perm	0.17		c0.27		c0.27		c0.38		c0.38		0.08	
v/c Ratio	0.53		0.87		0.87		0.64		0.40		0.14	
Uniform Delay, d1	25.5		29.3		29.3		11.7		9.5		7.9	
Progression Factor	1.00		1.00		1.00		1.29		0.82		1.00	
Incremental Delay, d2	1.3		18.0		18.0		18.9		0.3		1.3	
Delay (s)	26.9		47.3		47.3		34.1		8.1		9.2	
Level of Service	C		D		D		C		A		B	
Approach Delay (s)	26.9		47.3		47.3		9.5		9.5		12.6	
Approach LOS	C		D		D		A		A		B	

Intersection Summary

HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3116		1583	3141		1583	4485		1583	4450	
Flt Permitted	0.11	1.00		0.21	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	180	3116		345	3141		208	4485		235	4450	
Volume (vph)	82	696	83	225	1424	80	62	978	103	84	1434	247
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	85	725	86	234	1483	83	65	1019	107	88	1494	257
RTOR Reduction (vph)	0	10	0	0	4	0	0	14	0	0	19	0
Lane Group Flow (vph)	85	801	0	234	1562	0	65	1112	0	88	1732	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm			
Protected Phases	8		7		4		6		6		2	
Permitted Phases	8		4		6		6		2			
Actuated Green, G (s)	35.7	35.7		48.7	48.7		31.1	31.1		31.1	31.1	
Effective Green, g (s)	37.0	37.0		50.0	50.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.41	0.41		0.56	0.56		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.3	5.3		3.5	5.3		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1281		315	1745		74	1595		84	1582	
v/s Ratio Prot		0.26		0.07	c0.50			0.25			c0.39	
v/s Ratio Perm	c0.47			0.34			0.31			0.37		
v/c Ratio	1.15	0.63		0.74	0.89		0.88	0.70		1.05	1.10	
Uniform Delay, d1	26.5	21.0		13.0	17.7		27.2	24.8		29.0	29.0	
Progression Factor	1.00	1.00		1.85	1.69		1.07	1.08		1.31	1.18	
Incremental Delay, d2	150.5	2.3		0.9	0.8		41.6	1.1		101.6	51.5	
Delay (s)	177.0	23.3		24.9	30.7		70.8	28.0		139.5	85.8	
Level of Service	F	C		C	C		E	C		F	F	
Approach Delay (s)		37.9			29.9			30.3			88.4	
Approach LOS		D			C			C			F	

Intersection Summary

HCM Average Control Delay	50.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	114.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖		↕		↖	↕	↖
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95	1.00		0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	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		0.95	1.00	1.00
Satd. Flow (prot)	1509	2984		1509	3018	1350		3009		1509	3018	1350
Flt Permitted	0.08	1.00		0.18	1.00	1.00		0.65		0.26	1.00	1.00
Satd. Flow (perm)	134	2984		279	3018	1350		1974		413	3018	1350
Volume (vph)	137	907	72	122	1535	125	23	615	5	86	1228	177
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	141	935	74	126	1582	129	24	634	5	89	1266	182
RTOR Reduction (vph)	0	5	0	0	0	61	0	1	0	0	0	108
Lane Group Flow (vph)	141	1004	0	126	1582	68	0	662	0	89	1266	74
Turn Type	pm+pt			pm+pt			Perm	Perm		Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	55.0	47.3		55.0	47.3	47.3		34.0		34.0	34.0	34.0
Effective Green, g (s)	54.0	47.3		54.0	47.3	47.3		34.0		34.0	34.0	34.0
Actuated g/C Ratio	0.54	0.47		0.54	0.47	0.47		0.34		0.34	0.34	0.34
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0		4.0		4.0	4.0	4.0
Vehicle Extension (s)	1.0	3.0		1.0	3.0	3.0		3.5		3.5	3.5	3.5
Lane Grp Cap (vph)	164	1411		233	1428	639		671		140	1026	459
v/s Ratio Prot	c0.06	0.34		0.04	c0.52					c0.42		
v/s Ratio Perm	0.40			0.26		0.05		0.34		0.22		0.05
v/c Ratio	0.86	0.71		0.54	1.11	0.11		0.99		0.64	1.23	0.16
Uniform Delay, d1	22.7	20.9		13.8	26.4	14.6		32.8		27.8	33.0	23.0
Progression Factor	1.00	1.00		1.77	0.73	1.08		1.00		1.00	1.00	1.00
Incremental Delay, d2	32.4	3.1		0.1	49.7	0.0		31.7		20.0	113.8	0.7
Delay (s)	55.1	24.0		24.6	68.8	15.8		64.5		47.8	146.8	23.8
Level of Service	E	C		C	E	B		E		D	F	C
Approach Delay (s)		27.8			62.1			64.5			126.5	
Approach LOS		C			E			E			F	

Intersection Summary

HCM Average Control Delay	73.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	132.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3157		1583	3151			1615			1608	
Flt Permitted	0.14	1.00		0.21	1.00			0.95			0.94	
Satd. Flow (perm)	228	3157		350	3151			1547			1529	
Volume (vph)	29	927	19	94	1487	50	11	86	24	62	306	101
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	956	20	97	1533	52	11	89	25	64	315	104
RTOR Reduction (vph)	0	2	0	0	4	0	0	16	0	0	3	0
Lane Group Flow (vph)	30	974	0	97	1581	0	0	110	0	0	480	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		4		4	
Permitted Phases	6		2		8		4		8		4	
Actuated Green, G (s)	28.9	28.9		28.9	28.9			21.9			21.9	
Effective Green, g (s)	29.2	29.2		29.2	29.2			22.8			22.8	
Actuated g/C Ratio	0.49	0.49		0.49	0.49			0.38			0.38	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	111	1536		170	1533			588			581	
v/s Ratio Prot	0.31		c0.50									
v/s Ratio Perm	0.13			0.28				0.07			c0.31	
v/c Ratio	0.27	0.63		0.57	1.03			0.19			0.83	
Uniform Delay, d1	9.1	11.4		10.9	15.4			12.4			16.8	
Progression Factor	0.78	0.71		1.00	1.00			1.00			1.00	
Incremental Delay, d2	5.4	1.8		13.2	31.5			0.2			9.4	
Delay (s)	12.5	9.9		24.1	46.9			12.6			26.2	
Level of Service	B	A		C	D			B			C	
Approach Delay (s)	10.0		45.6		12.6		26.2					
Approach LOS	B		D		B		C					

Intersection Summary






















HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↓		↑	↑↓	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.96		1.00	0.98	
Flt Protected		1.00			1.00	1.00		0.98		0.95	0.97	
Satd. Flow (prot)		3014			3018	1350		1499		1433	1427	
Flt Permitted		1.00			1.00	1.00		0.98		0.95	0.97	
Satd. Flow (perm)		3014			3018	1350		1499		1433	1427	
Volume (vph)	0	728	7	0	1780	579	16	19	15	316	28	25
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	774	7	0	1894	616	17	20	16	336	30	27
RTOR Reduction (vph)	0	0	0	0	0	96	0	15	0	0	6	0
Lane Group Flow (vph)	0	781	0	0	1894	520	0	38	0	197	190	0
Turn Type					pm+ov		Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases						6						
Actuated Green, G (s)		62.7			62.7	81.9		6.1		19.2	19.2	
Effective Green, g (s)		62.7			62.7	81.9		6.1		19.2	19.2	
Actuated g/C Ratio		0.63			0.63	0.82		0.06		0.19	0.19	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1890			1892	1160		91		275	274	
v/s Ratio Prot		0.26			c0.63	0.09		c0.03		c0.14	0.13	
v/s Ratio Perm						0.30						
v/c Ratio		0.41			1.00	0.45		0.42		0.72	0.69	
Uniform Delay, d1		9.4			18.6	2.6		45.2		37.8	37.7	
Progression Factor		1.32			1.00	1.00		1.00		1.47	1.48	
Incremental Delay, d2		0.3			20.9	0.4		3.1		8.4	7.3	
Delay (s)		12.7			39.6	3.0		48.3		63.8	63.2	
Level of Service		B			D	A		D		E	E	
Approach Delay (s)		12.7			30.6			48.3			63.5	
Approach LOS		B			C			D			E	

Intersection Summary

HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	
Satd. Flow (prot)	1509	2960		1509	3005			1541	1350		1494	
Flt Permitted	0.10	1.00		0.16	1.00			0.97	1.00		0.99	
Satd. Flow (perm)	162	2960		257	3005			1541	1350		1494	
Volume (vph)	108	737	108	455	1842	51	127	81	588	10	17	15
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	114	776	114	479	1939	54	134	85	619	11	18	16
RTOR Reduction (vph)	0	10	0	0	2	0	0	0	426	0	14	0
Lane Group Flow (vph)	114	880	0	479	1991	0	0	219	193	0	31	0
Turn Type	Perm			pm+pt			Split		pm+ov	Split		
Protected Phases		6		5	7	2	4	4	5	7	8	8
Permitted Phases	6			2					4			
Actuated Green, G (s)	39.3	39.3		47.3	45.3			15.9	20.9		14.0	
Effective Green, g (s)	39.3	39.3		47.3	45.3			15.9	19.9		14.0	
Actuated g/C Ratio	0.39	0.39		0.47	0.45			0.16	0.20		0.14	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	64	1163		172	1361			245	269		209	
v/s Ratio Prot		0.30		c0.11	0.66			c0.14	0.03		c0.02	
v/s Ratio Perm	0.71			c1.21					0.11			
v/c Ratio	1.78	0.76		2.78	1.46			0.89	0.72		0.15	
Uniform Delay, d1	30.4	26.2		27.0	27.4			41.2	37.4		37.8	
Progression Factor	1.00	1.00		1.00	1.00			1.40	6.34		1.00	
Incremental Delay, d2	407.0	4.6		819.2	212.5			19.8	4.0		1.5	
Delay (s)	437.3	30.8		846.2	239.9			77.4	241.3		39.3	
Level of Service	F	C		F	F			E	F		D	
Approach Delay (s)		77.0			357.4			198.5			39.3	
Approach LOS		E			F			F			D	
Intersection Summary												
HCM Average Control Delay			259.0			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.88									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			22.8			
Intersection Capacity Utilization			116.5%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔			↕	↗		↕	↘
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95	
Frbp, ped/bikes			1.00	1.00	0.99			1.00	1.00		1.00	
Flpb, ped/bikes			1.00	1.00	1.00			1.00	1.00		1.00	
Frt			0.86	1.00	0.97			1.00	0.85		1.00	
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00	
Satd. Flow (prot)			1374	1433	1393			3016	1350		3012	
Flt Permitted			1.00	0.95	0.96			0.95	1.00		1.00	
Satd. Flow (perm)			1374	1433	1393			2871	1350		3012	
Volume (vph)	0	0	10	1753	9	181	5	747	543	0	581	4
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	10	1789	9	185	5	762	554	0	593	4
RTOR Reduction (vph)	0	0	4	0	9	0	0	0	355	0	1	0
Lane Group Flow (vph)	0	0	6	1061	913	0	0	767	199	0	596	0
Confl. Peds. (#/hr)	22						22	22				22
Confl. Bikes (#/hr)							2					1
Turn Type			custom	Prot			Perm		Perm			
Protected Phases				4	8			2			2	
Permitted Phases			4				2		2			
Actuated Green, G (s)			56.0	56.0	56.0			35.0	35.0		35.0	
Effective Green, g (s)			56.0	56.0	56.0			36.0	36.0		36.0	
Actuated g/C Ratio			0.56	0.56	0.56			0.36	0.36		0.36	
Clearance Time (s)			4.0	4.0	4.0			5.0	5.0		5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)			769	802	780			1034	486		1084	
v/s Ratio Prot				c0.74	0.66						0.20	
v/s Ratio Perm			0.00					c0.27	0.15			
v/c Ratio			0.01	1.32	1.17			0.74	0.41		0.55	
Uniform Delay, d1			9.7	22.0	22.0			27.9	24.0		25.5	
Progression Factor			1.00	1.00	1.00			0.78	2.80		1.42	
Incremental Delay, d2			0.0	154.0	90.1			3.1	1.6		0.2	
Delay (s)			9.7	176.0	112.1			25.0	68.9		36.3	
Level of Service			A	F	F			C	E		D	
Approach Delay (s)		9.7			146.3			43.4			36.3	
Approach LOS		A			F			D			D	
Intersection Summary												
HCM Average Control Delay			94.4								HCM Level of Service	F
HCM Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			100.0								Sum of lost time (s)	8.0
Intersection Capacity Utilization			101.2%								ICU Level of Service	G
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.94	1.00	0.97		1.00	1.00		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1268	1493	1456		1509	2986		1509	3018	1288
Flt Permitted	0.13	1.00	1.00	0.43	1.00		0.09	1.00		0.18	1.00	1.00
Satd. Flow (perm)	211	1588	1268	683	1456		138	2986		283	3018	1288
Volume (vph)	40	239	124	67	308	200	144	952	37	30	1688	621
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	257	133	72	331	215	155	1024	40	32	1815	668
RTOR Reduction (vph)	0	0	93	0	23	0	0	2	0	0	0	98
Lane Group Flow (vph)	43	257	40	72	523	0	155	1062	0	32	1815	570
Conf. Peds. (#/hr)	31		29	29		31	16		30	30		16
Conf. Bikes (#/hr)			2			4			2			1
Turn Type	pm+pt		Perm	pm+pt		pm+pt		pm+pt		pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases	6		6	2		4			8			8
Actuated Green, G (s)	34.3	29.6	29.6	36.6	31.0		52.8	47.0		44.8	42.0	42.0
Effective Green, g (s)	33.8	30.1	30.1	35.6	31.0		53.3	47.5		43.8	42.0	42.0
Actuated g/C Ratio	0.34	0.30	0.30	0.36	0.31		0.53	0.48		0.44	0.42	0.42
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	119	478	382	280	451		174	1418		146	1268	541
v/s Ratio Prot	c0.01	0.16		0.01	c0.36		c0.07	0.36		0.00	c0.60	
v/s Ratio Perm	0.11		0.03	0.08		0.41			0.09			0.44
v/c Ratio	0.36	0.54	0.10	0.26	1.16		0.89	0.75		0.22	1.43	1.05
Uniform Delay, d1	25.8	29.1	25.2	22.2	34.5		25.4	21.4		17.2	29.0	29.0
Progression Factor	1.00	1.00	1.00	0.97	0.98		1.92	1.51		0.87	0.80	0.73
Incremental Delay, d2	1.9	1.2	0.1	0.2	91.5		23.2	1.9		0.0	194.5	29.0
Delay (s)	27.7	30.3	25.3	21.8	125.5		71.9	34.2		15.0	217.9	50.1
Level of Service	C	C	C	C	F		E	C		B	F	D
Approach Delay (s)		28.5			113.4			39.0			170.7	
Approach LOS		C			F			D			F	

Intersection Summary

HCM Average Control Delay	116.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	115.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔↔	↕↔			↕↕	↕↔
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frbp, 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	1.00		1.00	1.00		1.00	0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	3003		2927	3016		2927	2927			3018	1290
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	3003		2927	3016		2927	2927			3018	1290
Volume (vph)	330	791	14	335	1580	4	222	788	111	0	1520	481
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	351	841	15	356	1681	4	236	838	118	0	1617	512
RTOR Reduction (vph)	0	1	0	0	0	0	0	11	0	0	0	140
Lane Group Flow (vph)	351	855	0	356	1685	0	236	945	0	0	1617	372
Conf. Peds. (#/hr)	75		79	79		75	30		64	64		30
Conf. Bikes (#/hr)			8			23			2			3
Turn Type	Prot			Prot			Prot					Perm
Protected Phases	5	2		1	6		3	8				4
Permitted Phases												4
Actuated Green, G (s)	9.0	29.5		9.0	29.5		9.0	48.0			34.0	34.0
Effective Green, g (s)	9.0	30.0		9.0	30.0		10.0	49.0			35.0	35.0
Actuated g/C Ratio	0.09	0.30		0.09	0.30		0.10	0.49			0.35	0.35
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	263	901		263	905		293	1434			1056	452
v/s Ratio Prot	0.12	0.28		c0.12	c0.56		c0.08	0.32			c0.54	
v/s Ratio Perm												0.29
v/c Ratio	1.33	0.95		1.35	1.86		0.81	0.66			1.53	0.82
Uniform Delay, d1	45.5	34.2		45.5	35.0		44.0	19.2			32.5	29.7
Progression Factor	0.82	1.14		1.29	0.94		1.00	1.00			0.73	0.97
Incremental Delay, d2	170.9	17.6		168.1	389.4		14.0	1.2			239.5	1.2
Delay (s)	208.2	56.6		226.6	422.5		58.1	20.4			263.1	29.9
Level of Service	F	E		F	F		E	C			F	C
Approach Delay (s)		100.7			388.3			27.9			207.0	
Approach LOS		F			F			C			F	

Intersection Summary

HCM Average Control Delay	211.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	132.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2993		1509	3009		1509	2925		1509	2978	
Flt Permitted	0.20	1.00		0.95	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	320	2993		1509	3009		159	2925		159	2978	
Volume (vph)	40	505	29	424	1044	21	65	981	251	83	1644	158
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	549	32	461	1135	23	71	1066	273	90	1787	172
RTOR Reduction (vph)	0	4	0	0	2	0	0	26	0	0	8	0
Lane Group Flow (vph)	43	577	0	461	1156	0	71	1313	0	90	1951	0
Turn Type	Perm		Prot		Perm		Perm		Perm			
Protected Phases	8		7		4		6		2			
Permitted Phases	8						6		2			
Actuated Green, G (s)	25.0	25.0		13.0	41.0		39.0	39.0		39.0	39.0	
Effective Green, g (s)	26.0	26.0		12.0	42.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.29	0.29		0.13	0.47		0.44	0.44		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	92	865		201	1404		71	1300		71	1324	
v/s Ratio Prot		0.19		c0.31	c0.38			0.45			c0.66	
v/s Ratio Perm	0.13						0.45			0.57		
v/c Ratio	0.47	0.67		2.29	0.82		1.00	1.01		1.27	1.47	
Uniform Delay, d1	26.3	28.2		39.0	20.8		25.0	25.0		25.0	25.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.1	4.1		597.6	5.6		106.8	27.5		194.7	217.3	
Delay (s)	42.4	32.3		636.6	26.4		131.8	52.5		219.7	242.3	
Level of Service	D	C		F	C		F	D		F	F	
Approach Delay (s)		33.0			200.1			56.5			241.3	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	161.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			1.00		1.00	1.00	
Flpb, ped/bikes					1.00			1.00		1.00	1.00	
Frt					0.96			1.00		1.00	1.00	
Flt Protected					0.97			1.00		0.95	1.00	
Satd. Flow (prot)					1545			3147		1583	3167	
Flt Permitted					0.79			1.00		0.15	1.00	
Satd. Flow (perm)					1265			3147		251	3167	
Volume (vph)	0	0	0	173	0	73	0	1167	27	77	2077	0
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	184	0	78	0	1241	29	82	2210	0
RTOR Reduction (vph)	0	0	0	0	15	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	247	0	0	1268	0	82	2210	0
Conf. Peds. (#/hr)								10		32	32	10
Conf. Bikes (#/hr)			1							2		4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					30.5			61.0		61.0	61.0	
Effective Green, g (s)					31.0			61.0		61.0	61.0	
Actuated g/C Ratio					0.31			0.61		0.61	0.61	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					392			1920		153	1932	
v/s Ratio Prot								0.40			c0.70	
v/s Ratio Perm					c0.20					0.33		
v/c Ratio					0.63			0.66		0.54	1.14	
Uniform Delay, d1					29.6			12.7		11.3	19.5	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					7.5			1.8		12.8	71.5	
Delay (s)					37.0			14.5		24.1	91.0	
Level of Service					D			B		C	F	
Approach Delay (s)		0.0			37.0			14.5			88.6	
Approach LOS		A			D			B			F	
Intersection Summary												
HCM Average Control Delay			60.5					HCM Level of Service		E		
HCM Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			100.0					Sum of lost time (s)		8.0		
Intersection Capacity Utilization			93.9%					ICU Level of Service		F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 146: Beverly Blvd & La Cienega Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↗	↑↑	↗	↗	↑↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	1.00	0.95	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	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1325	3072	3129		1583	3167	1352	1583	4429	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3072	3167	1325	3072	3129		155	3167	1352	171	4429	
Volume (vph)	82	582	63	374	1187	55	99	1111	324	19	1945	217
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	85	600	65	386	1224	57	102	1145	334	20	2005	224
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	91	0	11	0
Lane Group Flow (vph)	85	600	65	386	1278	0	102	1145	243	20	2218	0
Confl. Peds. (#/hr)	73		41	41		73	67		26	26		67
Confl. Bikes (#/hr)			3			4			1			4
Turn Type	Prot		pm+ov	Prot			pm+pt		pm+ov		pm+pt	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2				8		8		4	
Actuated Green, G (s)	6.4	48.8	55.8	8.0	50.4		48.5	41.7	49.7	40.3	37.5	
Effective Green, g (s)	6.4	50.1	57.1	8.0	51.7		49.9	43.1	51.1	41.7	38.9	
Actuated g/C Ratio	0.05	0.42	0.48	0.07	0.43		0.42	0.36	0.43	0.35	0.32	
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3		4.0	5.4	4.0	4.0	5.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	164	1322	675	205	1348		148	1137	621	92	1436	
v/s Ratio Prot	0.03	c0.19	0.01	c0.13	c0.41		c0.04	0.36	0.03	0.01	c0.50	
v/s Ratio Perm			0.04				0.25		0.15	0.07		
v/c Ratio	0.52	0.45	0.10	1.88	0.95		0.69	1.01	0.39	0.22	1.54	
Uniform Delay, d1	55.3	25.1	17.3	56.0	32.9		56.9	38.5	23.7	29.8	40.5	
Progression Factor	0.80	0.51	0.51	0.94	1.26		1.34	1.35	2.50	1.00	1.00	
Incremental Delay, d2	2.4	1.0	0.1	399.0	2.0		6.8	21.0	0.2	1.2	248.4	
Delay (s)	46.6	13.8	8.9	451.6	43.5		83.1	73.1	59.6	31.0	289.0	
Level of Service	D	B	A	F	D		F	E	E	C	F	
Approach Delay (s)		17.1			138.0			70.9			286.7	
Approach LOS		B			F			E			F	

Intersection Summary			
HCM Average Control Delay	160.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↑↑	↗	↘	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3097		1583	3167	1417	1583	3085	
Flt Permitted	0.07	1.00	1.00	0.34	1.00		0.13	1.00	1.00	0.26	1.00	
Satd. Flow (perm)	121	3167	1417	561	3097		212	3167	1417	435	3085	
Volume (vph)	64	599	243	217	1080	186	269	738	43	164	885	183
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	631	256	228	1137	196	283	777	45	173	932	193
RTOR Reduction (vph)	0	0	39	0	12	0	0	0	24	0	15	0
Lane Group Flow (vph)	67	631	217	228	1321	0	283	777	21	173	1110	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8	4		
Actuated Green, G (s)	54.6	54.6	54.6	54.6	54.6		54.0	54.0	54.0	54.0	54.0	
Effective Green, g (s)	56.5	56.5	56.5	56.5	56.5		55.5	55.5	55.5	55.5	55.5	
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	57	1491	667	264	1458		98	1465	655	201	1427	
v/s Ratio Prot		0.20			0.43			0.25			0.36	
v/s Ratio Perm	c0.55		0.15	0.41			c1.34		0.01	0.40		
v/c Ratio	1.18	0.42	0.33	0.86	0.91		2.89	0.53	0.03	0.86	0.78	
Uniform Delay, d1	31.8	21.0	19.8	28.3	29.3		32.2	23.0	17.6	28.8	27.1	
Progression Factor	1.21	1.15	1.23	1.08	1.05		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	161.9	0.7	1.0	3.7	1.0		876.7	1.4	0.1	35.4	4.2	
Delay (s)	200.3	24.8	25.4	34.4	32.0		909.0	24.3	17.7	64.2	31.3	
Level of Service	F	C	C	C	C		F	C	B	E	C	
Approach Delay (s)		37.3			32.3			250.6			35.7	
Approach LOS		D			C			F			D	

Intersection Summary

HCM Average Control Delay	83.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00		0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85		1.00		1.00	1.00	0.85		0.94	
Flt Protected	0.95	1.00	1.00		1.00		0.95	0.95	1.00		0.99	
Satd. Flow (prot)	1509	3018	1350		3013		1433	1437	1350		1467	
Flt Permitted	0.07	1.00	1.00		1.00		0.95	0.95	1.00		0.99	
Satd. Flow (perm)	104	3018	1350		3013		1433	1437	1350		1467	
Volume (vph)	37	928	272	0	1549	17	636	2	47	22	17	34
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	38	957	280	0	1597	18	656	2	48	23	18	35
RTOR Reduction (vph)	0	0	50	0	0	0	0	0	38	0	26	0
Lane Group Flow (vph)	38	957	230	0	1615	0	328	330	10	0	50	0
Turn Type	pm+pt		Perm				Split		Perm	Split		
Protected Phases	1	6			2		4	4		3	3	
Permitted Phases	6		6						4			
Actuated Green, G (s)	73.0	70.3	70.3		70.3		26.0	26.0	26.0		6.0	
Effective Green, g (s)	72.0	70.3	70.3		70.3		26.0	26.0	26.0		6.0	
Actuated g/C Ratio	0.60	0.59	0.59		0.59		0.22	0.22	0.22		0.05	
Clearance Time (s)	3.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	6.0	6.0		6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	82	1768	791		1765		310	311	293		73	
v/s Ratio Prot	c0.01	0.32			c0.54		0.23	c0.23			c0.03	
v/s Ratio Perm	0.27		0.17						0.01			
v/c Ratio	0.46	0.54	0.29		0.91		1.06	1.06	0.04		0.69	
Uniform Delay, d1	17.9	15.1	12.4		22.2		47.0	47.0	37.1		56.1	
Progression Factor	0.51	0.46	0.23		1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.0	0.8	0.6		8.9		67.2	68.1	0.0		23.8	
Delay (s)	10.1	7.7	3.5		31.1		114.2	115.1	37.2		79.9	
Level of Service	B	A	A		C		F	F	D		E	
Approach Delay (s)		6.8			31.1			109.4			79.9	
Approach LOS		A			C			F			E	

Intersection Summary			
HCM Average Control Delay	38.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕		↘	↕		↘	↕	↘	↘	↕	↕
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	0.93	1.00	0.98	
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		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)	1509	2977		1506	2990		1509	3018	1254	1488	2888	
Flt Permitted	0.06	1.00		0.20	1.00		0.17	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	98	2977		321	2990		276	3018	1254	272	2888	
Volume (vph)	73	959	55	10	2469	77	1	605	129	15	892	194
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	84	1102	63	11	2838	89	1	695	148	17	1025	223
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	109	0	18	0
Lane Group Flow (vph)	84	1162	0	11	2925	0	1	695	39	17	1230	0
Confl. Peds. (#/hr)	83		60	60		83	58		40	40		58
Confl. Bikes (#/hr)			3			8						
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8		8		4	
Actuated Green, G (s)	69.0	64.7		61.4	60.6		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	69.0	64.7		60.9	60.6		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.69	0.65		0.61	0.61		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	130	1926		199	1812		63	694	288	63	664	
v/s Ratio Prot	c0.03	0.39		0.00	c0.98			0.23			c0.43	
v/s Ratio Perm	0.42			0.03			0.00		0.03	0.06		
v/c Ratio	0.65	0.60		0.06	1.61		0.02	1.00	0.14	0.27	1.85	
Uniform Delay, d1	26.0	10.2		8.2	19.7		29.8	38.5	30.6	31.6	38.5	
Progression Factor	1.92	0.65		0.54	0.73		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.5	1.1		0.0	276.6		0.5	34.5	1.0	10.2	389.1	
Delay (s)	56.4	7.8		4.5	291.0		30.2	73.0	31.6	41.8	427.6	
Level of Service	E	A		A	F		C	E	C	D	F	
Approach Delay (s)		11.1			289.9			65.7			422.4	
Approach LOS		B			F			E			F	

Intersection Summary

HCM Average Control Delay	231.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖	↖	↕		↖	↕	↖
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	2977		1509	1588	1350	1509	2953		1509	3018	1350
Flt Permitted	0.13	1.00		0.39	1.00	1.00	0.21	1.00		0.19	1.00	1.00
Satd. Flow (perm)	205	2977		626	1588	1350	341	2953		296	3018	1350
Volume (vph)	21	460	46	306	853	156	91	822	138	172	889	183
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	22	484	48	322	898	164	96	865	145	181	936	193
RTOR Reduction (vph)	0	10	0	0	0	59	0	18	0	0	0	31
Lane Group Flow (vph)	22	522	0	322	898	105	96	992	0	181	936	162
Turn Type	Perm			Perm			Perm	Perm		Perm		Perm
Protected Phases	2			2			4			4		
Permitted Phases	2			2			4			4		4
Actuated Green, G (s)	31.0	31.0		31.0	31.0	31.0	36.0	36.0		36.0	36.0	36.0
Effective Green, g (s)	31.0	31.0		31.0	31.0	31.0	36.0	36.0		36.0	36.0	36.0
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lane Grp Cap (vph)	85	1230		259	656	558	164	1417		142	1449	648
v/s Ratio Prot		0.18		c0.57			0.34			0.31		
v/s Ratio Perm	0.11			0.51		0.08	0.28			c0.61		0.12
v/c Ratio	0.26	0.42		1.24	1.37	0.19	0.59	0.70		1.27	0.65	0.25
Uniform Delay, d1	14.5	15.7		22.0	22.0	14.0	14.1	15.3		19.5	14.7	11.5
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	7.2	1.1		137.7	175.6	0.7	14.4	2.9		167.1	2.2	0.9
Delay (s)	21.7	16.7		159.7	197.6	14.7	28.5	18.2		186.6	16.9	12.4
Level of Service	C	B		F	F	B	C	B		F	B	B
Approach Delay (s)		16.9		167.1			19.1			39.7		
Approach LOS		B		F			B			D		

Intersection Summary

HCM Average Control Delay	72.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		0.95	0.91	0.95	1.00	1.00	
Frt	1.00	0.94		1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2852		1509	3015		1433	1416	1282	1509	1504	
Flt Permitted	0.06	1.00		0.11	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (perm)	88	2852		168	3015		1433	1416	1282	1509	1504	
Volume (vph)	6	847	491	603	2080	10	265	111	255	16	21	11
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	892	517	635	2189	11	279	117	268	17	22	12
RTOR Reduction (vph)	0	69	0	0	0	0	0	0	158	0	10	0
Lane Group Flow (vph)	6	1340	0	635	2200	0	198	198	110	17	24	0
Turn Type	Perm		pm+pt			Split		pm+ov		Split		
Protected Phases	6		5			4		4		5		
Permitted Phases	6		2					4		3		
Actuated Green, G (s)	72.0	72.0	81.0		81.0	7.0		7.0	13.0	21.0	21.0	
Effective Green, g (s)	72.0	72.0	81.0		81.0	7.0		7.0	12.0	20.0	20.0	
Actuated g/C Ratio	0.60	0.60	0.68		0.68	0.06		0.06	0.10	0.17	0.17	
Clearance Time (s)	4.0	4.0	3.0		4.0	4.0		4.0	3.0	3.0	3.0	
Vehicle Extension (s)	4.5	4.5	1.0		4.5	2.0		2.0	1.0	2.0	2.0	
Lane Grp Cap (vph)	53	1711	169		2035	84		83	171	252	251	
v/s Ratio Prot	0.47		c0.16		0.73	0.14		c0.14	0.03	0.01	c0.02	
v/s Ratio Perm	0.07		c2.37						0.06			
v/c Ratio	0.11	0.78	3.76		1.08	2.36		2.39	0.64	0.07	0.10	
Uniform Delay, d1	10.3	18.1	17.9		19.5	56.5		56.5	51.9	42.1	42.3	
Progression Factor	1.00	1.00	2.09		0.78	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.3	3.7	1249.8		42.7	645.9		658.8	6.0	0.5	0.8	
Delay (s)	14.6	21.8	1287.4		57.9	702.4		715.3	57.9	42.7	43.1	
Level of Service	B	C	F		E	F		F	E	D	D	
Approach Delay (s)	21.7		333.3			446.1			43.0			
Approach LOS	C		F			F			D			

Intersection Summary

HCM Average Control Delay	256.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95	
Frt		0.92			0.95		1.00	0.98		1.00	1.00	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1439			1492		1509	2967		1509	3004	
Flt Permitted		0.91			0.89		0.17	1.00		0.43	1.00	
Satd. Flow (perm)		1325			1347		276	2967		680	3004	
Volume (vph)	23	15	62	74	91	87	278	458	58	13	1001	31
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	24	16	65	77	95	91	290	477	60	14	1043	32
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	105	0	0	263	0	290	537	0	14	1075	0
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		2		6		6		4		4		8
Permitted Phases		2		6		6		4		4		8
Actuated Green, G (s)		19.4			19.4		24.0	24.0		24.0		24.0
Effective Green, g (s)		20.0			20.0		23.0	23.0		23.0		23.0
Actuated g/C Ratio		0.39			0.39		0.45	0.45		0.45		0.45
Clearance Time (s)		4.6			4.6		3.0	3.0		3.0		3.0
Vehicle Extension (s)		4.5			4.5		3.0	3.0		3.0		3.0
Lane Grp Cap (vph)		520			528		124	1338		307		1355
v/s Ratio Prot								0.18				0.36
v/s Ratio Perm		0.08			c0.20		c1.05			0.02		
v/c Ratio		0.20			0.50		2.34	0.40		0.05		0.79
Uniform Delay, d1		10.2			11.7		14.0	9.4		7.8		12.0
Progression Factor		1.00			1.00		1.00	1.00		1.00		1.00
Incremental Delay, d2		0.9			3.3		626.8	0.2		0.1		3.3
Delay (s)		11.1			15.0		640.8	9.6		7.9		15.2
Level of Service		B			B		F	A		A		B
Approach Delay (s)		11.1			15.0			230.9				15.2
Approach LOS		B			B			F				B

Intersection Summary

HCM Average Control Delay	93.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 153: Santa Monica Blvd & Robertson Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	↘
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.95			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	
Frt	1.00	0.99		1.00	1.00			0.91			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1509	2988		1505	3007			1360			1497	
Flt Permitted	0.08	1.00		0.22	1.00			0.76			0.96	
Satd. Flow (perm)	123	2988		348	3007			1046			1445	
Volume (vph)	22	799	33	370	2326	28	56	55	209	19	223	69
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	859	35	398	2501	30	60	59	225	20	240	74
RTOR Reduction (vph)	0	3	0	0	1	0	0	68	0	0	10	0
Lane Group Flow (vph)	24	891	0	398	2530	0	0	276	0	0	324	0
Conf. Peds. (#/hr)	48		34	34		48	40		40	40		40
Conf. Bikes (#/hr)			3			4						2
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.5	51.5		65.5	58.0			26.0			26.0	
Effective Green, g (s)	55.0	51.5		65.5	58.0			26.5			26.5	
Actuated g/C Ratio	0.55	0.52		0.66	0.58			0.26			0.26	
Clearance Time (s)	3.5	4.0		3.5	4.0			4.5			4.5	
Vehicle Extension (s)	1.0	5.0		1.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	116	1539		344	1744			277			383	
v/s Ratio Prot	0.01	0.30		c0.12	c0.84							
v/s Ratio Perm	0.11			0.64				c0.26			0.22	
v/c Ratio	0.21	0.58		1.16	1.45			1.00			0.85	
Uniform Delay, d1	47.3	16.8		12.8	21.0			36.7			34.8	
Progression Factor	1.00	1.00		2.76	0.46			1.00			1.00	
Incremental Delay, d2	4.0	1.6		74.0	203.1			52.4			15.6	
Delay (s)	51.3	18.4		109.1	212.7			89.1			50.4	
Level of Service	D	B		F	F			F			D	
Approach Delay (s)		19.2			198.7			89.1			50.4	
Approach LOS		B			F			F			D	

Intersection Summary

HCM Average Control Delay	143.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	134.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖	↖	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3113		1583	3073		1583	1667	1417	1583	1598	
Flt Permitted	0.20	1.00		0.20	1.00		0.13	1.00	1.00	0.40	1.00	
Satd. Flow (perm)	327	3113		337	3073		211	1667	1417	671	1598	
Volume (vph)	51	665	86	87	1229	301	55	429	92	52	557	212
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	723	93	95	1336	327	60	466	100	57	605	230
RTOR Reduction (vph)	0	17	0	0	36	0	0	0	26	0	2	0
Lane Group Flow (vph)	55	800	0	95	1627	0	60	466	74	57	833	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1058		115	1045		111	878	746	353	842	
v/s Ratio Prot		0.26			c0.53			0.28			c0.52	
v/s Ratio Perm	0.17			0.28			0.28		0.05	0.08		
v/c Ratio	0.50	0.76		0.83	1.56		0.54	0.53	0.10	0.16	0.99	
Uniform Delay, d1	15.7	17.6		18.2	19.8		9.4	9.3	7.1	7.3	14.0	
Progression Factor	1.00	1.00		0.95	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.9	5.0		6.2	251.2		17.6	2.3	0.3	1.0	28.4	
Delay (s)	30.7	22.6		23.5	270.5		27.0	11.6	7.4	8.3	42.5	
Level of Service	C	C		C	F		C	B	A	A	D	
Approach Delay (s)		23.1			257.1			12.4			40.3	
Approach LOS		C			F			B			D	

Intersection Summary

HCM Average Control Delay	124.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	118.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↕			↕			↕	↙
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)				4.0	4.0			4.0			4.0	4.0
Lane Util. Factor				1.00	0.95			0.95			0.95	1.00
Frt				1.00	1.00			1.00			1.00	0.85
Flt Protected				0.95	1.00			1.00			1.00	1.00
Satd. Flow (prot)				1509	3011			3006			3018	1350
Flt Permitted				0.95	1.00			0.92			1.00	1.00
Satd. Flow (perm)				1509	3011			2764			3018	1350
Volume (vph)	0	0	0	185	2175	30	27	328	0	0	284	102
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	197	2314	32	29	349	0	0	302	109
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	197	2345	0	0	378	0	0	302	109
Turn Type				custom			custom					Free
Protected Phases				2	2		3	3			1	
Permitted Phases				4	4		6	6				Free
Actuated Green, G (s)				34.9	34.9			27.5			20.0	100.0
Effective Green, g (s)				33.5	33.5			26.5			20.0	100.0
Actuated g/C Ratio				0.34	0.34			0.26			0.20	1.00
Clearance Time (s)				3.0	3.0			3.0			4.0	
Vehicle Extension (s)				1.0	1.0			1.0			4.0	
Lane Grp Cap (vph)				566	1129			742			604	1350
v/s Ratio Prot				0.05	c0.29			c0.02			c0.10	
v/s Ratio Perm				0.08	0.49			c0.11				0.08
v/c Ratio				0.35	2.08			0.51			0.50	0.08
Uniform Delay, d1				25.4	33.2			31.2			35.6	0.0
Progression Factor				1.00	1.00			0.35			1.00	1.00
Incremental Delay, d2				1.7	487.6			0.2			2.9	0.1
Delay (s)				27.1	520.9			11.1			38.5	0.1
Level of Service				C	F			B			D	A
Approach Delay (s)		0.0			482.6			11.1			28.3	
Approach LOS		A			F			B			C	

Intersection Summary

HCM Average Control Delay	373.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖		↕			↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98			0.98	
Satd. Flow (prot)	1304	2599		1304	2608	1167		1317			1324	
Flt Permitted	0.10	1.00		0.17	1.00	1.00		0.83			0.74	
Satd. Flow (perm)	137	2599		236	2608	1167		1116			1006	
Volume (vph)	23	1235	28	41	1609	21	64	90	34	60	66	16
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	24	1273	29	42	1659	22	66	93	35	62	68	16
RTOR Reduction (vph)	0	1	0	0	0	6	0	10	0	0	6	0
Lane Group Flow (vph)	24	1301	0	42	1659	16	0	184	0	0	140	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	2			6			8	8			4	
Permitted Phases	2			6			8	8			4	
Actuated Green, G (s)	63.2	63.2		63.2	63.2	63.2		17.7			17.7	
Effective Green, g (s)	63.8	63.8		63.8	63.8	63.8		18.2			18.2	
Actuated g/C Ratio	0.71	0.71		0.71	0.71	0.71		0.20			0.20	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6		4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)	97	1842		167	1849	827		226			203	
v/s Ratio Prot	0.50			c0.64								
v/s Ratio Perm	0.18			0.18		0.01		c0.17			0.14	
v/c Ratio	0.25	0.71		0.25	0.90	0.02		0.82			0.69	
Uniform Delay, d1	4.6	7.6		4.6	10.5	3.9		34.3			33.3	
Progression Factor	0.50	0.61		0.72	0.56	0.94		1.00			1.00	
Incremental Delay, d2	0.5	0.2		0.3	0.8	0.0		18.9			7.9	
Delay (s)	2.9	4.9		3.7	6.6	3.6		53.2			41.2	
Level of Service	A	A		A	A	A		D			D	
Approach Delay (s)	4.8			6.5				53.2			41.2	
Approach LOS	A			A				D			D	

Intersection Summary

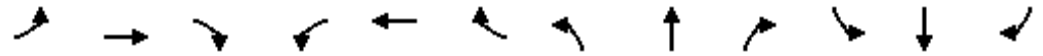
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.93			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1304	2599		1304	2597			1267			1309	
Flt Permitted	0.15	1.00		0.15	1.00			0.94			0.90	
Satd. Flow (perm)	211	2599		211	2597			1202			1183	
Volume (vph)	21	1104	26	192	1469	41	33	96	145	54	143	74
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	1150	27	200	1530	43	34	100	151	56	149	77
RTOR Reduction (vph)	0	3	0	0	3	0	0	17	0	0	5	0
Lane Group Flow (vph)	22	1174	0	200	1570	0	0	268	0	0	277	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	25.5	25.5		25.5	25.5			25.5			25.5	
Effective Green, g (s)	26.0	26.0		26.0	26.0			26.0			26.0	
Actuated g/C Ratio	0.43	0.43		0.43	0.43			0.43			0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	91	1126		91	1125			521			513	
v/s Ratio Prot		0.45			0.60							
v/s Ratio Perm	0.10			c0.95				0.22			c0.23	
v/c Ratio	0.24	1.04		2.20	1.40			0.51			0.54	
Uniform Delay, d1	10.8	17.0		17.0	17.0			12.4			12.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	6.2	38.7		573.1	183.3			3.6			4.1	
Delay (s)	17.0	55.7		590.1	200.3			16.0			16.6	
Level of Service	B	E		F	F			B			B	
Approach Delay (s)		54.9			244.3			16.0			16.6	
Approach LOS		D			F			B			B	

Intersection Summary

HCM Average Control Delay	143.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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)	1583	1631		1583	1667	1417	1583	1667	1417	1583	1667	1417
Flt Permitted	0.38	1.00		0.22	1.00	1.00	0.26	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	628	1631		366	1667	1417	426	1667	1417	611	1667	1417
Volume (vph)	89	483	80	57	408	55	56	417	64	103	526	68
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	95	514	85	61	434	59	60	444	68	110	560	72
RTOR Reduction (vph)	0	10	0	0	0	59	0	0	39	0	0	41
Lane Group Flow (vph)	95	589	0	61	434	0	60	444	29	110	560	31
Turn Type	Perm			Perm		NA	Perm		Perm	Perm		custom
Protected Phases		4			4			2				2
Permitted Phases	4			4			2		2	2		4
Actuated Green, G (s)	25.5	25.5		25.5	25.5	0.0	25.5	25.5	25.5	25.5	25.5	25.5
Effective Green, g (s)	26.0	26.0		26.0	26.0	0.0	26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.43	0.43		0.43	0.43	0.00	0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	272	707		159	722	0	185	722	614	265	722	614
v/s Ratio Prot		c0.36			0.26			0.27				c0.34
v/s Ratio Perm	0.15			0.17			0.14		0.02	0.18		0.02
v/c Ratio	0.35	0.83		0.38	0.60	0.00	0.32	0.61	0.05	0.42	0.78	0.05
Uniform Delay, d1	11.4	15.1		11.6	13.0	30.0	11.2	13.1	9.8	11.7	14.5	9.9
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	3.5	11.1		6.9	3.7	0.0	4.6	3.9	0.1	4.7	8.0	0.2
Delay (s)	14.9	26.1		18.4	16.7	30.0	15.8	17.0	10.0	16.5	22.5	10.0
Level of Service	B	C		B	B	C	B	B	A	B	C	B
Approach Delay (s)		24.6			18.3			16.1			20.4	
Approach LOS		C			B			B			C	

Intersection Summary

HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗		↘	↗	↗	↘	↗	↗	↘	↗	↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.82	1.00	1.00	0.96	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		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)	1304	2579		1304	2608	961	1304	1373	1117	1303	1373	1111
Flt Permitted	0.13	1.00		0.12	1.00	1.00	0.13	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	182	2579		170	2608	961	172	1373	1117	166	1373	1111
Volume (vph)	40	1182	66	121	1347	149	78	550	79	102	625	90
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	43	1257	70	129	1433	159	83	585	84	109	665	96
RTOR Reduction (vph)	0	5	0	0	0	91	0	0	54	0	0	61
Lane Group Flow (vph)	43	1322	0	129	1433	68	83	585	30	109	665	35
Conf. Peds. (#/hr)	72		37	37		72	34		29	29		34
Conf. Bikes (#/hr)			4			6			4			4
Turn Type	pm+pt			pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	32.7	29.5		37.1	31.7	31.7	35.8	31.4	31.4	38.0	32.5	32.5
Effective Green, g (s)	33.9	30.1		38.3	32.3	32.3	36.8	31.9	31.9	39.0	33.0	33.0
Actuated g/C Ratio	0.38	0.33		0.43	0.36	0.36	0.41	0.35	0.35	0.43	0.37	0.37
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	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	3.0	3.0	3.0
Lane Grp Cap (vph)	116	863		148	936	345	132	487	396	148	503	407
v/s Ratio Prot	0.02	0.51		c0.06	c0.55		0.03	0.43		c0.05	c0.48	
v/s Ratio Perm	0.12			0.31		0.07	0.22		0.03	0.27		0.03
v/c Ratio	0.37	1.53		0.87	1.53	0.20	0.63	1.20	0.08	0.74	1.32	0.09
Uniform Delay, d1	23.1	29.9		43.5	28.9	19.9	21.5	29.1	19.3	19.9	28.5	18.6
Progression Factor	0.83	0.71		1.06	1.10	1.70	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	242.9		20.7	241.3	0.5	9.0	108.9	0.1	17.3	158.4	0.1
Delay (s)	20.5	264.3		66.7	273.1	34.5	30.5	138.0	19.3	37.2	186.9	18.7
Level of Service	C	F		E	F	C	C	F	B	D	F	B
Approach Delay (s)		256.7			235.6			112.8			149.6	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	206.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
160: Arizona Ave & 26th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	
Frbp, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		0.99	1.00	
Frt		1.00	0.85		0.98		1.00	0.99		1.00	1.00	
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1653	1353		1609		1583	1638		1573	1659	
Flt Permitted		0.89	1.00		0.94		0.19	1.00		0.25	1.00	
Satd. Flow (perm)		1483	1353		1523		309	1638		407	1659	
Volume (vph)	24	135	115	38	220	48	66	661	61	10	799	19
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	145	124	41	237	52	71	711	66	11	859	20
RTOR Reduction (vph)	0	0	95	0	11	0	0	5	0	0	1	0
Lane Group Flow (vph)	0	171	29	0	319	0	71	772	0	11	878	0
Conf. Peds. (#/hr)	12		25	25		12	21		16	16		21
Conf. Bikes (#/hr)			4			4			4			3
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		13.6	13.6		13.6		37.4	37.4		37.4	37.4	
Effective Green, g (s)		14.1	14.1		14.1		37.9	37.9		37.9	37.9	
Actuated g/C Ratio		0.23	0.23		0.23		0.63	0.63		0.63	0.63	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		0.2	0.2		0.2		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		349	318		358		195	1035		257	1048	
v/s Ratio Prot								0.47				c0.53
v/s Ratio Perm		0.12	0.02		c0.21		0.23			0.03		
v/c Ratio		0.49	0.09		0.89		0.36	0.75		0.04	0.84	
Uniform Delay, d1		19.8	17.9		22.2		5.3	7.7		4.2	8.6	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.0		22.0		5.2	4.9		0.3	8.0	
Delay (s)		20.2	18.0		44.2		10.5	12.6		4.5	16.6	
Level of Service		C	B		D		B	B		A	B	
Approach Delay (s)		19.3			44.2			12.4			16.5	
Approach LOS		B			D			B			B	

Intersection Summary

HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↘	↗	↘	↘	↗	↘	↘	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2608	1167	1304	2608	1167	1304	1373	1167	1304	1373	1167
Flt Permitted	0.10	1.00	1.00	0.20	1.00	1.00	0.16	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	134	2608	1167	281	2608	1167	224	1373	1167	401	1373	1167
Volume (vph)	71	873	31	92	1171	245	85	490	60	243	633	102
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	919	33	97	1233	258	89	516	63	256	666	107
RTOR Reduction (vph)	0	0	18	0	0	136	0	0	34	0	0	15
Lane Group Flow (vph)	75	919	15	97	1233	122	89	516	29	256	666	92
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
Effective Green, g (s)	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
Actuated g/C Ratio	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Clearance Time (s)	4.5	4.5	4.5	4.5	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	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	61	1188	532	128	1188	532	102	625	532	183	625	532
v/s Ratio Prot		0.35			0.47			0.38				0.49
v/s Ratio Perm	c0.56		0.01	0.35		0.10	0.40		0.02	c0.64		0.08
v/c Ratio	1.23	0.77	0.03	0.76	1.04	0.23	0.87	0.83	0.05	1.40	1.07	0.17
Uniform Delay, d1	24.5	20.6	13.5	20.4	24.5	14.9	22.1	21.4	13.7	24.5	24.5	14.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	189.5	4.9	0.1	33.6	36.5	1.0	50.8	8.7	0.0	209.1	54.7	0.2
Delay (s)	214.0	25.5	13.6	54.0	61.0	15.9	72.9	30.1	13.7	233.6	79.2	14.6
Level of Service	F	C	B	D	E	B	E	C	B	F	E	B
Approach Delay (s)		38.9			53.2			34.3			110.9	
Approach LOS		D			D			C			F	

Intersection Summary

HCM Average Control Delay	60.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.90	1.00	1.00	0.88	1.00	1.00	0.94	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.98	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2608	1050	1294	2608	1022	1297	1373	1100	1281	1361	1361
Flt Permitted	0.12	1.00	1.00	0.14	1.00	1.00	0.14	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)	163	2608	1050	193	2608	1022	189	1373	1100	445	1361	1361
Volume (vph)	34	1151	106	109	1227	74	80	419	164	95	581	26
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	35	1174	108	111	1252	76	82	428	167	97	593	27
RTOR Reduction (vph)	0	0	53	0	0	37	0	0	25	0	2	0
Lane Group Flow (vph)	35	1174	55	111	1252	39	82	428	142	97	618	0
Confl. Peds. (#/hr)	43		34	34		43	23		40	40		23
Confl. Bikes (#/hr)			2			7			5			2
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	45.4	45.4	45.4	45.4	45.4	45.4	35.5	35.5	35.5	35.5	35.5	35.5
Effective Green, g (s)	46.0	46.0	46.0	46.0	46.0	46.0	36.0	36.0	36.0	36.0	36.0	36.0
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.51	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	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	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	83	1333	537	99	1333	522	76	549	440	178	544	544
v/s Ratio Prot		0.45			0.48			0.31				c0.45
v/s Ratio Perm	0.21		0.05	c0.58		0.04	0.43		0.13	0.22		
v/c Ratio	0.42	0.88	0.10	1.12	0.94	0.07	1.08	0.78	0.32	0.54	1.14	
Uniform Delay, d1	13.7	19.6	11.4	22.0	20.7	11.2	27.0	23.5	18.6	20.7	27.0	
Progression Factor	1.24	1.07	2.73	1.13	1.05	1.57	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.9	0.0	66.9	1.8	0.0	126.5	6.9	0.4	3.4	82.0	
Delay (s)	18.4	21.8	31.0	91.7	23.4	17.6	153.5	30.5	19.0	24.1	109.0	
Level of Service	B	C	C	F	C	B	F	C	B	C	F	
Approach Delay (s)		22.5			28.4			42.5			97.5	
Approach LOS		C			C			D			F	

Intersection Summary

HCM Average Control Delay	40.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2589		1304	2547		1304	2554		1304	2539	
Flt Permitted	0.14	1.00		0.17	1.00		0.27	1.00		0.17	1.00	
Satd. Flow (perm)	193	2589		228	2547		373	2554		239	2539	
Volume (vph)	68	999	49	102	1215	225	79	791	127	81	597	127
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	70	1030	51	105	1253	232	81	815	131	84	615	131
RTOR Reduction (vph)	0	6	0	0	25	0	0	21	0	0	19	0
Lane Group Flow (vph)	70	1075	0	105	1460	0	81	925	0	84	727	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			8		4
Permitted Phases	2			6			8			8		4
Actuated Green, G (s)	28.0	28.0		28.0	28.0		23.0	23.0		23.0	23.0	
Effective Green, g (s)	28.5	28.5		28.5	28.5		23.5	23.5		23.5	23.5	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.39	0.39		0.39	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	92	1230		108	1210		146	1000		94	994	
v/s Ratio Prot		0.42			c0.57			c0.36			0.29	
v/s Ratio Perm	0.36			0.46			0.22			0.35		
v/c Ratio	0.76	0.87		0.97	1.21		0.55	0.92		0.89	0.73	
Uniform Delay, d1	12.9	14.1		15.4	15.8		14.2	17.4		17.1	15.6	
Progression Factor	0.51	0.53		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	25.1	4.7		79.4	100.9		14.3	15.2		67.0	4.7	
Delay (s)	31.7	12.2		94.7	116.7		28.5	32.7		84.1	20.3	
Level of Service	C	B		F	F		C	C		F	C	
Approach Delay (s)		13.4			115.2			32.3			26.8	
Approach LOS		B			F			C			C	

Intersection Summary

HCM Average Control Delay	55.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	118.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2577		1304	2579		1292	1323		1290	1346	
Flt Permitted	0.12	1.00		0.08	1.00		0.26	1.00		0.26	1.00	
Satd. Flow (perm)	167	2577		113	2579		356	1323		357	1346	
Volume (vph)	29	1167	69	67	1044	50	14	301	70	103	334	38
Peak-hour factor, PHF	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Adj. Flow (vph)	35	1406	83	81	1258	60	17	363	84	124	402	46
RTOR Reduction (vph)	0	4	0	0	4	0	0	10	0	0	5	0
Lane Group Flow (vph)	35	1485	0	81	1314	0	17	437	0	124	443	0
Confl. Peds. (#/hr)	31		38	38		31	20		23	23		20
Confl. Bikes (#/hr)						2			2			4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	49.6	49.6		49.6	49.6		31.3	31.3		31.3	31.3	
Effective Green, g (s)	50.2	50.2		50.2	50.2		31.8	31.8		31.8	31.8	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.35	0.35		0.35	0.35	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	93	1437		63	1439		126	467		126	476	
v/s Ratio Prot		0.58			0.51			0.33			0.33	
v/s Ratio Perm	0.21			c0.72			0.05			c0.35		
v/c Ratio	0.38	1.03		1.29	0.91		0.13	0.94		0.98	0.93	
Uniform Delay, d1	11.1	19.9		19.9	17.9		19.8	28.1		28.8	28.0	
Progression Factor	0.94	1.05		1.21	1.27		0.67	0.71		1.00	1.00	
Incremental Delay, d2	10.2	31.6		165.4	4.4		0.2	25.0		74.6	24.7	
Delay (s)	20.7	52.5		189.4	27.2		13.4	44.9		103.5	52.7	
Level of Service	C	D		F	C		B	D		F	D	
Approach Delay (s)		51.7			36.6			43.7			63.7	
Approach LOS		D			D			D			E	

Intersection Summary

HCM Average Control Delay	47.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 165: Arizona Ave & 17th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↑	↕	↕	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		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	1.00	0.85	1.00	0.99	
Flt Protected		1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1660	1417		1649	1417	1583	1667	1417	1583	1645	
Flt Permitted		0.95	1.00		0.78	1.00	0.39	1.00	1.00	0.47	1.00	
Satd. Flow (perm)		1580	1417		1304	1417	657	1667	1417	778	1645	
Volume (vph)	16	190	68	65	234	36	60	340	70	16	390	36
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	19	226	81	77	279	43	71	405	83	19	464	43
RTOR Reduction (vph)	0	0	57	0	0	30	0	0	32	0	3	0
Lane Group Flow (vph)	0	245	24	0	356	13	71	405	51	19	504	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4		4	2		2	2		
Actuated Green, G (s)		26.2	26.2		26.2	26.2	54.8	54.8	54.8	54.8	54.8	
Effective Green, g (s)		26.7	26.7		26.7	26.7	55.3	55.3	55.3	55.3	55.3	
Actuated g/C Ratio		0.30	0.30		0.30	0.30	0.61	0.61	0.61	0.61	0.61	
Clearance Time (s)		4.5	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	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		469	420		387	420	404	1024	871	478	1011	
v/s Ratio Prot								0.24			c0.31	
v/s Ratio Perm		0.16	0.02		c0.27	0.01	0.11		0.04	0.02		
v/c Ratio		0.52	0.06		0.92	0.03	0.18	0.40	0.06	0.04	0.50	
Uniform Delay, d1		26.3	22.6		30.6	22.5	7.5	8.8	6.9	6.9	9.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.94	0.74	
Incremental Delay, d2		1.1	0.1		26.4	0.0	0.9	1.1	0.1	0.0	0.4	
Delay (s)		27.4	22.7		57.0	22.5	8.4	10.0	7.1	6.5	7.6	
Level of Service		C	C		E	C	A	A	A	A	A	
Approach Delay (s)		26.2			53.3			9.4			7.6	
Approach LOS		C			D			A			A	

Intersection Summary

HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.94		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2587		1304	2588		1304	1296		1304	1353	
Flt Permitted	0.16	1.00		0.20	1.00		0.35	1.00		0.23	1.00	
Satd. Flow (perm)	222	2587		279	2588		485	1296		321	1353	
Volume (vph)	37	798	46	285	934	49	68	353	211	80	399	42
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	40	858	49	306	1004	53	73	380	227	86	429	45
RTOR Reduction (vph)	0	6	0	0	6	0	0	34	0	0	7	0
Lane Group Flow (vph)	40	901	0	306	1051	0	73	573	0	86	467	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	24.2	24.2		24.2	24.2		26.8	26.8		26.8	26.8	
Effective Green, g (s)	24.7	24.7		24.7	24.7		27.3	27.3		27.3	27.3	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	91	1065		115	1065		221	590		146	616	
v/s Ratio Prot		0.35			0.41			c0.44			0.35	
v/s Ratio Perm	0.18			c1.10			0.15			0.27		
v/c Ratio	0.44	0.85		2.66	0.99		0.33	0.97		0.59	0.76	
Uniform Delay, d1	12.7	15.9		17.6	17.5		10.5	16.0		12.2	13.6	
Progression Factor	1.00	1.00		0.52	0.49		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.7	8.3		749.6	5.7		0.3	29.7		3.9	4.8	
Delay (s)	27.3	24.2		758.9	14.3		10.8	45.7		16.1	18.4	
Level of Service	C	C		F	B		B	D		B	B	
Approach Delay (s)		24.3			181.5			41.9			18.0	
Approach LOS		C			F			D			B	

Intersection Summary

HCM Average Control Delay	87.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.78		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕	↗		↕	↖
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Volume (veh/h)	19	1124	93	62	1031	63	34	48	71	15	30	44
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	22	1307	108	72	1199	73	40	56	83	17	35	51
Pedestrians	20			26			28			31		
Lane Width (ft)	12.0			12.0			12.0			12.0		
Walking Speed (ft/s)	4.0			4.0			4.0			4.0		
Percent Blockage	2			2			2			3		
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)	801			400								
pX, platoon unblocked	0.60			0.82			0.69	0.69	0.82	0.69	0.69	0.60
vC, conflicting volume	1303			1443			2265	2881	762	2245	2898	687
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	840			1324			1617	2510	496	1587	2535	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			83			0	0	80	0	0	92
cM capacity (veh/h)	463			416			0	14	409	0	14	624

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	22	871	544	72	799	473	95	83	52	51
Volume Left	22	0	0	72	0	0	40	0	17	0
Volume Right	0	0	108	0	0	73	0	83	0	51
cSH	463	1700	1700	416	1700	1700	0	409	0	624
Volume to Capacity	0.05	0.51	0.32	0.17	0.47	0.28	Err	0.20	Err	0.08
Queue Length 95th (ft)	4	0	0	15	0	0	Err	19	Err	7
Control Delay (s)	13.2	0.0	0.0	15.4	0.0	0.0	Err	16.0	Err	11.3
Lane LOS	B			C			F	C	F	B
Approach Delay (s)	0.2			0.8			Err		Err	
Approach LOS							F		F	

Intersection Summary

Average Delay	Err	
Intersection Capacity Utilization	75.8%	ICU Level of Service
Analysis Period (min)	15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↑	↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.91	1.00	1.00	0.77	1.00	1.00	0.94	1.00	1.00	0.94
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.97	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1278	2608	1062	1286	2608	902	1277	1373	1094	1269	1373	1098
Flt Permitted	0.21	1.00	1.00	0.22	1.00	1.00	0.29	1.00	1.00	0.40	1.00	1.00
Satd. Flow (perm)	277	2608	1062	302	2608	902	385	1373	1094	535	1373	1098
Volume (vph)	32	891	41	39	937	39	48	269	81	108	345	38
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	36	1012	47	44	1065	44	55	306	92	123	392	43
RTOR Reduction (vph)	0	0	19	0	0	18	0	0	40	0	0	28
Lane Group Flow (vph)	36	1012	28	44	1065	26	55	306	52	123	392	15
Conf. Peds. (#/hr)	55		55	55		88	47		49	49		47
Conf. Bikes (#/hr)			3			5			4			1
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	53.0	53.0	53.0	53.0	53.0	53.0	28.0	28.0	28.0	28.0	28.0	28.0
Effective Green, g (s)	53.5	53.5	53.5	53.5	53.5	53.5	28.5	28.5	28.5	28.5	28.5	28.5
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.59	0.59	0.32	0.32	0.32	0.32	0.32	0.32
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	165	1550	631	180	1550	536	122	435	346	169	435	348
v/s Ratio Prot		0.39			c0.41			0.22				c0.29
v/s Ratio Perm	0.13		0.03	0.15		0.03	0.14		0.05	0.23		0.01
v/c Ratio	0.22	0.65	0.04	0.24	0.69	0.05	0.45	0.70	0.15	0.73	0.90	0.04
Uniform Delay, d1	8.5	12.1	7.6	8.7	12.5	7.6	24.5	27.0	22.1	27.3	29.4	21.3
Progression Factor	1.60	1.45	2.81	0.57	0.63	0.45	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	1.2	0.1	1.7	1.4	0.1	1.0	4.2	0.1	12.4	21.0	0.0
Delay (s)	15.3	18.7	21.5	6.7	9.2	3.5	25.5	31.2	22.1	39.7	50.4	21.3
Level of Service	B	B	C	A	A	A	C	C	C	D	D	C
Approach Delay (s)		18.7			8.9			28.7			45.8	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	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	0.97		1.00	1.00	
Flt Protected		1.00	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1659	1417		1651	1417	1583	1611		1583	1661	
Flt Permitted		0.96	1.00		0.91	1.00	0.51	1.00		0.46	1.00	
Satd. Flow (perm)		1605	1417		1520	1417	850	1611		763	1661	
Volume (vph)	14	142	44	37	157	67	24	350	101	27	370	9
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	14	146	45	38	162	69	25	361	104	28	381	9
RTOR Reduction (vph)	0	0	36	0	0	55	0	13	0	0	1	0
Lane Group Flow (vph)	0	160	9	0	200	14	25	452	0	28	389	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4		4	2			2		
Actuated Green, G (s)		11.8	11.8		11.8	11.8	39.2	39.2		39.2	39.2	
Effective Green, g (s)		12.3	12.3		12.3	12.3	39.7	39.7		39.7	39.7	
Actuated g/C Ratio		0.21	0.21		0.21	0.21	0.66	0.66		0.66	0.66	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)		329	290		312	290	562	1066		505	1099	
v/s Ratio Prot							c0.28				0.23	
v/s Ratio Perm		0.10	0.01		c0.13	0.01	0.03			0.04		
v/c Ratio		0.49	0.03		0.64	0.05	0.04	0.42		0.06	0.35	
Uniform Delay, d1		21.1	19.1		21.8	19.2	3.5	4.8		3.6	4.5	
Progression Factor		1.00	1.00		1.00	1.00	1.90	2.13		1.00	1.00	
Incremental Delay, d2		0.4	0.0		3.4	0.0	0.1	0.8		0.2	0.9	
Delay (s)		21.5	19.1		25.2	19.2	6.8	11.0		3.8	5.4	
Level of Service		C	B		C	B	A	B		A	A	
Approach Delay (s)		21.0			23.6			10.8			5.3	
Approach LOS		C			C			B			A	

Intersection Summary

HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2569		1304	2565		1304	1373	1167	1304	1373	1167
Flt Permitted	0.36	1.00		0.25	1.00		0.41	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	499	2569		342	2565		560	1373	1167	475	1373	1167
Volume (vph)	33	755	83	159	541	67	79	365	120	56	320	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	821	90	173	588	73	86	397	130	61	348	43
RTOR Reduction (vph)	0	11	0	0	13	0	0	0	47	0	0	28
Lane Group Flow (vph)	36	900	0	173	648	0	86	397	83	61	348	15
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases	2			6			8		8	4		4
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	30.8	30.8		30.8	30.8		20.2	20.2	20.2	20.2	20.2	20.2
Effective Green, g (s)	31.3	31.3		31.3	31.3		20.7	20.7	20.7	20.7	20.7	20.7
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.34	0.34	0.34	0.34	0.34	0.34
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	260	1340		178	1338		193	474	403	164	474	403
v/s Ratio Prot		0.35			0.25			c0.29				0.25
v/s Ratio Perm	0.07			c0.51			0.15		0.07	0.13		0.01
v/c Ratio	0.14	0.67		0.97	0.48		0.45	0.84	0.21	0.37	0.73	0.04
Uniform Delay, d1	7.4	10.6		13.9	9.2		15.2	18.1	13.9	14.8	17.2	13.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.71	0.80	0.51
Incremental Delay, d2	1.1	2.7		60.5	1.3		0.6	11.7	0.1	0.5	4.8	0.0
Delay (s)	8.5	13.3		74.4	10.4		15.8	29.8	14.0	10.9	18.6	6.7
Level of Service	A	B		E	B		B	C	B	B	B	A
Approach Delay (s)		13.1			23.7			24.5				16.5
Approach LOS		B			C			C				B

Intersection Summary

























HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95	1.00	1.00	0.95		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	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)	1304	2608	1167	1304	2594		1304	1373	1167	1304	1373	1167
Flt Permitted	0.11	1.00	1.00	0.14	1.00		0.26	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)	155	2608	1167	198	2594		353	1373	1167	472	1373	1167
Volume (vph)	40	1011	32	19	1071	39	66	330	44	113	396	29
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	48	1204	38	23	1275	46	79	393	52	135	471	35
RTOR Reduction (vph)	0	0	18	0	2	0	0	0	19	0	0	15
Lane Group Flow (vph)	48	1204	20	23	1319	0	79	393	33	135	471	20
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		4
Actuated Green, G (s)	47.9	47.9	47.9	47.9	47.9		33.0	33.0	33.0	33.0	33.0	33.0
Effective Green, g (s)	48.5	48.5	48.5	48.5	48.5		33.5	33.5	33.5	33.5	33.5	33.5
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54		0.37	0.37	0.37	0.37	0.37	0.37
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	84	1405	629	107	1398		131	511	434	176	511	434
v/s Ratio Prot		0.46			c0.51			0.29				c0.34
v/s Ratio Perm	0.31		0.02	0.12			0.22		0.03	0.29		0.02
v/c Ratio	0.57	0.86	0.03	0.21	0.94		0.60	0.77	0.07	0.77	0.92	0.05
Uniform Delay, d1	13.8	17.8	9.7	10.8	19.5		22.9	24.8	18.2	24.8	27.0	18.0
Progression Factor	1.27	1.36	1.38	1.09	0.81		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.1	6.9	0.1	3.8	12.1		5.3	6.2	0.0	16.3	21.9	0.0
Delay (s)	42.7	31.1	13.6	15.6	27.9		28.1	31.0	18.3	41.1	48.9	18.1
Level of Service	D	C	B	B	C		C	C	B	D	D	B
Approach Delay (s)		31.0			27.7			29.3			45.6	
Approach LOS		C			C			C			D	

Intersection Summary

HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	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	1.00
Satd. Flow (prot)	1304	2608	1167	1304	2608	1167	1304	1373	1167	1304	2503	2503
Flt Permitted	0.42	1.00	1.00	0.41	1.00	1.00	0.15	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	573	2608	1167	557	2608	1167	211	1373	1167	153	2503	2503
Volume (vph)	106	502	338	38	483	68	281	852	38	22	652	238
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	546	367	41	525	74	305	926	41	24	709	259
RTOR Reduction (vph)	0	0	51	0	0	24	0	0	19	0	41	0
Lane Group Flow (vph)	115	546	316	41	525	50	305	926	22	24	927	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	45.5	45.5	45.5	45.5	45.5	45.5	35.5	35.5	35.5	35.5	35.5	35.5
Effective Green, g (s)	46.0	46.0	46.0	46.0	46.0	46.0	36.0	36.0	36.0	36.0	36.0	36.0
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.51	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	293	1333	596	285	1333	596	84	549	467	61	1001	1001
v/s Ratio Prot		0.21			0.20			0.67			0.37	
v/s Ratio Perm	0.20		c0.27	0.07		0.04	c1.45		0.02	0.16		
v/c Ratio	0.39	0.41	0.53	0.14	0.39	0.08	3.63	1.69	0.05	0.39	0.93	0.93
Uniform Delay, d1	13.5	13.6	14.8	11.6	13.5	11.2	27.0	27.0	16.5	19.2	25.7	25.7
Progression Factor	1.36	1.43	1.51	0.28	0.36	0.06	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	0.6	2.3	0.4	0.4	0.1	1212.8	316.9	0.0	1.5	13.6	13.6
Delay (s)	21.0	20.1	24.7	3.7	5.2	0.8	1239.8	343.9	16.5	20.7	39.3	39.3
Level of Service	C	C	C	A	A	A	F	F	B	C	D	D
Approach Delay (s)		21.8			4.6			548.1			38.9	
Approach LOS		C			A			F			D	

Intersection Summary

HCM Average Control Delay	193.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕		↙	↕	↗	↙	↕		↙	↕	↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2542		1304	1373	1167	1304	2567		1304	2603	
Flt Permitted	0.31	1.00		0.42	1.00	1.00	0.19	1.00		0.15	1.00	
Satd. Flow (perm)	428	2542		575	1373	1167	258	2567		211	2603	
Volume (vph)	10	406	82	70	466	82	97	974	113	54	892	10
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	437	88	75	501	88	104	1047	122	58	959	11
RTOR Reduction (vph)	0	28	0	0	0	24	0	15	0	0	1	0
Lane Group Flow (vph)	11	497	0	75	501	64	104	1154	0	58	969	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	2			6			8			4		
Permitted Phases	2			6			6	8		4		
Actuated Green, G (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Effective Green, g (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.43	0.43		0.43	0.43	0.43	0.43	0.43		0.43	0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	185	1102		249	595	506	112	1112		91	1128	
v/s Ratio Prot	0.20			c0.37			c0.45			0.37		
v/s Ratio Perm	0.03			0.13			0.06	0.40		0.27		
v/c Ratio	0.06	0.45		0.30	0.84	0.13	0.93	1.04		0.64	0.86	
Uniform Delay, d1	9.9	12.0		11.1	15.2	10.2	16.1	17.0		13.3	15.3	
Progression Factor	0.50	0.43		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.2		3.1	13.5	0.5	61.4	37.3		10.3	6.4	
Delay (s)	5.5	6.3		14.2	28.7	10.7	77.6	54.3		23.6	21.8	
Level of Service	A			B		C	B	E		C		C
Approach Delay (s)	6.3			24.7			56.2			21.9		
Approach LOS	A			C			E			C		

Intersection Summary

HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
174: Wilshire Blvd & 7th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗			↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.96			0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1304	2582		1304	2583		1304	1314			1352	
Flt Permitted	0.17	1.00		0.23	1.00		0.38	1.00			0.87	
Satd. Flow (perm)	239	2582		310	2583		525	1314			1182	
Volume (vph)	21	753	53	74	866	58	25	209	83	99	417	23
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	784	55	77	902	60	26	218	86	103	434	24
RTOR Reduction (vph)	0	5	0	0	5	0	0	17	0	0	2	0
Lane Group Flow (vph)	22	834	0	77	957	0	26	287	0	0	559	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8			4
Permitted Phases	2		6		6		8		8			4
Actuated Green, G (s)	38.2	38.2		38.2	38.2		42.8	42.8			42.8	
Effective Green, g (s)	38.7	38.7		38.7	38.7		43.3	43.3			43.3	
Actuated g/C Ratio	0.43	0.43		0.43	0.43		0.48	0.48			0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	103	1110		133	1111		253	632			569	
v/s Ratio Prot		0.32			c0.37			0.22				
v/s Ratio Perm	0.09			0.25			0.05				c0.47	
v/c Ratio	0.21	0.75		0.58	0.86		0.10	0.45			0.98	
Uniform Delay, d1	16.1	21.6		19.5	23.2		12.7	15.5			23.0	
Progression Factor	1.27	1.03		1.15	1.14		1.00	1.00			1.00	
Incremental Delay, d2	4.5	4.5		1.7	0.9		0.1	0.2			32.9	
Delay (s)	24.9	26.8		24.0	27.4		12.8	15.7			55.9	
Level of Service	C	C		C	C		B	B			E	
Approach Delay (s)		26.7			27.1			15.5			55.9	
Approach LOS		C			C			B			E	

Intersection Summary

HCM Average Control Delay	31.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕	↔	↔	↕		↔	↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		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	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2564		1304	1373	1167	1304	1362		1304	1368	
Flt Permitted	0.35	1.00		0.43	1.00	1.00	0.29	1.00		0.34	1.00	
Satd. Flow (perm)	477	2564		592	1373	1167	404	1362		462	1368	
Volume (vph)	18	432	55	17	464	81	17	387	20	35	434	9
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	19	465	59	18	499	87	18	416	22	38	467	10
RTOR Reduction (vph)	0	15	0	0	0	45	0	4	0	0	1	0
Lane Group Flow (vph)	19	509	0	18	499	42	18	434	0	38	476	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	2			6			8			4		
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	28.3	28.3		28.3	28.3	28.3	22.7	22.7		22.7	22.7	
Effective Green, g (s)	28.8	28.8		28.8	28.8	28.8	23.2	23.2		23.2	23.2	
Actuated g/C Ratio	0.48	0.48		0.48	0.48	0.48	0.39	0.39		0.39	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	229	1231		284	659	560	156	527		179	529	
v/s Ratio Prot	0.20			c0.36			0.32			c0.35		
v/s Ratio Perm	0.04			0.03			0.04			0.08		
v/c Ratio	0.08	0.41		0.06	0.76	0.07	0.12	0.82		0.21	0.90	
Uniform Delay, d1	8.4	10.1		8.4	12.7	8.4	11.8	16.6		12.3	17.3	
Progression Factor	1.00	1.00		1.09	0.81	1.37	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.0		0.2	4.0	0.1	0.1	9.6		0.2	17.6	
Delay (s)	9.2	11.1		9.4	14.4	11.6	11.9	26.2		12.5	34.9	
Level of Service	A	B		A	B	B	B	C		B	C	
Approach Delay (s)	11.1			13.8			25.6			33.2		
Approach LOS	B			B			C			C		

Intersection Summary

HCM Average Control Delay	20.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑		↙	↑	↗	↙	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	0.80	1.00	0.99		1.00	1.00	0.93	1.00	1.00	
Flpb, ped/bikes	0.96	1.00	1.00	0.93	1.00		0.97	1.00	1.00	0.96	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1256	2608	937	1214	2569		1268	1373	1083	1257	1352	
Flt Permitted	0.27	1.00	1.00	0.39	1.00		0.57	1.00	1.00	0.45	1.00	
Satd. Flow (perm)	352	2608	937	505	2569		763	1373	1083	591	1352	
Volume (vph)	13	609	45	40	879	41	107	197	63	85	132	10
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	14	641	47	42	925	43	113	207	66	89	139	11
RTOR Reduction (vph)	0	0	14	0	2	0	0	0	53	0	4	0
Lane Group Flow (vph)	14	641	33	42	966	0	113	207	13	89	146	0
Conf. Peds. (#/hr)	71		75	75		71	33		50	50		33
Conf. Bikes (#/hr)			7			6			7			6
Turn Type	Perm		Perm	Perm		Perm		Perm	Perm	Perm		
Protected Phases		2			6		8				4	
Permitted Phases	2		2	6		8		8		4		
Actuated Green, G (s)	63.1	63.1	63.1	63.1	63.1		17.9	17.9	17.9	17.9	17.9	
Effective Green, g (s)	63.6	63.6	63.6	63.6	63.6		18.4	18.4	18.4	18.4	18.4	
Actuated g/C Ratio	0.71	0.71	0.71	0.71	0.71		0.20	0.20	0.20	0.20	0.20	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	249	1843	662	357	1815		156	281	221	121	276	
v/s Ratio Prot		0.25			c0.38			c0.15			0.11	
v/s Ratio Perm	0.04		0.04	0.08		0.15		0.01	0.15			
v/c Ratio	0.06	0.35	0.05	0.12	0.53		0.72	0.74	0.06	0.74	0.53	
Uniform Delay, d1	4.0	5.1	4.0	4.2	6.2		33.4	33.5	28.8	33.5	31.9	
Progression Factor	0.81	0.74	0.82	2.02	2.03		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.5	0.1	0.4	0.7		13.2	8.4	0.0	18.0	0.8	
Delay (s)	3.7	4.3	3.4	8.9	13.3		46.6	41.9	28.9	51.5	32.8	
Level of Service	A	A	A	A	B		D	D	C	D	C	
Approach Delay (s)		4.2			13.1			41.0			39.8	
Approach LOS		A			B			D			D	

Intersection Summary

HCM Average Control Delay	17.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↖		↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes		1.00	0.93		0.99		1.00	0.98		1.00	1.00	0.93
Flpb, ped/bikes		0.99	1.00		0.98		0.97	1.00		0.96	1.00	1.00
Frt		1.00	0.85		0.98		1.00	0.97		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1640	1323		1569		1542	1582		1513	1667	1319
Flt Permitted		0.95	1.00		0.87		0.49	1.00		0.61	1.00	1.00
Satd. Flow (perm)		1566	1323		1380		799	1582		973	1667	1319
Volume (vph)	14	67	68	60	99	23	32	178	51	12	402	18
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	15	70	71	62	103	24	33	185	53	12	419	19
RTOR Reduction (vph)	0	0	57	0	12	0	0	10	0	0	0	6
Lane Group Flow (vph)	0	85	14	0	177	0	33	228	0	12	419	13
Confl. Peds. (#/hr)	38		55	55		38	31		39	39		31
Confl. Bikes (#/hr)						1						2
Turn Type	Perm		Perm	Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		4
Actuated Green, G (s)		11.2	11.2		11.2		39.8	39.8		39.8	39.8	39.8
Effective Green, g (s)		11.7	11.7		11.7		40.3	40.3		40.3	40.3	40.3
Actuated g/C Ratio		0.19	0.19		0.19		0.67	0.67		0.67	0.67	0.67
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		305	258		269		537	1063		654	1120	886
v/s Ratio Prot							0.14				c0.25	
v/s Ratio Perm		0.05	0.01		c0.13		0.04			0.01		0.01
v/c Ratio		0.28	0.05		0.66		0.06	0.21		0.02	0.37	0.01
Uniform Delay, d1		20.6	19.6		22.3		3.4	3.8		3.3	4.3	3.3
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.2	0.0		4.4		0.2	0.5		0.1	1.0	0.0
Delay (s)		20.7	19.7		26.7		3.6	4.2		3.3	5.3	3.3
Level of Service		C	B		C		A	A		A	A	A
Approach Delay (s)		20.3			26.7			4.2			5.1	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘	↗	↘	↘	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.87	1.00	1.00	0.88	1.00	1.00	0.85	1.00	1.00	0.83
Flpb, ped/bikes	0.96	1.00	1.00	0.99	1.00	1.00	0.95	1.00	1.00	0.93	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1246	2608	1016	1289	2608	1023	1237	1373	994	1218	1373	966
Flt Permitted	0.40	1.00	1.00	0.33	1.00	1.00	0.25	1.00	1.00	0.40	1.00	1.00
Satd. Flow (perm)	519	2608	1016	452	2608	1023	332	1373	994	509	1373	966
Volume (vph)	24	530	108	194	626	118	57	319	73	60	436	18
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	26	570	116	209	673	127	61	343	78	65	469	19
RTOR Reduction (vph)	0	0	66	0	0	58	0	0	49	0	0	12
Lane Group Flow (vph)	26	570	50	209	673	69	61	343	29	65	469	7
Confl. Peds. (#/hr)	80		84	84		80	121		103	103		121
Turn Type	Perm		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases		2		1	6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	38.4	38.4	38.4	48.4	48.4	48.4	32.6	32.6	32.6	32.6	32.6	32.6
Effective Green, g (s)	38.9	38.9	38.9	48.9	48.9	48.9	33.1	33.1	33.1	33.1	33.1	33.1
Actuated g/C Ratio	0.43	0.43	0.43	0.54	0.54	0.54	0.37	0.37	0.37	0.37	0.37	0.37
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	224	1127	439	301	1417	556	122	505	366	187	505	355
v/s Ratio Prot		0.22		c0.05	0.26			0.25			c0.34	
v/s Ratio Perm	0.05		0.05	c0.33		0.07	0.18		0.03	0.13		0.01
v/c Ratio	0.12	0.51	0.11	0.69	0.47	0.12	0.50	0.68	0.08	0.35	0.93	0.02
Uniform Delay, d1	15.3	18.6	15.3	14.1	12.6	10.1	22.0	24.0	18.5	20.6	27.3	18.1
Progression Factor	1.19	1.19	1.86	1.17	1.06	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	1.5	0.5	4.7	1.0	0.4	1.2	2.9	0.0	0.4	23.1	0.0
Delay (s)	19.1	23.6	28.9	21.1	14.3	10.1	23.2	26.8	18.6	21.0	50.4	18.1
Level of Service	B	C	C	C	B	B	C	C	B	C	D	B
Approach Delay (s)		24.3			15.2			25.0			45.9	
Approach LOS		C			B			C			D	

Intersection Summary

HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖	↗	↖	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95	
Frbp, ped/bikes		0.95			0.98		1.00	1.00	0.90	1.00	1.00	
Flpb, ped/bikes		1.00			1.00		0.98	1.00	1.00	0.96	1.00	
Frt		0.91			0.95		1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00			1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1424			1550		1549	1667	1278	1523	3143	
Flt Permitted		0.97			0.99		0.30	1.00	1.00	0.42	1.00	
Satd. Flow (perm)		1386			1537		486	1667	1278	672	3143	
Volume (vph)	13	36	111	10	167	96	36	365	30	34	659	21
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	14	39	119	11	180	103	39	392	32	37	709	23
RTOR Reduction (vph)	0	56	0	0	32	0	0	0	18	0	4	0
Lane Group Flow (vph)	0	116	0	0	262	0	39	392	14	37	728	0
Conf. Peds. (#/hr)	41		59	59		41	38		42	42		38
Conf. Bikes (#/hr)			4			7			1			3
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		25.5			25.5		25.5	25.5	25.5	25.5	25.5	25.5
Effective Green, g (s)		26.0			26.0		26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio		0.43			0.43		0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)		601			666		211	722	554	291	1362	
v/s Ratio Prot							c0.24				0.23	
v/s Ratio Perm		0.08			c0.17		0.08		0.01	0.06		
v/c Ratio		0.19			0.39		0.18	0.54	0.03	0.13	0.53	
Uniform Delay, d1		10.5			11.6		10.5	12.6	9.7	10.2	12.5	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.7			1.7		1.9	2.9	0.1	0.9	1.5	
Delay (s)		11.2			13.3		12.4	15.5	9.8	11.1	14.0	
Level of Service		B			B		B	B	A	B	B	
Approach Delay (s)		11.2			13.3			14.9			13.9	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑	↑	↑	↑	↑	↑	↑↓	↑
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1373	1167		1373	1167	1304	1373	1167	1304	2594	
Flt Permitted		1.00	1.00		1.00	1.00	0.20	1.00	1.00	0.14	1.00	
Satd. Flow (perm)		1373	1167		1373	1167	277	1373	1167	190	2594	
Volume (vph)	0	216	56	0	155	62	30	530	45	106	722	26
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	235	61	0	168	67	33	576	49	115	785	28
RTOR Reduction (vph)	0	0	46	0	0	50	0	0	31	0	3	0
Lane Group Flow (vph)	0	235	15	0	168	17	33	576	18	115	810	0
Turn Type		Perm			Perm		Perm		Perm		Perm	
Protected Phases		2			6			8			4	
Permitted Phases		2			6		8		8		4	
Actuated Green, G (s)		20.5	20.5		20.5	20.5	30.5	30.5	30.5	30.5	30.5	
Effective Green, g (s)		21.0	21.0		21.0	21.0	31.0	31.0	31.0	31.0	31.0	
Actuated g/C Ratio		0.25	0.25		0.25	0.25	0.36	0.36	0.36	0.36	0.36	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		339	288		339	288	101	501	426	69	946	
v/s Ratio Prot		c0.17			c0.12			0.42			0.31	
v/s Ratio Perm		0.01			0.01		0.12		0.02		c0.61	
v/c Ratio		0.69	0.05		0.50	0.06	0.33	1.15	0.04	1.67	0.86	
Uniform Delay, d1		29.1	24.4		27.5	24.4	19.5	27.0	17.4	27.0	24.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		11.1	0.3		5.1	0.4	8.4	88.4	0.2	355.1	9.8	
Delay (s)		40.2	24.8		32.6	24.8	27.9	115.4	17.6	382.1	34.8	
Level of Service		D	C		C	C	C	F	B	F	C	
Approach Delay (s)		37.0			30.4			103.7			77.8	
Approach LOS		D			C			F			E	

Intersection Summary

HCM Average Control Delay	74.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
181: Wilshire Blvd & 3rd St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗↗	↖↗		↖	↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.92		1.00	0.92
Flpb, ped/bikes	0.86	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.94		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1116	2608	2256		1304	1074
Flt Permitted	0.62	1.00	1.00		0.95	1.00
Satd. Flow (perm)	725	2608	2256		1304	1074
Volume (vph)	40	494	122	76	164	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	537	133	83	178	11
RTOR Reduction (vph)	0	0	24	0	0	9
Lane Group Flow (vph)	43	537	192	0	178	2
Confl. Peds. (#/hr)	82			82	87	61
Confl. Bikes (#/hr)				7		3
Turn Type	Perm				Perm	
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	63.8	63.8	63.8		17.2	17.2
Effective Green, g (s)	64.3	64.3	64.3		17.7	17.7
Actuated g/C Ratio	0.71	0.71	0.71		0.20	0.20
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	518	1863	1612		256	211
v/s Ratio Prot		c0.21	0.09		c0.14	
v/s Ratio Perm	0.06					0.00
v/c Ratio	0.08	0.29	0.12		0.70	0.01
Uniform Delay, d1	3.9	4.6	4.0		33.6	29.1
Progression Factor	0.66	0.69	1.64		1.00	1.00
Incremental Delay, d2	0.3	0.3	0.1		6.5	0.0
Delay (s)	2.8	3.5	6.7		40.1	29.1
Level of Service	A	A	A		D	C
Approach Delay (s)		3.5	6.7		39.5	
Approach LOS		A	A		D	

Intersection Summary

HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↖	↗	↖	↗	↘	↖	↗	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	1667	1417		1647	1417	1583	1667	1417	1583	1667	1417
Flt Permitted	0.62	1.00	1.00		0.90	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1034	1667	1417		1495	1417	1583	1667	1417	1583	1667	1417
Volume (vph)	22	184	317	34	106	37	168	577	35	20	626	189
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	200	345	37	115	40	183	627	38	22	680	205
RTOR Reduction (vph)	0	0	49	0	0	28	0	0	18	0	0	124
Lane Group Flow (vph)	24	200	296	0	152	12	183	627	20	22	680	81
Turn Type	Perm		pm+ov	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases		2	3		6		3	8		7		4
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	27.6	27.6	41.4		27.6	27.6	13.8	46.5	46.5	2.4	35.1	35.1
Effective Green, g (s)	28.1	28.1	42.4		28.1	28.1	14.3	47.0	47.0	2.9	35.6	35.6
Actuated g/C Ratio	0.31	0.31	0.47		0.31	0.31	0.16	0.52	0.52	0.03	0.40	0.40
Clearance Time (s)	4.5	4.5	4.5		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	1.0	3.0	3.0
Lane Grp Cap (vph)	323	520	731		467	442	252	871	740	51	659	561
v/s Ratio Prot		0.12	c0.06				c0.12	0.38		0.01	c0.41	
v/s Ratio Perm	0.02		0.14		0.10	0.01			0.01			0.06
v/c Ratio	0.07	0.38	0.40		0.33	0.03	0.73	0.72	0.03	0.43	1.03	0.14
Uniform Delay, d1	21.8	24.2	15.6		23.7	21.5	36.0	16.5	10.4	42.7	27.2	17.4
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.89	1.62	2.54	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.1	0.4		1.8	0.1	9.4	2.7	0.0	2.1	43.5	0.1
Delay (s)	22.2	26.3	15.9		25.5	21.6	41.4	29.4	26.5	44.9	70.7	17.6
Level of Service	C	C	B		C	C	D	C	C	D	E	B
Approach Delay (s)		19.8			24.7			31.8			58.1	
Approach LOS		B			C			C			E	

Intersection Summary

HCM Average Control Delay	38.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
183: Wilshire Blvd & Ocean Ave



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↕↕	↖	↖	↕↕
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	2530	1167	2608	1167	1304	2608
Flt Permitted	0.95	1.00	1.00	1.00	0.39	1.00
Satd. Flow (perm)	2530	1167	2608	1167	530	2608
Volume (vph)	140	183	554	303	251	789
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	197	596	326	270	848
RTOR Reduction (vph)	0	172	0	106	0	0
Lane Group Flow (vph)	151	25	596	220	270	848
Turn Type		Perm		Perm	pm+pt	
Protected Phases	6		8		7	4
Permitted Phases		6		8	4	
Actuated Green, G (s)	10.7	10.7	60.3	60.3	70.3	70.3
Effective Green, g (s)	11.2	11.2	60.8	60.8	70.8	70.8
Actuated g/C Ratio	0.12	0.12	0.68	0.68	0.79	0.79
Clearance Time (s)	4.5	4.5	4.5	4.5	3.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	1.0	3.0
Lane Grp Cap (vph)	315	145	1762	788	469	2052
v/s Ratio Prot	c0.06		0.23		c0.04	0.33
v/s Ratio Perm		0.02		0.19	c0.41	
v/c Ratio	0.48	0.17	0.34	0.28	0.58	0.41
Uniform Delay, d1	36.7	35.2	6.1	5.8	3.0	3.0
Progression Factor	1.12	1.88	1.00	1.00	1.16	0.29
Incremental Delay, d2	1.2	0.6	0.5	0.9	0.6	0.3
Delay (s)	42.3	66.7	6.7	6.7	4.0	1.2
Level of Service	D	E	A	A	A	A
Approach Delay (s)	56.1		6.7			1.9
Approach LOS	E		A			A

Intersection Summary

HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 184: Santa Monica Blvd & Ocean Ave



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1304	1167	2608	1167	1304	2608
Flt Permitted	0.95	1.00	1.00	1.00	0.30	1.00
Satd. Flow (perm)	1304	1167	2608	1167	410	2608
Volume (vph)	1	42	753	167	80	701
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1	45	801	178	85	746
RTOR Reduction (vph)	0	36	0	59	0	0
Lane Group Flow (vph)	1	9	801	119	85	746
Turn Type	pm+ov		Perm pm+pt			
Protected Phases	6	7	8		7	4
Permitted Phases	6		8 4			
Actuated Green, G (s)	12.7	17.0	59.5	59.5	68.3	68.3
Effective Green, g (s)	13.2	18.0	60.0	60.0	68.8	68.8
Actuated g/C Ratio	0.15	0.20	0.67	0.67	0.76	0.76
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	191	285	1739	778	361	1994
v/s Ratio Prot	0.00	c0.00	c0.31		0.01	c0.29
v/s Ratio Perm		0.01		0.10	0.17	
v/c Ratio	0.01	0.03	0.46	0.15	0.24	0.37
Uniform Delay, d1	32.8	29.0	7.2	5.6	3.2	3.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0	0.9	0.4	0.1	0.5
Delay (s)	32.8	29.0	8.1	6.0	3.4	4.0
Level of Service	C	C	A	A	A	A
Approach Delay (s)	29.1		7.7			4.0
Approach LOS	C		A			A

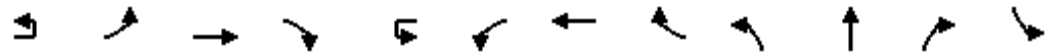
Intersection Summary

HCM Average Control Delay	6.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00			0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			1.00			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1560	1663		1583	1638			1655			1609	
Flt Permitted	0.26	1.00		0.14	1.00			0.96			0.92	
Satd. Flow (perm)	424	1663		230	1638			1591			1480	
Volume (vph)	244	963	10	29	531	46	46	727	14	28	337	78
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	257	1014	11	31	559	48	48	765	15	29	355	82
RTOR Reduction (vph)	0	1	0	0	5	0	0	1	0	0	13	0
Lane Group Flow (vph)	257	1024	0	31	602	0	0	827	0	0	453	0
Conf. Peds. (#/hr)	28		25	25		21	28		21	21		28
Conf. Bikes (#/hr)			13			10			6			3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	29.0	29.0		29.0	29.0			23.0			23.0	
Effective Green, g (s)	29.0	29.0		29.0	29.0			23.0			23.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48			0.38			0.38	
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)	205	804		111	792			610			567	
v/s Ratio Prot		c0.62			0.37							
v/s Ratio Perm	0.61			0.13				c0.52			0.31	
v/c Ratio	1.25	1.27		0.28	0.76			1.36			0.80	
Uniform Delay, d1	15.5	15.5		9.3	12.7			18.5			16.4	
Progression Factor	1.00	1.00		0.66	0.75			2.10			1.00	
Incremental Delay, d2	147.7	133.1		1.5	1.7			166.1			11.2	
Delay (s)	163.2	148.6		7.7	11.3			204.9			27.7	
Level of Service	F	F		A	B			F			C	
Approach Delay (s)		151.5			11.1			204.9			27.7	
Approach LOS		F			B			F			C	

Intersection Summary			
HCM Average Control Delay	119.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	134.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↔↔↔	↔		↔	↔↔↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		1583	4550	1417		1583	4550	1417	1583	1659		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.54	1.00		0.13
Satd. Flow (perm)		1583	4550	1417		1583	4550	1417	906	1659		211
Volume (vph)	36	160	2443	16	3	107	2132	198	17	479	16	201
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	37	165	2519	16	3	110	2198	204	18	494	16	207
RTOR Reduction (vph)	0	0	0	5	0	0	0	90	0	1	0	0
Lane Group Flow (vph)	0	202	2519	11	0	113	2198	114	18	509	0	207
Turn Type	Prot	Prot		Perm	Prot	Prot		pm+ov	pm+pt			pm+pt
Protected Phases	1	1	6		5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		17.9	39.2	39.2		12.4	33.7	45.7	40.2	37.4		53.4
Effective Green, g (s)		17.9	40.2	40.2		12.4	34.7	46.7	42.2	39.4		55.4
Actuated g/C Ratio		0.15	0.34	0.34		0.10	0.29	0.39	0.35	0.33		0.46
Clearance Time (s)		4.0	5.0	5.0		4.0	5.0	4.0	4.0	6.0		4.0
Vehicle Extension (s)		3.0	4.4	4.4		3.0	4.3	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		236	1524	475		164	1316	599	334	545		235
v/s Ratio Prot		c0.13	c0.55			0.07	0.48	0.02	0.00	0.31		c0.09
v/s Ratio Perm				0.01				0.06	0.02			c0.32
v/c Ratio		0.86	1.65	0.02		0.69	1.67	0.19	0.05	0.93		0.88
Uniform Delay, d1		49.8	39.9	26.7		51.9	42.6	24.2	25.5	39.1		25.7
Progression Factor		1.00	1.00	1.00		1.45	0.40	0.73	1.00	1.00		1.23
Incremental Delay, d2		24.9	296.8	0.1		1.1	301.9	0.0	0.1	23.4		25.2
Delay (s)		74.7	336.7	26.8		76.3	319.1	17.7	25.6	62.4		56.7
Level of Service		E	F	C		E	F	B	C	E		E
Approach Delay (s)			315.5				283.8			61.2		
Approach LOS			F				F			E		

Intersection Summary

HCM Average Control Delay	258.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations	P	
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	1622	
Flt Permitted	1.00	
Satd. Flow (perm)	1622	
Volume (vph)	249	54
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	257	56
RTOR Reduction (vph)	5	0
Lane Group Flow (vph)	308	0
Turn Type		
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	46.6	
Effective Green, g (s)	48.6	
Actuated g/C Ratio	0.41	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	657	
v/s Ratio Prot	0.19	
v/s Ratio Perm		
v/c Ratio	0.47	
Uniform Delay, d1	26.2	
Progression Factor	1.05	
Incremental Delay, d2	0.4	
Delay (s)	28.1	
Level of Service	C	
Approach Delay (s)	39.5	
Approach LOS	D	

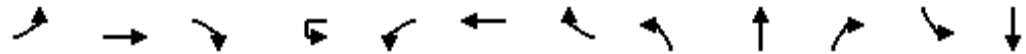
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↕		↗	↘	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	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	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1572	1642		1583	1633		1583	3037		1583	3077	
Flt Permitted	0.33	1.00		0.08	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	549	1642		133	1633		208	3037		208	3077	
Volume (vph)	265	970	81	93	478	53	323	904	224	17	1237	193
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	276	1010	84	97	498	55	336	942	233	18	1289	201
RTOR Reduction (vph)	0	3	0	0	4	0	0	24	0	0	14	0
Lane Group Flow (vph)	276	1091	0	97	549	0	336	1151	0	18	1476	0
Conf. Peds. (#/hr)	18		24	24		18	27		25	25		27
Conf. Bikes (#/hr)			5			42			5			2
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	8		4		4		6		6		2	
Permitted Phases	8		4		4		6		6		2	
Actuated Green, G (s)	49.0	49.0		49.0	49.0		31.1	31.1		31.1	31.1	
Effective Green, g (s)	50.0	50.0		50.0	50.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	305	912		74	907		74	1080		74	1094	
v/s Ratio Prot		0.66			0.34			0.38			0.48	
v/s Ratio Perm	0.50			c0.73			c1.61			0.09		
v/c Ratio	0.90	1.20		1.31	0.60		4.54	1.07		0.24	1.35	
Uniform Delay, d1	17.9	20.0		20.0	13.4		29.0	29.0		20.5	29.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	32.1	99.2		208.6	3.0		1623.8	46.5		7.6	163.4	
Delay (s)	50.0	119.2		228.6	16.4		1652.8	75.5		28.1	192.4	
Level of Service	D	F		F	B		F	E		C	F	
Approach Delay (s)		105.3			48.0			426.3			190.5	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	219.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	149.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↙	↑↑↑	↗		↘	↑↑↑	↗	↙	↑↑	↗	↙	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00
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)	1583	4550	1417		1583	4550	1417	1583	3167	1417	1583	3167
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.22	1.00
Satd. Flow (perm)	1583	4550	1417		1583	4550	1417	151	3167	1417	360	3167
Volume (vph)	77	2366	196	10	80	1639	432	150	830	121	10	1017
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	79	2439	202	10	82	1690	445	155	856	125	10	1048
RTOR Reduction (vph)	0	0	14	0	0	0	104	0	0	75	0	0
Lane Group Flow (vph)	79	2439	188	0	92	1690	341	155	856	50	10	1048
Turn Type	Prot		pm+ov	Prot	Prot		Perm	pm+pt		Perm	pm+pt	
Protected Phases	1	6	3	5	5	2		3	8		7	4
Permitted Phases			6				2	8		8		4
Actuated Green, G (s)	6.0	41.5	46.5		5.0	40.5	40.5	47.0	42.0	42.0	39.0	38.0
Effective Green, g (s)	6.0	42.8	48.8		5.0	41.8	41.8	50.2	44.2	44.2	42.2	40.2
Actuated g/C Ratio	0.05	0.39	0.44		0.05	0.38	0.38	0.46	0.40	0.40	0.38	0.37
Clearance Time (s)	4.0	5.3	5.0		4.0	5.3	5.3	5.0	6.2	6.2	5.0	6.2
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	4.2	4.2	3.0	3.6
Lane Grp Cap (vph)	86	1770	680		72	1729	538	147	1273	569	160	1157
v/s Ratio Prot	0.05	c0.54	0.02		c0.06	0.37		c0.06	0.27		0.00	0.33
v/s Ratio Perm			0.12				0.24	c0.42		0.04	0.02	
v/c Ratio	0.92	1.38	0.28		1.28	0.98	0.63	1.05	0.67	0.09	0.06	0.91
Uniform Delay, d1	51.8	33.6	19.4		52.5	33.6	27.9	24.5	27.0	20.4	21.9	33.1
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	69.7	173.7	0.2		197.7	16.9	5.6	89.4	1.6	0.1	0.2	10.3
Delay (s)	121.4	207.3	19.6		250.2	50.6	33.5	114.0	28.6	20.5	22.1	43.4
Level of Service	F	F	B		F	D	C	F	C	C	C	D
Approach Delay (s)		190.9				55.4			39.3			42.0
Approach LOS		F				E			D			D

Intersection Summary

HCM Average Control Delay	101.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	58
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	60
RTOR Reduction (vph)	10
Lane Group Flow (vph)	50
Turn Type	pm+ov
Protected Phases	1
Permitted Phases	4
Actuated Green, G (s)	44.0
Effective Green, g (s)	46.2
Actuated g/C Ratio	0.42
Clearance Time (s)	4.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	595
v/s Ratio Prot	0.00
v/s Ratio Perm	0.03
v/c Ratio	0.08
Uniform Delay, d1	19.2
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	19.2
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑			↑↑↑	↔	↔	↔↔↔	↔			
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.86	0.81	0.86			
Frt	1.00	1.00			1.00	0.85	1.00	0.95	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	3072	4550			5733	1417	1362	3758	1218			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	3072	4550			5733	1417	1362	3758	1218			
Volume (vph)	590	1926	0	0	1629	239	873	258	768	0	0	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	602	1965	0	0	1662	244	891	263	784	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	155	0	10	10	0	0	0
Lane Group Flow (vph)	602	1965	0	0	1662	89	446	1090	382	0	0	0
Turn Type	Prot						Perm	Split	Perm			
Protected Phases	1	6					2	4	4			
Permitted Phases							2			4		
Actuated Green, G (s)	36.0	74.0					34.0	34.0	35.2	35.2	35.2	
Effective Green, g (s)	36.0	75.0					35.0	35.0	37.0	37.0	37.0	
Actuated g/C Ratio	0.30	0.62					0.29	0.29	0.31	0.31	0.31	
Clearance Time (s)	4.0	5.0					5.0	5.0	5.8	5.8	5.8	
Vehicle Extension (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	922	2844					1672	413	420	1159	376	
v/s Ratio Prot	0.20	c0.43					c0.29		c0.33	0.29		
v/s Ratio Perm								0.06			0.31	
v/c Ratio	0.65	0.69					0.99	0.22	1.06	0.98dl	1.01	
Uniform Delay, d1	36.6	14.9					42.4	32.1	41.5	40.4	41.5	
Progression Factor	0.86	0.98					1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.1					20.6	1.2	61.3	14.4	50.2	
Delay (s)	31.7	14.7					63.0	33.3	102.8	54.8	91.7	
Level of Service	C	B					E	C	F	D	F	
Approach Delay (s)	18.7						59.2		73.3		0.0	
Approach LOS	B						E		E		A	

Intersection Summary

HCM Average Control Delay	47.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.6%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↔↔	↑↑↑					↔	↔↑	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81		0.97	0.91					0.91	0.86	0.91
Frt		0.97		1.00	1.00					1.00	0.98	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.97	1.00
Satd. Flow (prot)		6523		3072	4550					1441	2722	1289
Flt Permitted		1.00		0.95	1.00					0.95	0.97	1.00
Satd. Flow (perm)		6523		3072	4550					1441	2722	1289
Volume (vph)	0	1455	420	695	1802	0	0	0	0	1076	283	612
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1485	429	709	1839	0	0	0	0	1098	289	624
RTOR Reduction (vph)	0	43	0	0	0	0	0	0	0	0	12	15
Lane Group Flow (vph)	0	1871	0	709	1839	0	0	0	0	549	989	446
Turn Type				Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Actuated Green, G (s)		40.3		30.5	75.3					35.0	35.0	35.0
Effective Green, g (s)		41.0		31.0	76.0					36.0	36.0	36.0
Actuated g/C Ratio		0.34		0.26	0.63					0.30	0.30	0.30
Clearance Time (s)		4.7		4.5	4.7					5.0	5.0	5.0
Vehicle Extension (s)		3.0		4.0	3.0					4.0	4.0	4.0
Lane Grp Cap (vph)		2229		794	2882					432	817	387
v/s Ratio Prot		c0.29		c0.23	0.40					c0.38	0.36	
v/s Ratio Perm												0.35
v/c Ratio		0.84		0.89	0.64					1.27	1.24dl	1.15
Uniform Delay, d1		36.5		42.9	13.5					42.0	42.0	42.0
Progression Factor		1.00		0.89	0.49					1.00	1.00	1.00
Incremental Delay, d2		4.0		3.4	0.3					139.0	106.1	94.5
Delay (s)		40.5		41.8	6.9					181.0	148.1	136.5
Level of Service		D		D	A					F	F	F
Approach Delay (s)		40.5			16.6			0.0			154.4	
Approach LOS		D			B			A			F	

Intersection Summary

HCM Average Control Delay	66.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	119.6%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.99			0.94			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1570	1621		1583	1643			1525			1619	
Flt Permitted	0.24	1.00		0.12	1.00			0.96			0.86	
Satd. Flow (perm)	401	1621		208	1643			1477			1404	
Volume (vph)	46	990	141	291	637	41	62	295	321	18	72	10
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	46	990	141	291	637	41	62	295	321	18	72	10
RTOR Reduction (vph)	0	8	0	0	4	0	0	54	0	0	7	0
Lane Group Flow (vph)	46	1123	0	291	674	0	0	624	0	0	93	0
Conf. Peds. (#/hr)	19		23	23		19	17		16	16		17
Conf. Bikes (#/hr)			9			39			2			10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	32.0	32.0		32.0	32.0			20.0			20.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0			20.0			20.0	
Actuated g/C Ratio	0.53	0.53		0.53	0.53			0.33			0.33	
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)	214	865		111	876			492			468	
v/s Ratio Prot		0.69			0.41							
v/s Ratio Perm	0.11			c1.40				c0.42			0.07	
v/c Ratio	0.21	1.30		2.62	0.77			1.27			0.20	
Uniform Delay, d1	7.4	14.0		14.0	11.1			20.0			14.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	2.3	142.5		755.1	6.5			136.1			0.2	
Delay (s)	9.7	156.5		769.1	17.5			156.1			14.5	
Level of Service	A	F		F	B			F			B	
Approach Delay (s)		150.8			243.2			156.1			14.5	
Approach LOS		F			F			F			B	

Intersection Summary

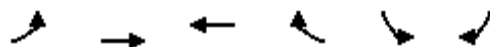
HCM Average Control Delay	178.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.10		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	146.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶		↶	↶	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4538		1583	4512		1583	1611		1583	1611	
Flt Permitted	0.06	1.00		0.12	1.00		0.34	1.00		0.53	1.00	
Satd. Flow (perm)	93	4538		195	4512		569	1611		879	1611	
Volume (vph)	99	1479	27	27	1887	112	101	119	34	171	190	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	1608	29	29	2051	122	110	129	37	186	207	59
RTOR Reduction (vph)	0	1	0	0	4	0	0	11	0	0	5	0
Lane Group Flow (vph)	108	1636	0	29	2169	0	110	155	0	186	261	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			2			4			4		
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	83.6	83.6		83.6	83.6		27.0	27.0		27.0	27.0	
Effective Green, g (s)	84.0	84.0		84.0	84.0		28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.4	4.4		4.4	4.4		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	65	3177		137	3158		133	376		205	376	
v/s Ratio Prot		0.36			0.48			0.10			0.16	
v/s Ratio Perm	c1.17			0.15			0.19			c0.21		
v/c Ratio	1.66	0.51		0.21	0.69		0.83	0.41		0.91	0.69	
Uniform Delay, d1	18.0	8.4		6.3	10.4		43.7	39.0		44.7	42.1	
Progression Factor	1.38	0.81		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	303.8	0.1		3.5	1.2		32.5	0.7		37.9	5.5	
Delay (s)	328.7	6.9		9.8	11.6		76.2	39.8		82.6	47.5	
Level of Service	F	A		A	B		E	D		F	D	
Approach Delay (s)		26.8			11.6			54.3			62.0	
Approach LOS		C			B			D			E	

Intersection Summary

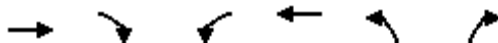
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑	↗	↖↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.95	1.00	0.97	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)	1583	4550	3167	1417	3072	1417
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1583	4550	3167	1417	3072	1417
Volume (vph)	277	1511	1193	714	795	277
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	298	1625	1283	768	855	298
RTOR Reduction (vph)	0	0	0	15	0	8
Lane Group Flow (vph)	298	1625	1283	753	855	291
Turn Type	Prot			pm+ov		pt+ov
Protected Phases	5	2	6	4	4	4 5
Permitted Phases				6		
Actuated Green, G (s)	12.5	40.6	37.1	66.5	29.4	45.5
Effective Green, g (s)	12.0	40.5	37.0	66.0	29.0	45.0
Actuated g/C Ratio	0.13	0.45	0.41	0.73	0.32	0.50
Clearance Time (s)	3.5	3.9	3.9	3.6	3.6	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	211	2048	1302	1102	990	709
v/s Ratio Prot	c0.19	c0.36	c0.41	0.22	c0.28	0.21
v/s Ratio Perm				0.31		
v/c Ratio	1.41	0.79	0.99	0.68	0.86	0.41
Uniform Delay, d1	39.0	21.2	26.2	6.4	28.6	14.1
Progression Factor	1.00	1.00	0.59	0.45	1.00	1.00
Incremental Delay, d2	211.2	3.3	4.8	0.2	7.9	0.4
Delay (s)	250.2	24.4	20.4	3.1	36.6	14.5
Level of Service	F	C	C	A	D	B
Approach Delay (s)		59.4	13.9		30.9	
Approach LOS		E	B		C	

Intersection Summary

HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3014		1509	3018	1429	
Flt Permitted	1.00		0.30	1.00	0.98	
Satd. Flow (perm)	3014		472	3018	1429	
Volume (vph)	875	8	32	1631	23	37
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	884	8	32	1647	23	37
RTOR Reduction (vph)	1	0	0	0	30	0
Lane Group Flow (vph)	891	0	32	1647	30	0
Turn Type			Perm			
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	74.7		74.7	74.7	17.3	
Effective Green, g (s)	74.2		74.2	74.2	17.8	
Actuated g/C Ratio	0.74		0.74	0.74	0.18	
Clearance Time (s)	3.5		3.5	3.5	4.5	
Vehicle Extension (s)	0.2		0.2	0.2	3.0	
Lane Grp Cap (vph)	2236		350	2239	254	
v/s Ratio Prot	0.30			c0.55	c0.02	
v/s Ratio Perm			0.07			
v/c Ratio	0.40		0.09	0.74	0.12	
Uniform Delay, d1	4.7		3.6	7.3	34.5	
Progression Factor	2.66		0.35	0.34	1.00	
Incremental Delay, d2	0.0		0.4	1.5	0.2	
Delay (s)	12.6		1.6	4.1	34.7	
Level of Service	B		A	A	C	
Approach Delay (s)	12.6			4.0	34.7	
Approach LOS	B			A	C	

Intersection Summary

HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT	NWR2
Lane Configurations											
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95					0.95	1.00
Frt	1.00	1.00	0.85	0.85	0.95					1.00	0.86
Flt Protected	0.95	1.00	1.00	1.00	1.00					0.98	1.00
Satd. Flow (prot)	1583	3167	1417	1417	3007					3114	1442
Flt Permitted	0.95	1.00	1.00	1.00	1.00					0.63	1.00
Satd. Flow (perm)	1583	3167	1417	1417	3007					1999	1442
Volume (vph)	55	698	277	10	300	116	36	106	53	309	14
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	59	743	295	11	319	123	38	113	56	329	15
RTOR Reduction (vph)	0	0	0	11	6	0	0	0	0	0	0
Lane Group Flow (vph)	59	743	295	0	474	0	0	0	0	498	15
Turn Type	custom		Perm	Perm					Prot		Free
Protected Phases	3	3			6				2	1	
Permitted Phases	4	4	3	3						2	Free
Actuated Green, G (s)	25.0	25.0	5.0	5.0	22.5					34.9	100.0
Effective Green, g (s)	23.6	23.6	4.0	4.0	22.5					33.9	100.0
Actuated g/C Ratio	0.24	0.24	0.04	0.04	0.22					0.34	1.00
Clearance Time (s)	3.0	3.0	3.0	3.0	4.0					4.0	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	3.0					4.0	
Lane Grp Cap (vph)	437	874	57	57	677					901	1442
v/s Ratio Prot	0.01	c0.03			c0.16					c0.11	
v/s Ratio Perm	0.03	0.20	c0.21	0.00						c0.08	0.01
v/c Ratio	0.14	0.85	5.18	0.01	0.70					0.55	0.01
Uniform Delay, d1	30.3	36.5	48.0	46.1	35.6					26.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00					0.28	1.00
Incremental Delay, d2	0.1	7.7	1917.3	0.0	5.9					2.2	0.0
Delay (s)	30.4	44.2	1965.3	46.1	41.6					9.8	0.0
Level of Service	C	D	F	D	D					A	A
Approach Delay (s)		554.9			41.6					9.8	
Approach LOS		F			D					A	

Intersection Summary

HCM Average Control Delay	304.5	HCM Level of Service	F
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑↑	↖		↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	1.00
Frt	1.00	0.98		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1583	4448		1583	4494			3143	1417		3148	1417
Flt Permitted	0.12	1.00		0.95	1.00			0.55	1.00		0.53	1.00
Satd. Flow (perm)	195	4448		1583	4494			1744	1417		1688	1417
Volume (vph)	474	1416	249	66	1419	127	163	906	135	99	751	107
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	499	1491	262	69	1494	134	172	954	142	104	791	113
RTOR Reduction (vph)	0	27	0	0	12	0	0	0	88	0	0	15
Lane Group Flow (vph)	499	1726	0	69	1616	0	0	1126	54	0	895	98
Turn Type	Perm			Prot			Perm		Perm	Perm		Perm
Protected Phases	6			5	2		8		8	4		4
Permitted Phases	6						8		8	4		4
Actuated Green, G (s)	37.7	37.7		6.3	48.0			33.5	33.5		33.5	33.5
Effective Green, g (s)	37.7	37.7		6.3	48.0			34.0	34.0		34.0	34.0
Actuated g/C Ratio	0.42	0.42		0.07	0.53			0.38	0.38		0.38	0.38
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	82	1863		111	2397			659	535		638	535
v/s Ratio Prot		0.39		0.04	c0.36							
v/s Ratio Perm	c2.56							c0.65	0.04		0.53	0.07
v/c Ratio	6.09	0.93		0.62	0.67			1.71	0.10		1.40	0.18
Uniform Delay, d1	26.2	24.8		40.7	15.3			28.0	18.1		28.0	18.7
Progression Factor	1.47	1.48		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	2302.6	5.7		10.3	1.5			325.3	0.4		190.6	0.8
Delay (s)	2341.0	42.4		51.0	16.8			353.3	18.5		218.6	19.5
Level of Service	F	D		D	B			F	B		F	B
Approach Delay (s)		551.8			18.2			315.8			196.3	
Approach LOS		F			B			F			F	

Intersection Summary

HCM Average Control Delay	300.7	HCM Level of Service	F
HCM Volume to Capacity ratio	3.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	136.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: 6th St & Western Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00
Frbp, ped/bikes		0.99			0.97			0.99			1.00	0.75
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.99			0.98			0.99			1.00	0.85
Flt Protected		1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)		3116			3017			3111			3167	1066
Flt Permitted		1.00			1.00			1.00			1.00	1.00
Satd. Flow (perm)		3116			3017			3111			3167	1066
Volume (vph)	0	1228	77	0	1198	139	0	1638	97	0	1731	114
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1279	80	0	1248	145	0	1706	101	0	1803	119
RTOR Reduction (vph)	0	1	0	0	2	0	0	5	0	0	0	6
Lane Group Flow (vph)	0	1358	0	0	1391	0	0	1802	0	0	1803	113
Conf. Peds. (#/hr)	136		73	73		136	120		104	120		104
Conf. Bikes (#/hr)			5			7			19			15
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1420			1374			1417			1443	486
v/s Ratio Prot		0.44			0.46			0.58			0.57	
v/s Ratio Perm												0.11
v/c Ratio		0.96			1.01			1.27			1.25	0.23
Uniform Delay, d1		23.6			24.5			24.5			24.5	14.9
Progression Factor		1.00			1.00			0.64			1.00	1.00
Incremental Delay, d2		15.5			27.4			122.8			118.2	1.1
Delay (s)		39.1			51.9			138.6			142.7	16.0
Level of Service		D			D			F			F	B
Approach Delay (s)		39.1			51.9			138.6			134.9	
Approach LOS		D			D			F			F	

Intersection Summary

HCM Average Control Delay	98.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	124.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
3: Wilshire Blvd & Western Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.98		1.00	0.96		1.00	0.96		1.00	0.91	
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	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4391		1583	4320		1583	2997		1583	2762	
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.13	1.00	
Satd. Flow (perm)	235	4391		236	4320		212	2997		224	2762	
Volume (vph)	334	1286	94	128	1510	147	145	1550	169	101	1091	376
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	363	1398	102	139	1641	160	158	1685	184	110	1186	409
RTOR Reduction (vph)	0	9	0	0	13	0	0	9	0	0	37	0
Lane Group Flow (vph)	363	1491	0	139	1788	0	158	1860	0	110	1558	0
Conf. Peds. (#/hr)	663		371	371		663	453		618	618		453
Conf. Bikes (#/hr)			12			12			20			20
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.0	27.0		34.6	26.8		38.2	30.2		35.0	28.6	
Effective Green, g (s)	36.4	28.4		36.0	28.2		39.4	31.4		36.2	29.8	
Actuated g/C Ratio	0.40	0.32		0.40	0.31		0.44	0.35		0.40	0.33	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1386		211	1354		215	1046		187	915	
v/s Ratio Prot	c0.15	0.34		0.06	0.41		c0.07	c0.62		0.04	0.56	
v/s Ratio Perm	c0.53			0.21			0.26			0.20		
v/c Ratio	1.69	1.08		0.66	1.32		0.73	1.78		0.59	1.70	
Uniform Delay, d1	43.2	30.8		21.0	30.9		41.5	29.3		22.2	30.1	
Progression Factor	1.88	0.97		0.76	0.84		0.80	1.00		1.62	1.51	
Incremental Delay, d2	314.6	38.0		5.3	148.1		5.7	351.9		0.4	316.4	
Delay (s)	395.7	68.0		21.1	174.1		39.1	381.2		36.3	361.9	
Level of Service	F	E		C	F		D	F		D	F	
Approach Delay (s)		131.9			163.1			354.5			340.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	247.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	132.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3138		1583	3122		1583	3164		1583	3153	
Flt Permitted	0.27	1.00		0.31	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	445	3138		525	3122		163	3164		163	3153	
Volume (vph)	51	601	39	95	661	69	59	1482	8	112	1535	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	54	639	41	101	703	73	63	1577	9	119	1633	48
RTOR Reduction (vph)	0	4	0	0	5	0	0	1	0	0	2	0
Lane Group Flow (vph)	54	676	0	101	771	0	63	1585	0	119	1679	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	40.4	40.4		40.4	40.4		40.3	40.3		40.3	40.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	203	1430		239	1422		74	1441		74	1436	
v/s Ratio Prot		0.22			c0.25			0.50			0.53	
v/s Ratio Perm	0.12			0.19			0.39			c0.73		
v/c Ratio	0.27	0.47		0.42	0.54		0.85	1.10		1.61	1.17	
Uniform Delay, d1	15.2	17.0		16.5	17.7		21.8	24.5		24.5	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.45	0.45	
Incremental Delay, d2	3.2	1.1		5.4	1.5		68.7	56.1		279.3	76.9	
Delay (s)	18.4	18.1		21.9	19.2		90.5	80.6		290.5	87.9	
Level of Service	B	B		C	B		F	F		F	F	
Approach Delay (s)		18.1			19.5			81.0			101.3	
Approach LOS		B			B			F			F	

Intersection Summary




























HCM Average Control Delay	68.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗↖↗	↖	↖	↗↖↗	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4532		1583	4485		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00		0.11	1.00		0.12	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	186	4532		190	4485		198	3167	1417	198	3167	1417
Volume (vph)	68	2125	56	96	1569	164	198	1288	56	182	1338	155
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	69	2146	57	97	1585	166	200	1301	57	184	1352	157
RTOR Reduction (vph)	0	3	0	0	12	0	0	0	18	0	0	15
Lane Group Flow (vph)	69	2200	0	97	1739	0	200	1301	39	184	1352	142
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	42.2	34.9		40.4	34.0		40.7	32.7	39.1	40.7	32.7	40.0
Effective Green, g (s)	43.2	35.9		41.4	35.0		41.7	33.7	40.1	41.7	33.7	41.0
Actuated g/C Ratio	0.43	0.36		0.41	0.35		0.42	0.34	0.40	0.42	0.34	0.41
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	182	1627		168	1570		193	1067	625	193	1067	638
v/s Ratio Prot	0.03	c0.49		c0.04	0.39		c0.08	0.41	0.00	0.08	c0.43	0.02
v/s Ratio Perm	0.14			0.20			0.35		0.02	0.32		0.08
v/c Ratio	0.38	1.35		0.58	1.11		1.04	1.22	0.06	0.95	1.27	0.22
Uniform Delay, d1	22.4	32.0		46.7	32.5		48.2	33.2	18.4	47.9	33.2	19.1
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	1.3	162.7		4.7	58.2		74.6	107.3	0.0	51.1	127.7	0.2
Delay (s)	23.8	194.8		51.4	90.7		122.8	140.5	18.4	99.0	160.9	19.3
Level of Service	C	F		D	F		F	F	B	F	F	B
Approach Delay (s)		189.6			88.6			133.7			141.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	141.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4514		1583	4500		1583	3118		1583	3104	
Flt Permitted	0.09	1.00		0.09	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	145	4514		145	4500		185	3118		185	3104	
Volume (vph)	307	2105	118	112	1692	133	77	1122	127	89	1475	225
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	313	2148	120	114	1727	136	79	1145	130	91	1505	230
RTOR Reduction (vph)	0	3	0	0	10	0	0	2	0	0	7	0
Lane Group Flow (vph)	313	2265	0	114	1853	0	79	1273	0	91	1728	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
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)	74	2307		74	2300		74	1247		74	1242	
v/s Ratio Prot		0.50			0.41			0.41			c0.56	
v/s Ratio Perm	c2.16			0.79			0.43			0.49		
v/c Ratio	4.23	0.98		1.54	0.81		1.07	1.02		1.23	1.39	
Uniform Delay, d1	22.0	21.6		22.0	18.3		27.0	27.0		27.0	27.0	
Progression Factor	1.28	1.33		1.13	1.15		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1473.7	11.4		249.3	0.3		124.4	30.9		178.7	181.2	
Delay (s)	1501.9	40.0		274.3	21.3		151.4	57.9		205.7	208.2	
Level of Service	F	D		F	C		F	E		F	F	
Approach Delay (s)		217.3			35.9			63.4			208.1	
Approach LOS		F			D			E			F	
Intersection Summary												
HCM Average Control Delay			141.9			HCM Level of Service				F		
HCM Volume to Capacity ratio			2.98									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			134.1%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1583	4541		1583	4538			1646	1417		1551	
Flt Permitted	0.08	1.00		0.06	1.00			0.90	1.00		0.90	
Satd. Flow (perm)	127	4541		99	4538			1495	1417		1415	
Volume (vph)	44	2348	32	77	1825	34	27	78	70	31	41	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	2552	35	84	1984	37	29	85	76	34	45	59
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	2	0	8	0
Lane Group Flow (vph)	48	2586	0	84	2020	0	0	114	74	0	130	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	67.3	67.3		67.3	67.3			14.2	14.2		14.2	
Effective Green, g (s)	67.3	67.3		67.3	67.3			14.7	14.7		14.7	
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.16	0.16		0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	95	3396		74	3393			244	231		231	
v/s Ratio Prot		0.57			0.45							
v/s Ratio Perm	0.38			c0.85				0.08	0.05		c0.09	
v/c Ratio	0.51	0.76		1.14	0.60			0.47	0.32		0.56	
Uniform Delay, d1	4.6	6.6		11.4	5.2			34.1	33.2		34.7	
Progression Factor	1.00	1.00		1.28	0.96			1.00	1.00		1.00	
Incremental Delay, d2	17.9	1.7		114.3	0.4			1.4	0.8		3.1	
Delay (s)	22.5	8.3		128.8	5.3			35.5	34.1		37.8	
Level of Service	C	A		F	A			D	C		D	
Approach Delay (s)		8.6			10.2			34.9			37.8	
Approach LOS		A			B			C			D	

Intersection Summary

HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.97		1.00	1.00	0.99	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	0.95	0.85
Flt Protected	1.00		0.95	1.00	0.97	1.00
Satd. Flow (prot)	4263		1583	4550	2930	1258
Flt Permitted	1.00		0.09	1.00	0.97	1.00
Satd. Flow (perm)	4263		152	4550	2930	1258
Volume (vph)	1838	462	562	1435	555	722
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1876	471	573	1464	566	737
RTOR Reduction (vph)	48	0	0	0	91	1
Lane Group Flow (vph)	2299	0	573	1464	791	420
Conf. Peds. (#/hr)		159	159			5
Conf. Bikes (#/hr)		4				5
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	39.0		51.0	51.0	29.3	37.3
Effective Green, g (s)	40.0		52.0	52.0	30.0	38.0
Actuated g/C Ratio	0.44		0.58	0.58	0.33	0.42
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	1895		215	2629	977	587
v/s Ratio Prot	0.54		c0.24	0.32	c0.27	0.06
v/s Ratio Perm			c1.31			0.27
v/c Ratio	1.21		2.67	0.56	0.81	0.72
Uniform Delay, d1	25.0		43.2	11.8	27.4	21.5
Progression Factor	1.00		1.00	1.00	0.63	0.34
Incremental Delay, d2	101.0		762.5	0.9	3.4	2.4
Delay (s)	126.0		805.7	12.7	20.5	9.7
Level of Service	F		F	B	C	A
Approach Delay (s)	126.0			235.8	17.0	
Approach LOS	F			F	B	

Intersection Summary

HCM Average Control Delay	140.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗	↖	↕		↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3054		1583	1667	1417	1583	3115		1583	3163	
Flt Permitted	0.48	1.00		0.36	1.00	1.00	0.24	1.00		0.12	1.00	
Satd. Flow (perm)	799	3054		604	1667	1417	396	3115		195	3163	
Volume (vph)	20	363	113	181	236	59	194	1241	150	20	956	7
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	20	370	115	185	241	60	198	1266	153	20	976	7
RTOR Reduction (vph)	0	0	0	0	0	42	0	10	0	0	0	0
Lane Group Flow (vph)	20	485	0	185	241	18	198	1409	0	20	983	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	240	916		181	500	425	242	1904		119	1933	
v/s Ratio Prot		0.16			0.14			0.45			0.31	
v/s Ratio Perm	0.03			c0.31		0.01	c0.50			0.10		
v/c Ratio	0.08	0.53		1.02	0.48	0.04	0.82	0.74		0.17	0.51	
Uniform Delay, d1	22.6	26.2		31.5	25.8	22.3	13.6	12.4		7.6	9.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.60	1.71		0.32	0.40	
Incremental Delay, d2	0.7	2.2		72.8	3.3	0.2	2.9	0.2		0.3	0.1	
Delay (s)	23.3	28.4		104.3	29.1	22.5	24.7	21.5		2.7	4.1	
Level of Service	C	C		F	C	C	C	C		A	A	
Approach Delay (s)		28.2			56.9			21.9			4.0	
Approach LOS		C			E			C			A	

Intersection Summary

HCM Average Control Delay	22.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕↕		↔	↕↕↕		↔	↕↕		↔	↕↕	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4488		1583	4517		1583	3130		1583	3167	1417
Flt Permitted	0.14	1.00		0.95	1.00		0.13	1.00		0.13	1.00	1.00
Satd. Flow (perm)	234	4488		1583	4517		209	3130		214	3167	1417
Volume (vph)	62	2279	227	64	1760	90	80	1446	122	72	1208	103
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	2399	239	67	1853	95	84	1522	128	76	1272	108
RTOR Reduction (vph)	0	12	0	0	6	0	0	6	0	0	0	65
Lane Group Flow (vph)	65	2626	0	67	1942	0	84	1644	0	76	1272	43
Turn Type	pm+pt			Prot			pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		7	4		3	8	8
Permitted Phases	2						4			8		8
Actuated Green, G (s)	32.9	27.6		7.7	29.1		38.0	30.9		36.6	30.2	30.2
Effective Green, g (s)	34.2	28.5		7.2	30.0		39.0	31.9		37.6	31.2	31.2
Actuated g/C Ratio	0.38	0.32		0.08	0.33		0.43	0.35		0.42	0.35	0.35
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1421		127	1506		199	1109		187	1098	491
v/s Ratio Prot	0.02	c0.59		c0.04	0.43		c0.03	c0.53		0.03	0.40	
v/s Ratio Perm	0.12						0.15			0.14		0.03
v/c Ratio	0.37	1.85		0.53	1.29		0.42	1.48		0.41	1.16	0.09
Uniform Delay, d1	22.6	30.8		39.8	30.0		20.8	29.0		21.4	29.4	19.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.94	0.81	0.73
Incremental Delay, d2	1.4	384.2		3.9	135.4		1.4	221.8		1.3	80.6	0.3
Delay (s)	23.9	415.0		43.7	165.4		22.3	250.8		21.4	104.5	14.8
Level of Service	C			D			C			C		B
Approach Delay (s)	405.6			161.4			239.8			93.5		
Approach LOS	F			F			F			F		

Intersection Summary

HCM Average Control Delay	249.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			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			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1583	4518		1583	4534			1645	1417		1646	1417
Flt Permitted	0.09	1.00		0.09	1.00			0.99	1.00		0.99	1.00
Satd. Flow (perm)	147	4518		147	4534			1645	1417		1646	1417
Volume (vph)	32	2114	106	6	1843	44	80	218	42	66	195	34
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	35	2323	116	7	2025	48	88	240	46	73	214	37
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	36	0	0	32
Lane Group Flow (vph)	35	2439	0	7	2071	0	0	328	10	0	287	5
Turn Type	Perm		Perm		Split		Perm		Split		Perm	
Protected Phases	6		2		4		4		3		3	
Permitted Phases	6		2				4				3	
Actuated Green, G (s)	43.6	43.6		43.6	43.6			19.0	19.0		10.5	10.5
Effective Green, g (s)	45.5	45.5		45.5	45.5			20.5	20.5		12.0	12.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.23	0.23		0.13	0.13
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	2284		74	2292			375	323		219	189
v/s Ratio Prot	c0.54		0.46		c0.20		c0.17					
v/s Ratio Perm	0.24			0.05				0.01				0.00
v/c Ratio	0.47	1.07		0.09	0.90			0.87	0.03		1.31	0.03
Uniform Delay, d1	14.5	22.2		11.6	20.2			33.5	27.0		39.0	33.9
Progression Factor	0.76	0.67		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	17.0	38.7		2.5	6.4			19.7	0.0		168.5	0.1
Delay (s)	28.0	53.6		14.1	26.6			53.2	27.1		207.5	34.0
Level of Service	C	D		B	C			D	C		F	C
Approach Delay (s)	53.2		26.6		50.0		187.7					
Approach LOS	D		C		D		F					

Intersection Summary

HCM Average Control Delay	50.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	1.00
Satd. Flow (prot)	1583	4544		1583	4543			1656			1660	1417
Flt Permitted	0.13	1.00		0.08	1.00			1.00			1.00	1.00
Satd. Flow (perm)	210	4544		127	4543			1656			1660	1417
Volume (vph)	189	1829	15	22	1414	15	8	249	10	11	114	175
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	197	1905	16	23	1473	16	8	259	10	11	119	182
RTOR Reduction (vph)	0	1	0	0	1	0	0	2	0	0	0	153
Lane Group Flow (vph)	197	1920	0	23	1488	0	0	275	0	0	130	29
Turn Type	Perm			Perm			Split			Split		Perm
Protected Phases	6			2			3	3		4	4	
Permitted Phases	6			2								4
Actuated Green, G (s)	51.2	51.2		51.2	51.2			9.6			13.3	13.3
Effective Green, g (s)	52.7	52.7		52.7	52.7			11.0			14.3	14.3
Actuated g/C Ratio	0.59	0.59		0.59	0.59			0.12			0.16	0.16
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	123	2661		74	2660			202			264	225
v/s Ratio Prot		0.42			0.33			c0.17			c0.08	
v/s Ratio Perm	c0.94			0.18								0.02
v/c Ratio	1.60	0.72		0.31	0.56			1.36			0.49	0.13
Uniform Delay, d1	18.6	13.4		9.4	11.5			39.5			34.5	32.5
Progression Factor	1.00	1.00		1.45	1.50			1.00			1.00	1.00
Incremental Delay, d2	305.3	1.7		4.7	0.4			191.7			1.4	0.3
Delay (s)	323.9	15.1		18.4	17.6			231.2			36.0	32.8
Level of Service	F	B		B	B			F			D	C
Approach Delay (s)		43.8			17.6			231.2			34.1	
Approach LOS		D			B			F			C	

Intersection Summary

HCM Average Control Delay	46.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		0.99		1.00	1.00			0.98			0.98	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	1.00			0.94			0.93	
Flt Protected		1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)		4230		1490	4267			1428			1438	
Flt Permitted		1.00		0.07	1.00			0.95			0.98	
Satd. Flow (perm)		4230		105	4267			1369			1409	
Volume (vph)	0	1888	69	42	1572	22	29	106	120	10	65	70
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	2075	76	46	1727	24	32	116	132	11	71	77
RTOR Reduction (vph)	0	3	0	0	1	0	0	4	0	0	12	0
Lane Group Flow (vph)	0	2148	0	46	1750	0	0	276	0	0	147	0
Confl. Peds. (#/hr)	34		71	71		34	15		9	9		15
Confl. Bikes (#/hr)			8			12			4			2
Turn Type				Perm			Perm				Perm	
Protected Phases		6			2			8				4
Permitted Phases				2			8			4		
Actuated Green, G (s)		60.4		60.4	60.4			22.1			22.1	
Effective Green, g (s)		59.9		59.9	59.9			22.1			22.1	
Actuated g/C Ratio		0.67		0.67	0.67			0.25			0.25	
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2815		70	2840			336			346	
v/s Ratio Prot		c0.51			0.41							
v/s Ratio Perm				0.44				c0.20			0.10	
v/c Ratio		0.76		0.66	0.62			0.82			0.42	
Uniform Delay, d1		10.2		8.9	8.5			32.1			28.6	
Progression Factor		0.81		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.2		39.3	1.0			14.9			0.8	
Delay (s)		8.5		48.2	9.5			47.0			29.4	
Level of Service		A		D	A			D			C	
Approach Delay (s)		8.5			10.5			47.0			29.4	
Approach LOS		A			B			D			C	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1490	2980	1333	1490	2956		1490	4250		1490	4238	
Flt Permitted	0.13	1.00	1.00	0.12	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	202	2980	1333	194	2956		216	4250		216	4238	
Volume (vph)	85	1524	102	118	1324	76	123	2176	116	153	2147	161
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	88	1571	105	122	1365	78	127	2243	120	158	2213	166
RTOR Reduction (vph)	0	0	35	0	4	0	0	6	0	0	9	0
Lane Group Flow (vph)	88	1571	70	122	1439	0	127	2357	0	158	2370	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	35.6	30.0	37.0	38.4	31.4		35.0	28.0		35.0	28.0	
Effective Green, g (s)	36.6	31.0	38.0	39.4	32.4		36.0	29.0		36.0	29.0	
Actuated g/C Ratio	0.41	0.34	0.42	0.44	0.36		0.40	0.32		0.40	0.32	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	162	1026	622	186	1064		185	1369		185	1366	
v/s Ratio Prot	0.03	c0.53	0.01	c0.05	0.49		0.05	0.55		c0.07	c0.56	
v/s Ratio Perm	0.19		0.04	0.24			0.22			0.27		
v/c Ratio	0.54	1.53	0.11	0.66	1.35		0.69	1.72		0.85	1.73	
Uniform Delay, d1	42.1	29.5	15.8	41.7	28.8		41.8	30.5		42.8	30.5	
Progression Factor	0.70	0.71	0.64	1.00	1.00		1.62	1.42		1.71	1.44	
Incremental Delay, d2	0.3	239.5	0.0	8.1	164.6		1.0	325.0		3.7	330.9	
Delay (s)	29.8	260.4	10.2	49.8	193.4		68.8	368.4		76.7	374.8	
Level of Service	C	F	B	D	F		E	F		E	F	
Approach Delay (s)		234.0			182.2			353.1			356.3	
Approach LOS		F			F			F			F	

Intersection Summary




















HCM Average Control Delay	296.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	134.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑		↰	↑↑		↰	↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2980	1333	1490	2918		1490	4217		1490	4277	
Flt Permitted	0.15	1.00	1.00	0.23	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	229	2980	1333	366	2918		165	4217		165	4277	
Volume (vph)	53	731	114	152	1033	168	156	2081	238	98	2133	19
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	54	738	115	154	1043	170	158	2102	240	99	2155	19
RTOR Reduction (vph)	0	0	22	0	1	0	0	16	0	0	1	0
Lane Group Flow (vph)	54	738	93	154	1212	0	158	2326	0	99	2173	0
Turn Type	Perm		Perm	pm+pt			Perm			Perm		
Protected Phases		8		7	4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	35.0	35.0	35.0	43.0	43.0		37.0	37.0		37.0	37.0	
Effective Green, g (s)	36.0	36.0	36.0	44.0	44.0		38.0	38.0		38.0	38.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.49	0.49		0.42	0.42		0.42	0.42	
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	92	1192	533	229	1427		70	1781		70	1806	
v/s Ratio Prot		0.25		0.03	c0.42			0.55			0.51	
v/s Ratio Perm	0.24		0.07	0.30			c0.96			0.60		
v/c Ratio	0.59	0.62	0.18	0.67	0.85		2.26	1.31		1.41	1.20	
Uniform Delay, d1	21.2	21.5	17.4	17.5	20.1		26.0	26.0		26.0	26.0	
Progression Factor	1.40	1.43	1.68	1.00	1.00		1.00	1.00		0.34	0.35	
Incremental Delay, d2	2.5	0.2	0.1	7.6	6.5		608.6	142.0		194.0	91.9	
Delay (s)	32.0	31.0	29.3	25.0	26.6		634.6	168.0		202.9	101.0	
Level of Service	C	C	C	C	C		F	F		F	F	
Approach Delay (s)		30.9			26.4			197.5			105.4	
Approach LOS		C			C			F			F	

Intersection Summary

HCM Average Control Delay	113.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	124.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.99			0.98		1.00	1.00		1.00	1.00	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2955			2918		1490	4280		1490	4265	
Flt Permitted		1.00			1.00		0.19	1.00		0.19	1.00	
Satd. Flow (perm)		2955			2918		302	4280		302	4265	
Volume (vph)	0	1263	77	0	970	157	71	2339	10	97	2194	63
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1289	79	0	990	160	72	2387	10	99	2239	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	1368	0	0	1150	0	72	2396	0	99	2298	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	8		4		4		6		6		2	
Permitted Phases	8		4		4		6		6		2	
Actuated Green, G (s)	30.3		30.3		30.3		20.1		20.1		20.1	
Effective Green, g (s)	31.2		31.2		31.2		20.8		20.8		20.8	
Actuated g/C Ratio	0.52		0.52		0.52		0.35		0.35		0.35	
Clearance Time (s)	4.9		4.9		4.9		4.7		4.7		4.7	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	1537		1517		1517		105		1484		105	
v/s Ratio Prot	c0.46		0.39		0.39		c0.56		c0.56		0.54	
v/s Ratio Perm							0.24		0.24		0.33	
v/c Ratio	0.89		0.76		0.76		0.69		1.61		0.94	
Uniform Delay, d1	12.9		11.4		11.4		16.8		19.6		19.0	
Progression Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	6.9		2.2		2.2		30.7		279.8		73.4	
Delay (s)	19.7		13.6		13.6		47.5		299.4		92.4	
Level of Service	B		B		B		D		F		F	
Approach Delay (s)	19.7		13.6		13.6		292.1		292.1		264.9	
Approach LOS	B		B		B		F		F		F	
Intersection Summary												
HCM Average Control Delay	189.5		189.5		189.5		HCM Level of Service		F		F	
HCM Volume to Capacity ratio	1.18		1.18		1.18		1.18		1.18		1.18	
Actuated Cycle Length (s)	60.0		60.0		60.0		Sum of lost time (s)		8.0		8.0	
Intersection Capacity Utilization	116.6%		116.6%		116.6%		ICU Level of Service		H		H	
Analysis Period (min)	15		15		15		15		15		15	
c Critical Lane Group	c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis
 17: Wilshire Blvd & La Brea Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1489	4164		1490	4170		1490	4266		1490	4201	
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	216	4164		216	4170		202	4266		1490	4201	
Volume (vph)	181	1724	156	227	1322	122	151	2031	31	157	1933	112
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	1759	159	232	1349	124	154	2072	32	160	1972	114
RTOR Reduction (vph)	0	12	0	0	12	0	0	2	0	0	7	0
Lane Group Flow (vph)	185	1906	0	232	1461	0	154	2102	0	160	2079	0
Conf. Peds. (#/hr)	135		153	153		135	164		79	79		164
Conf. Bikes (#/hr)			13			8			6			17
Turn Type	pm+pt			pm+pt			pm+pt			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					
Actuated Green, G (s)	36.5	29.0		36.5	29.0		38.5	31.0		7.5	31.0	
Effective Green, g (s)	36.0	29.0		36.0	29.0		38.0	31.0		7.0	31.0	
Actuated g/C Ratio	0.40	0.32		0.40	0.32		0.42	0.34		0.08	0.34	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	185	1342		185	1344		185	1469		116	1447	
v/s Ratio Prot	0.08	c0.46		c0.10	0.35		0.06	0.49		c0.11	c0.49	
v/s Ratio Perm	0.32			0.40			0.29					
v/c Ratio	1.00	1.42		1.25	1.09		0.83	1.43		1.38	1.44	
Uniform Delay, d1	23.4	30.5		43.7	30.5		42.7	29.5		41.5	29.5	
Progression Factor	1.57	0.79		1.69	0.78		2.12	1.26		1.00	1.00	
Incremental Delay, d2	47.6	191.6		144.4	49.6		3.0	194.3		215.4	200.5	
Delay (s)	84.3	215.6		218.2	73.3		93.6	231.5		256.9	230.0	
Level of Service	F	F		F	E		F	F		F	F	
Approach Delay (s)		204.0			93.0			222.1			231.9	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	193.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	130.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			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		0.97			0.98		1.00	1.00		1.00	1.00	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1507			1511		1490	4265		1490	4253	
Flt Permitted		0.96			0.76		0.10	1.00		0.10	1.00	
Satd. Flow (perm)		1454			1154		151	4265		151	4253	
Volume (vph)	43	456	141	62	174	46	28	2108	37	19	2262	47
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	44	465	144	63	178	47	29	2151	38	19	2308	48
RTOR Reduction (vph)	0	1	0	0	1	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	652	0	0	287	0	29	2187	0	19	2354	0
Conf. Peds. (#/hr)	10		12	12		10	57		25	25		57
Conf. Bikes (#/hr)			2						1			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		39.5			39.5		41.0	41.0		41.0	41.0	
Effective Green, g (s)		40.5			40.5		41.5	41.5		41.5	41.5	
Actuated g/C Ratio		0.45			0.45		0.46	0.46		0.46	0.46	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		654			519		70	1967		70	1961	
v/s Ratio Prot								0.51			c0.55	
v/s Ratio Perm		c0.45			0.25		0.19			0.13		
v/c Ratio		1.00			0.55		0.41	1.11		0.27	1.20	
Uniform Delay, d1		24.7			18.1		16.2	24.2		14.9	24.2	
Progression Factor		1.00			1.00		1.00	1.00		0.47	0.61	
Incremental Delay, d2		34.3			1.3		17.1	58.2		0.9	90.6	
Delay (s)		59.0			19.4		33.2	82.4		7.9	105.3	
Level of Service		E			B		C	F		A	F	
Approach Delay (s)		59.0			19.4			81.8			104.6	
Approach LOS		E			B			F			F	

Intersection Summary

HCM Average Control Delay	85.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗↖↗		↖	↗↖↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4266		1490	4228		1490	4269		1490	4237	
Flt Permitted	0.12	1.00		0.11	1.00		0.95	1.00		0.11	1.00	
Satd. Flow (perm)	193	4266		171	4228		1490	4269		176	4237	
Volume (vph)	273	1979	50	52	1286	118	43	2129	45	188	2299	173
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	281	2040	52	54	1326	122	44	2195	46	194	2370	178
RTOR Reduction (vph)	0	3	0	0	11	0	0	2	0	0	7	0
Lane Group Flow (vph)	281	2089	0	54	1437	0	44	2239	0	194	2541	0
Turn Type	Perm		pm+pt		Prot		pm+pt					
Protected Phases	8		7		4		5		1		6	
Permitted Phases	8		4				2		6			
Actuated Green, G (s)	31.4	31.4		41.9	41.9		5.9	30.2		47.3	37.4	
Effective Green, g (s)	32.8	32.8		43.3	43.3		5.9	31.6		48.7	38.8	
Actuated g/C Ratio	0.33	0.33		0.43	0.43		0.06	0.32		0.49	0.39	
Clearance Time (s)	5.4	5.4		4.0	5.4		4.0	5.4		4.0	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		4.0	3.0	
Lane Grp Cap (vph)	63	1399		160	1831		88	1349		258	1644	
v/s Ratio Prot		0.49		0.02	c0.34		0.03			c0.10	c0.60	
v/s Ratio Perm	c1.45			0.12				0.52		0.27		
v/c Ratio	4.46	1.49		0.34	0.78		0.50	1.66		0.75	1.55	
Uniform Delay, d1	33.6	33.6		45.4	24.4		45.6	34.2		43.4	30.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1593.1	225.9		1.3	3.5		4.4	300.2		12.4	248.5	
Delay (s)	1626.7	259.5		46.6	27.8		50.0	334.4		55.8	279.1	
Level of Service	F	F		D	C		D	F		E	F	
Approach Delay (s)		421.4			28.5			328.9			263.3	
Approach LOS		F			C			F			F	

Intersection Summary

HCM Average Control Delay	282.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	126.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶			↶↶↶			↶	↶		↶↶	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	0.97			0.99			1.00	0.96		0.99	
Flpb, ped/bikes	0.99	1.00			1.00			0.99	1.00		1.00	
Frt	1.00	0.99			0.99			1.00	0.85		0.98	
Flt Protected	0.95	1.00			1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1470	4104			4209			1530	1281		1502	
Flt Permitted	0.10	1.00			1.00			0.86	1.00		0.65	
Satd. Flow (perm)	149	4104			4209			1324	1281		995	
Volume (vph)	226	1819	193	0	1472	65	78	239	147	48	111	22
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	251	2021	214	0	1636	72	87	266	163	53	123	24
RTOR Reduction (vph)	0	13	0	0	5	0	0	0	4	0	6	0
Lane Group Flow (vph)	251	2222	0	0	1703	0	0	353	159	0	194	0
Conf. Peds. (#/hr)	95		113	113		95	73		22	22		73
Conf. Bikes (#/hr)			13			15			3			3
Turn Type	Perm			Perm			Perm		Perm		Perm	
Protected Phases	6			2			8		8		4	
Permitted Phases	6						8		8		4	
Actuated Green, G (s)	56.1	56.1			56.1			26.4	26.4		26.4	
Effective Green, g (s)	55.6	55.6			55.6			26.4	26.4		26.4	
Actuated g/C Ratio	0.62	0.62			0.62			0.29	0.29		0.29	
Clearance Time (s)	3.5	3.5			3.5			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)	92	2535			2600			388	376		292	
v/s Ratio Prot		0.54			0.40							
v/s Ratio Perm	c1.68						c0.27		0.12		0.20	
v/c Ratio	2.73	0.88			0.66			0.91	0.42		0.67	
Uniform Delay, d1	17.2	14.3			11.0			30.7	25.7		27.9	
Progression Factor	1.23	1.19			0.28			1.00	1.00		1.00	
Incremental Delay, d2	799.5	3.4			0.1			24.5	0.8		5.6	
Delay (s)	820.6	20.4			3.3			55.2	26.4		33.6	
Level of Service	F	C			A			E	C		C	
Approach Delay (s)		101.2			3.3			46.1			33.6	
Approach LOS		F			A			D			C	

Intersection Summary			
HCM Average Control Delay	58.6	HCM Level of Service	E
HCM Volume to Capacity ratio	2.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1583	4537		1583	4300	1218		1590			1584	
Flt Permitted	0.10	1.00		0.08	1.00	1.00		0.89			0.77	
Satd. Flow (perm)	174	4537		128	4300	1218		1421			1232	
Volume (vph)	138	1792	35	79	1383	124	36	172	87	97	213	125
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	152	1969	38	87	1520	136	40	189	96	107	234	137
RTOR Reduction (vph)	0	2	0	0	0	57	0	7	0	0	16	0
Lane Group Flow (vph)	152	2005	0	87	1520	79	0	318	0	0	462	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	6			2			2	8			4	
Permitted Phases	6			2			2	8			4	
Actuated Green, G (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Effective Green, g (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Actuated g/C Ratio	0.58	0.58		0.58	0.58	0.58		0.33			0.33	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	101	2621		74	2484	704		474			411	
v/s Ratio Prot		0.44			0.35							
v/s Ratio Perm	c0.88			0.68		0.06		0.22			c0.38	
v/c Ratio	1.50	0.76		1.18	0.61	0.11		0.67			1.12	
Uniform Delay, d1	19.0	14.4		19.0	12.4	8.6		25.8			30.0	
Progression Factor	1.91	2.07		0.95	0.76	0.64		1.00			1.00	
Incremental Delay, d2	258.5	1.5		144.7	0.8	0.2		3.7			82.6	
Delay (s)	294.8	31.3		162.8	10.3	5.7		29.5			112.6	
Level of Service	F	C		F	B	A		C			F	
Approach Delay (s)		49.8			17.5			29.5			112.6	
Approach LOS		D			B			C			F	

Intersection Summary

HCM Average Control Delay	42.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 22: Wilshire Blvd & Spaulding Ave



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	4546		1583	4550	1582	
Flt Permitted	1.00		0.07	1.00	0.95	
Satd. Flow (perm)	4546		121	4550	1582	
Volume (vph)	1984	10	53	1468	76	3
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2088	11	56	1545	80	3
RTOR Reduction (vph)	0	0	0	0	1	0
Lane Group Flow (vph)	2099	0	56	1545	82	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2793		74	2796	469	
v/s Ratio Prot	0.46			0.34	c0.05	
v/s Ratio Perm			c0.46			
v/c Ratio	0.75		0.76	0.55	0.17	
Uniform Delay, d1	12.4		12.5	10.1	23.5	
Progression Factor	1.00		1.56	1.61	1.00	
Incremental Delay, d2	1.9		41.3	0.6	0.2	
Delay (s)	14.3		60.7	16.9	23.6	
Level of Service	B		E	B	C	
Approach Delay (s)	14.3			18.4	23.6	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3131	3131
Flt Permitted	0.16	1.00	1.00	0.10	1.00	1.00	0.15	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	264	3167	1417	167	3167	1417	247	3167	1417	215	3131	3131
Volume (vph)	106	1437	101	170	1158	172	120	1303	241	122	1295	105
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	110	1497	105	177	1206	179	125	1357	251	127	1349	109
RTOR Reduction (vph)	0	0	16	0	0	1	0	0	120	0	6	0
Lane Group Flow (vph)	110	1497	89	177	1206	178	125	1357	131	127	1452	0
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt		
Protected Phases		6		5		2	7		8		7	4
Permitted Phases	6		6	2		2	8		8		4	
Actuated Green, G (s)	35.0	35.0	35.0	44.0	44.0	49.7	27.1	27.1	27.1	36.0	36.0	36.0
Effective Green, g (s)	36.0	36.0	36.0	45.0	45.0	51.0	27.0	27.0	27.0	37.0	37.0	37.0
Actuated g/C Ratio	0.40	0.40	0.40	0.50	0.50	0.57	0.30	0.30	0.30	0.41	0.41	0.41
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	5.0
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	4.5
Lane Grp Cap (vph)	106	1267	567	162	1584	866	74	950	425	180	1287	1287
v/s Ratio Prot		c0.47		c0.06	0.38	0.01		0.43		0.05	c0.46	
v/s Ratio Perm	0.42		0.06	0.49		0.11	c0.51		0.09	0.24		
v/c Ratio	1.04	1.18	0.16	1.09	0.76	0.21	1.69	1.43	0.31	0.71	1.13	1.13
Uniform Delay, d1	27.0	27.0	17.3	44.7	18.2	9.6	31.5	31.5	24.3	42.6	26.5	26.5
Progression Factor	1.00	1.00	1.00	2.37	0.25	0.30	0.51	0.51	0.14	1.11	1.14	1.14
Incremental Delay, d2	97.9	90.1	0.6	51.3	0.3	0.0	315.4	193.4	0.2	7.6	64.4	64.4
Delay (s)	124.9	117.1	17.9	157.4	4.9	2.9	331.5	209.3	3.5	55.0	94.7	94.7
Level of Service	F	F	B	F	A	A	F	F	A	E	F	F
Approach Delay (s)		111.5			22.0			188.3			91.5	
Approach LOS		F			C			F			F	

Intersection Summary

HCM Average Control Delay	105.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	120.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕	↔	↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3141		1583	3167	1417	1583	3133		1583	3130	
Flt Permitted	0.18	1.00		0.12	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	304	3141		196	3167	1417	238	3133		208	3130	
Volume (vph)	199	1342	76	126	848	195	101	1248	95	245	1366	113
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	203	1369	78	129	865	199	103	1273	97	250	1394	115
RTOR Reduction (vph)	0	4	0	0	0	26	0	6	0	0	7	0
Lane Group Flow (vph)	203	1443	0	129	865	173	103	1364	0	250	1502	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	40.1	32.3		39.7	32.1	37.9	26.1	26.1		35.1	35.1	
Effective Green, g (s)	41.2	34.2		40.8	34.0	39.0	28.0	28.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.38		0.45	0.38	0.43	0.31	0.31		0.41	0.41	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	239	1194		194	1196	677	74	975		162	1287	
v/s Ratio Prot	c0.07	c0.46		0.05	0.27	0.01		0.44		c0.09	0.48	
v/s Ratio Perm	0.32			0.25		0.11	0.43			c0.55		
v/c Ratio	0.85	1.21		0.66	0.72	0.26	1.39	1.40		1.54	1.17	
Uniform Delay, d1	17.5	27.9		41.9	24.0	16.2	31.0	31.0		44.7	26.5	
Progression Factor	1.00	1.00		1.74	1.06	0.88	1.48	1.47		0.93	0.50	
Incremental Delay, d2	23.5	101.8		0.8	0.4	0.0	233.2	184.9		252.2	77.6	
Delay (s)	41.0	129.7		73.6	25.7	14.4	279.0	230.5		294.0	90.8	
Level of Service	D	F		E	C	B	F	F		F	F	
Approach Delay (s)		118.8			29.0			233.9			119.7	
Approach LOS		F			C			F			F	

Intersection Summary

HCM Average Control Delay	129.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.98		1.00	1.00	0.75	1.00	1.00	0.65	1.00	0.98	
Flpb, ped/bikes	0.85	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1342	1620		3072	1667	1060	1583	3167	918	1500	3087	
Flt Permitted	0.56	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.18	1.00	
Satd. Flow (perm)	792	1620		3072	1667	1060	156	3167	918	281	3087	
Volume (vph)	19	440	35	132	319	153	51	1030	282	37	1251	64
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	20	458	36	138	332	159	53	1073	294	39	1303	67
RTOR Reduction (vph)	0	3	0	0	0	17	0	0	0	0	4	0
Lane Group Flow (vph)	20	491	0	138	332	142	53	1073	294	39	1366	0
Conf. Peds. (#/hr)	152		159	159		152	117		165	165		117
Conf. Bikes (#/hr)			5			9			7			6
Turn Type	Perm			Prot		Perm	Perm		pm+ov		Perm	
Protected Phases		8		7	4			6	7			2
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	20.2	20.2		10.0	34.2	34.2	46.2	46.2	56.2	46.2	46.2	
Effective Green, g (s)	21.0	21.0		10.0	35.0	35.0	47.0	47.0	57.0	47.0	47.0	
Actuated g/C Ratio	0.23	0.23		0.11	0.39	0.39	0.52	0.52	0.63	0.52	0.52	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	185	378		341	648	412	81	1654	622	147	1612	
v/s Ratio Prot		c0.30		0.04	0.20			0.34	c0.05		c0.44	
v/s Ratio Perm	0.03					0.13	0.34		0.27		0.14	
v/c Ratio	0.11	1.30		0.40	0.51	0.34	0.65	0.65	0.47	0.27	0.85	
Uniform Delay, d1	27.1	34.5		37.2	21.0	19.4	15.6	15.5	8.6	11.9	18.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.31	0.26	0.31	0.51	0.79	
Incremental Delay, d2	1.2	152.7		0.8	2.9	2.3	3.7	0.2	0.1	0.4	0.6	
Delay (s)	28.3	187.2		38.0	23.9	21.7	8.5	4.1	2.7	6.5	15.1	
Level of Service	C	F		D	C	C	A	A	A	A	B	
Approach Delay (s)		181.0			26.4			4.0			14.9	
Approach LOS		F			C			A			B	

Intersection Summary

HCM Average Control Delay	34.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.95		1.00	1.00	0.86
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4325		1583	4413		1583	2955		1583	3167	1221
Flt Permitted	0.15	1.00		0.15	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	243	4325		243	4413		218	2955		1583	3167	1221
Volume (vph)	312	1979	324	185	1162	98	102	1291	219	160	1545	209
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	328	2083	341	195	1223	103	107	1359	231	168	1626	220
RTOR Reduction (vph)	0	25	0	0	11	0	0	15	0	0	0	109
Lane Group Flow (vph)	328	2399	0	195	1315	0	107	1575	0	168	1626	111
Confl. Peds. (#/hr)	152		159	159		152	117		165	165		117
Confl. Bikes (#/hr)			5			9			7			6
Turn Type	pm+pt			pm+pt			pm+pt			Prot		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					4
Actuated Green, G (s)	33.2	26.4		33.2	26.4		35.0	29.6		10.8	35.0	35.0
Effective Green, g (s)	33.4	27.4		33.4	27.4		35.2	30.6		10.0	36.0	36.0
Actuated g/C Ratio	0.37	0.30		0.37	0.30		0.39	0.34		0.11	0.40	0.40
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	180	1317		180	1344		155	1005		176	1267	488
v/s Ratio Prot	c0.12	0.55		0.07	0.30		0.04	c0.53		c0.11	0.51	
v/s Ratio Perm	c0.56			0.33			0.23					0.09
v/c Ratio	1.82	1.82		1.08	0.98		0.69	1.57		0.95	1.28	0.23
Uniform Delay, d1	25.5	31.3		44.2	31.0		43.5	29.7		39.8	27.0	17.8
Progression Factor	1.31	1.19		1.00	1.00		1.15	0.82		0.83	1.50	2.91
Incremental Delay, d2	384.1	371.7		91.0	19.9		10.5	259.2		47.7	132.5	0.9
Delay (s)	417.4	408.9		135.3	50.9		60.5	283.5		80.8	173.1	52.6
Level of Service	F	F		F	D		E	F		F	F	D
Approach Delay (s)		409.9			61.7			269.5			152.2	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	248.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	135.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 27: Del Valle Dr & Fairfax Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.98	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Frt			0.86	1.00	0.92	0.85		0.99		1.00	1.00	
Flt Protected			1.00	0.95	0.98	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1413	1501	1337	1299		3099		1576	3167	
Flt Permitted			1.00	0.95	0.98	1.00		1.00		0.13	1.00	
Satd. Flow (perm)			1413	1501	1337	1299		3099		208	3167	
Volume (vph)	0	0	82	114	0	130	0	1288	127	186	1191	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	84	116	0	133	0	1314	130	190	1215	0
RTOR Reduction (vph)	0	0	79	0	41	72	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	5	74	49	13	0	1438	0	190	1215	0
Conf. Peds. (#/hr)	10		1	1		10	18		29	29		18
Conf. Bikes (#/hr)			1			2			3			3
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			4.8	12.4	12.4	12.4		58.4		58.4	58.4	
Effective Green, g (s)			5.7	13.3	13.3	13.3		59.0		59.0	59.0	
Actuated g/C Ratio			0.06	0.15	0.15	0.15		0.66		0.66	0.66	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			89	222	198	192		2032		136	2076	
v/s Ratio Prot								0.46			0.38	
v/s Ratio Perm			c0.00	c0.05	0.04	0.01				c0.91		
v/c Ratio			0.06	0.33	0.25	0.07		0.71		1.40	0.59	
Uniform Delay, d1			39.6	34.4	33.9	33.0		10.0		15.5	8.7	
Progression Factor			1.00	1.00	1.00	1.00		1.00		1.14	0.70	
Incremental Delay, d2			0.3	0.9	0.7	0.1		2.1		182.8	0.1	
Delay (s)			39.9	35.3	34.6	33.1		12.1		200.5	6.2	
Level of Service			D	D	C	C		B		F	A	
Approach Delay (s)		39.9			34.3			12.1			32.5	
Approach LOS		D			C			B			C	
Intersection Summary												
HCM Average Control Delay			23.5									HCM Level of Service C
HCM Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			90.0							12.0		
Intersection Capacity Utilization			78.4%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↔	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.99			0.96		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4488			4363		1583	5733			5733	
Flt Permitted		1.00			1.00		0.17	1.00			1.00	
Satd. Flow (perm)		4488			4363		284	5733			5733	
Volume (vph)	0	1974	199	0	1229	463	85	1284	0	0	1544	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2014	203	0	1254	472	87	1310	0	0	1576	0
RTOR Reduction (vph)	0	12	0	0	68	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2205	0	0	1658	0	87	1310	0	0	1576	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1032			1003		67	1347			1347	
v/s Ratio Prot		c0.49			0.38			0.23			0.27	
v/s Ratio Perm							c0.31					
v/c Ratio		2.14			1.65		1.30	0.97			1.17	
Uniform Delay, d1		38.5			38.5		38.2	37.9			38.2	
Progression Factor		0.70			1.00		1.00	1.00			0.72	
Incremental Delay, d2		511.6			298.4		209.3	18.8			77.3	
Delay (s)		538.4			336.9		247.6	56.7			104.8	
Level of Service		F			F		F	E			F	
Approach Delay (s)		538.4			336.9			68.6			104.8	
Approach LOS		F			F			E			F	
Intersection Summary												
HCM Average Control Delay			294.4				HCM Level of Service				F	
HCM Volume to Capacity ratio			1.72									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		53.5			
Intersection Capacity Utilization			90.9%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↗		↘	↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3165		1583	3142	
Flt Permitted	0.17	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	284	5733	1417		4550	1417		3165		1583	3142	
Volume (vph)	28	1441	34	0	1377	353	0	1043	3	152	1166	64
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	29	1470	35	0	1405	360	0	1064	3	155	1190	65
RTOR Reduction (vph)	0	0	27	0	0	275	0	0	0	0	4	0
Lane Group Flow (vph)	29	1470	8	0	1405	85	0	1067	0	155	1251	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	67	1347	333		1069	333		1029		79	1021	
v/s Ratio Prot		0.26			c0.31			0.34		c0.10	c0.40	
v/s Ratio Perm	0.10		0.01			0.06						
v/c Ratio	0.43	1.09	0.02		1.31	0.25		1.04		1.96	1.23	
Uniform Delay, d1	32.6	38.2	29.4		38.2	31.1		33.8		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.85	2.07		0.37		1.00	1.00	
Incremental Delay, d2	19.1	53.4	0.1		142.1	0.2		20.2		475.2	110.2	
Delay (s)	51.7	91.6	29.6		174.6	64.5		32.7		522.7	143.9	
Level of Service	D	F	C		F	E		C		F	F	
Approach Delay (s)		89.5			152.1			32.7			185.6	
Approach LOS		F			F			C			F	

Intersection Summary

HCM Average Control Delay	121.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.99			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4541		1583	4545		1583	3144			3062	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4541		290	4545		1583	3144			3062	
Volume (vph)	229	2159	30	77	1220	9	37	773	39	0	941	266
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	234	2203	31	79	1245	9	38	789	40	0	960	271
RTOR Reduction (vph)	0	2	0	0	1	0	0	3	0	0	26	0
Lane Group Flow (vph)	234	2232	0	79	1253	0	38	826	0	0	1205	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1044		67	1045		79	1022			995	
v/s Ratio Prot		0.49			0.28		c0.02	0.26			c0.39	
v/s Ratio Perm	c0.81			0.27								
v/c Ratio	3.49	2.14		1.18	1.20		0.48	0.81			1.21	
Uniform Delay, d1	38.5	38.5		38.5	38.5		46.2	30.9			33.8	
Progression Factor	1.00	1.00		0.70	0.70		1.00	1.00			0.26	
Incremental Delay, d2	1158.1	515.5		94.2	90.6		4.6	6.9			96.1	
Delay (s)	1196.6	554.0		121.2	117.5		50.8	37.8			105.0	
Level of Service	F	F		F	F		D	D			F	
Approach Delay (s)		614.9			117.7			38.3			105.0	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	311.4	HCM Level of Service	F
HCM Volume to Capacity ratio	2.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Fr't	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3144		1583	3151		1583	3167	1417	1583	3167	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	223	3144		222	3151		1583	3167	1417	1583	3167	1417
Volume (vph)	141	1351	69	31	834	28	97	681	193	79	942	80
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	147	1407	72	32	869	29	101	709	201	82	981	83
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	61	0	0	46
Lane Group Flow (vph)	147	1475	0	32	895	0	101	709	140	82	981	37
Turn Type	Perm			Perm			Prot		Perm	Prot		Perm
Protected Phases	6			2			3	8		7		4
Permitted Phases	6			2					8			4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		7.8	39.3	39.3	7.7	39.2	39.2
Effective Green, g (s)	30.0	30.0		30.0	30.0		7.8	40.3	40.3	7.7	40.2	40.2
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.09	0.45	0.45	0.09	0.45	0.45
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	74	1048		74	1050		137	1418	635	135	1415	633
v/s Ratio Prot		0.47			0.28		c0.06	0.22		0.05	c0.31	
v/s Ratio Perm	c0.66			0.14					0.10			0.03
v/c Ratio	1.99	1.41		0.43	0.85		0.74	0.50	0.22	0.61	0.69	0.06
Uniform Delay, d1	30.0	30.0		23.4	27.9		40.1	17.7	15.2	39.7	20.0	14.1
Progression Factor	0.83	0.83		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	448.3	183.9		17.4	8.8		18.5	1.3	0.8	7.5	2.8	0.2
Delay (s)	473.3	208.7		40.7	36.7		58.6	18.9	16.0	47.2	22.8	14.3
Level of Service	F	F		D	D		E	B	B	D	C	B
Approach Delay (s)		232.6			36.8			22.3			23.9	
Approach LOS		F			D			C			C	

Intersection Summary

HCM Average Control Delay	98.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑			↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	0.99			0.99			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4508		1583	4483			3129			3148	
Flt Permitted	0.11	1.00		0.09	1.00			1.00			0.82	
Satd. Flow (perm)	184	4508		147	4483			3129			2598	
Volume (vph)	182	1983	128	97	1302	142	0	1020	87	23	886	29
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	186	2023	131	99	1329	145	0	1041	89	23	904	30
RTOR Reduction (vph)	0	8	0	0	14	0	0	2	0	0	2	0
Lane Group Flow (vph)	186	2146	0	99	1460	0	0	1128	0	0	955	0
Turn Type	Perm		Perm				Perm					
Protected Phases	6		2				8					
Permitted Phases	6		2				4					
Actuated Green, G (s)	43.5	43.5		43.5	43.5			34.8			34.8	
Effective Green, g (s)	45.2	45.2		45.2	45.2			36.8			36.8	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.41			0.41	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	92	2264		74	2251			1279			1062	
v/s Ratio Prot		0.48			0.33			0.36				
v/s Ratio Perm	c1.01			0.67							c0.37	
v/c Ratio	2.02	0.95		1.34	0.65			0.88			0.90	
Uniform Delay, d1	22.4	21.3		22.4	16.5			24.6			24.9	
Progression Factor	0.38	0.35		0.55	0.28			1.00			1.00	
Incremental Delay, d2	463.2	1.2		191.6	0.8			7.5			10.2	
Delay (s)	471.8	8.7		203.9	5.3			32.1			35.0	
Level of Service	F	A		F	A			C			D	
Approach Delay (s)		45.5			17.8			32.1			35.0	
Approach LOS		D			B			C			D	

Intersection Summary

HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4476		1583	4471		1583	4359		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	221	4476		221	4471		1583	4359		1583	4550	1417
Volume (vph)	295	1797	220	364	1150	150	101	916	357	230	1656	244
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	307	1872	229	379	1198	156	105	954	372	240	1725	254
RTOR Reduction (vph)	0	17	0	0	19	0	0	34	0	0	0	95
Lane Group Flow (vph)	307	2084	0	379	1335	0	105	1292	0	240	1725	159
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	28.2	28.2		28.2	28.2		8.9	32.1		14.7	36.9	36.9
Effective Green, g (s)	30.2	30.2		30.2	30.2		9.9	33.1		14.7	37.9	37.9
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.11	0.37		0.16	0.42	0.42
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1502		74	1500		174	1603		259	1916	597
v/s Ratio Prot		0.47			0.30		0.07			c0.15	c0.38	
v/s Ratio Perm	1.39			c1.72				0.30				0.11
v/c Ratio	4.15	1.39		5.12	0.89		0.60	0.81		0.93	0.90	0.27
Uniform Delay, d1	29.9	29.9		29.9	28.3		38.2	25.6		37.1	24.3	17.0
Progression Factor	1.00	1.00		0.37	0.31		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1448.2	178.5		1880.6	7.4		4.0	4.4		36.0	7.3	1.1
Delay (s)	1478.1	208.4		1891.6	16.2		42.2	30.0		73.1	31.6	18.1
Level of Service	F	F		F	B		D	C		E	C	B
Approach Delay (s)		370.3			426.4			30.9			34.5	
Approach LOS		F			F			C			C	

Intersection Summary

HCM Average Control Delay	224.8	HCM Level of Service	F
HCM Volume to Capacity ratio	2.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.92
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1561	4540		1577	4511			1585			1650	1306
Flt Permitted	0.13	1.00		0.06	1.00			0.96			0.93	1.00
Satd. Flow (perm)	221	4540		98	4511			1527			1551	1306
Volume (vph)	80	1998	14	25	1392	39	25	182	50	23	154	262
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	2126	15	27	1481	41	27	194	53	24	164	279
RTOR Reduction (vph)	0	1	0	0	3	0	0	8	0	0	0	34
Lane Group Flow (vph)	85	2140	0	27	1519	0	0	266	0	0	188	245
Confl. Peds. (#/hr)	67		64	64		67	46		45	45		46
Confl. Bikes (#/hr)			7			5			5			6
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	150	3087		67	3067			366			372	313
v/s Ratio Prot		c0.47			0.34							
v/s Ratio Perm	0.39			0.28				0.17			0.12	c0.19
v/c Ratio	0.57	0.69		0.40	0.50			0.73			0.51	0.78
Uniform Delay, d1	8.3	9.7		7.1	7.7			35.0			32.9	35.6
Progression Factor	0.75	0.48		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.4	0.1		17.1	0.6			11.9			4.8	17.5
Delay (s)	7.6	4.8		24.1	8.3			46.8			37.7	53.1
Level of Service	A	A		C	A			D			D	D
Approach Delay (s)		4.9			8.6			46.8			46.9	
Approach LOS		A			A			D			D	

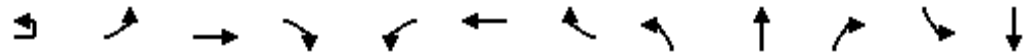
Intersection Summary			
HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑↑↗		↘↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.75	1.00	0.93		1.00	0.97		1.00	0.94	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		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)	1574	3167	1060	1583	2836		3072	4395		3072	4194	
Flt Permitted	0.15	1.00	1.00	0.11	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	247	3167	1060	185	2836		3072	4395		3072	4194	
Volume (vph)	354	1143	83	232	565	170	61	2096	123	161	1521	286
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	377	1216	88	247	601	181	65	2230	131	171	1618	304
RTOR Reduction (vph)	0	0	46	0	24	0	0	5	0	0	22	0
Lane Group Flow (vph)	377	1216	43	247	758	0	65	2356	0	171	1900	0
Confl. Peds. (#/hr)	211		160	160		211	310		128	128		310
Confl. Bikes (#/hr)			10			8			9			7
Turn Type	pm+pt		Perm	pm+pt			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2								
Actuated Green, G (s)	49.6	34.6	34.6	49.6	34.6		9.6	43.3		9.7	43.4	
Effective Green, g (s)	50.0	36.0	36.0	50.0	36.0		9.6	44.3		9.7	44.4	
Actuated g/C Ratio	0.42	0.30	0.30	0.42	0.30		0.08	0.37		0.08	0.37	
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	258	950	318	240	851		246	1622		248	1552	
v/s Ratio Prot	c0.17	0.38		0.12	0.27		0.02	c0.54		0.06	c0.45	
v/s Ratio Perm	c0.44		0.04	0.31								
v/c Ratio	1.46	1.28	0.13	1.03	0.89		0.26	1.45		0.69	1.22	
Uniform Delay, d1	28.7	42.0	30.6	55.2	40.1		51.9	37.8		53.7	37.8	
Progression Factor	1.36	1.00	1.31	1.00	1.00		0.96	0.94		1.21	0.45	
Incremental Delay, d2	209.5	126.8	0.0	65.9	13.5		0.4	205.8		0.7	101.5	
Delay (s)	248.7	168.9	40.1	121.0	53.7		50.2	241.3		65.9	118.4	
Level of Service	F	F	D	F	D		D	F		E	F	
Approach Delay (s)		180.0			69.8			236.2			114.1	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	164.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97	
Frt	1.00		1.00		1.00	0.96	0.85	1.00		0.85	1.00	
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1583		4538		1583	4124	1218	1583		1417	3072	
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (perm)	1583		4538		1583	4124	1218	1583		1417	3072	
Volume (vph)	21	0	1187	21	14	844	895	40	0	46	1000	0
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	22	0	1263	22	15	898	952	43	0	49	1064	0
RTOR Reduction (vph)	0	0	1	0	0	43	286	0	0	46	0	0
Lane Group Flow (vph)	22	0	1284	0	15	1193	328	43	0	3	1064	0
Turn Type	Prot				Prot		Perm	Prot		custom	custom	
Protected Phases	5		2		1	6		7				
Permitted Phases							6			7	8	
Actuated Green, G (s)	6.5		66.5		3.2	62.3	62.3	7.5		7.5	21.0	
Effective Green, g (s)	8.4		67.5		5.1	64.2	64.2	8.5		8.5	22.9	
Actuated g/C Ratio	0.07		0.56		0.04	0.54	0.54	0.07		0.07	0.19	
Clearance Time (s)	5.9		5.0		5.9	5.9	5.9	5.0		5.0	5.9	
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	111		2553		67	2206	652	112		100	586	
v/s Ratio Prot	0.01		c0.28		0.01	c0.29		c0.03				
v/s Ratio Perm							0.27			0.00	c0.35	
v/c Ratio	0.20		0.50		0.22	0.54	0.50	0.38		0.03	1.82	
Uniform Delay, d1	52.6		16.0		55.5	18.3	17.8	53.2		51.9	48.6	
Progression Factor	1.26		1.55		0.88	1.76	9.13	1.00		1.00	0.88	
Incremental Delay, d2	0.1		0.1		1.0	0.6	1.7	2.2		0.1	370.2	
Delay (s)	66.2		24.9		49.7	32.7	163.9	55.4		52.1	412.8	
Level of Service	E		C		D	C	F	E		D	F	
Approach Delay (s)			25.6			76.0			53.6			390.3
Approach LOS			C			E			D			F

Intersection Summary													
HCM Average Control Delay			141.6									HCM Level of Service	F
HCM Volume to Capacity ratio			0.79										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			72.2%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	66
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	70
RTOR Reduction (vph)	42
Lane Group Flow (vph)	28
Turn Type	custom
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	21.0
Effective Green, g (s)	22.9
Actuated g/C Ratio	0.19
Clearance Time (s)	5.9
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	270
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.10
Uniform Delay, d1	40.1
Progression Factor	1.20
Incremental Delay, d2	0.4
Delay (s)	48.5
Level of Service	D
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.98	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4549			4448	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4549			4448	
Volume (vph)	0	1657	365	0	1252	403	198	2000	2	0	1708	300
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1708	376	0	1291	415	204	2062	2	0	1761	309
RTOR Reduction (vph)	0	0	3	0	0	8	0	0	0	0	20	0
Lane Group Flow (vph)	0	1708	373	0	1291	407	204	2064	0	0	2050	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		34.2	49.2		34.2	34.2	15.0	73.8			53.3	
Effective Green, g (s)		36.2	52.7		36.2	36.2	16.5	75.8			55.3	
Actuated g/C Ratio		0.30	0.44		0.30	0.30	0.14	0.63			0.46	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1729	670		1729	427	218	2873			2050	
v/s Ratio Prot		c0.30	0.08		0.23		c0.13	0.45			c0.46	
v/s Ratio Perm			0.19			0.29						
v/c Ratio		0.99	0.56		0.75	0.95	0.94	0.72			1.00	
Uniform Delay, d1		41.7	25.0		37.8	41.1	51.2	14.9			32.3	
Progression Factor		1.48	1.06		1.00	1.00	1.07	0.77			0.30	
Incremental Delay, d2		4.3	0.1		3.0	33.1	33.6	1.1			5.9	
Delay (s)		66.1	26.5		40.8	74.2	88.6	12.6			15.6	
Level of Service		E	C		D	E	F	B			B	
Approach Delay (s)		59.0			48.9			19.4			15.6	
Approach LOS		E			D			B			B	

Intersection Summary

HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.99			0.97		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1607			1606		1583	4527		1583	4506	
Flt Permitted		0.80			0.95		0.08	1.00		0.06	1.00	
Satd. Flow (perm)		1314			1529		137	4527		105	4506	
Volume (vph)	215	179	37	10	48	17	132	1964	70	130	1735	119
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	219	183	38	10	49	17	135	2004	71	133	1770	121
RTOR Reduction (vph)	0	3	0	0	8	0	0	3	0	0	6	0
Lane Group Flow (vph)	0	437	0	0	68	0	135	2072	0	133	1885	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		8		8		2		2		6	
Permitted Phases	4		8		8		2		2		6	
Actuated Green, G (s)	30.0		30.0		30.0		83.4		83.4		83.4	
Effective Green, g (s)	29.0		29.0		29.0		83.0		83.0		83.0	
Actuated g/C Ratio	0.24		0.24		0.24		0.69		0.69		0.69	
Clearance Time (s)	3.0		3.0		3.0		3.6		3.6		3.6	
Vehicle Extension (s)	3.0		3.0		3.0		5.0		5.0		5.0	
Lane Grp Cap (vph)	318		370		370		95		3131		73	
v/s Ratio Prot							0.46				0.42	
v/s Ratio Perm	c0.33		0.04		0.99				c1.27			
v/c Ratio	1.37		0.18		1.42		0.66		1.82		0.60	
Uniform Delay, d1	45.5		36.1		18.5		10.5		18.5		9.8	
Progression Factor	1.00		1.00		1.00		1.00		0.64		0.27	
Incremental Delay, d2	187.1		1.1		240.0		1.1		389.3		0.3	
Delay (s)	232.6		37.2		258.5		11.6		401.2		3.0	
Level of Service	F		D		F		B		F		A	
Approach Delay (s)	232.6		37.2		26.7				29.1			
Approach LOS	F		D		C				C			

Intersection Summary

HCM Average Control Delay	47.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 39: Wilshire Blvd & La Cienega Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.96		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	
Frt	1.00	0.97		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4232		1583	4495		1583	4479		1583	4399	
Flt Permitted	0.12	1.00		0.12	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	194	4232		194	4495		180	4479		193	4399	
Volume (vph)	203	1986	505	174	1419	70	213	1971	117	55	1555	187
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	216	2113	537	185	1510	74	227	2097	124	59	1654	199
RTOR Reduction (vph)	0	45	0	0	5	0	0	6	0	0	15	0
Lane Group Flow (vph)	216	2605	0	185	1579	0	227	2215	0	59	1838	0
Confl. Peds. (#/hr)	63		133	133		63	103		84	84		103
Confl. Bikes (#/hr)			6			13			4			11
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.9	34.9		43.9	34.9		45.0	37.0		40.2	34.6	
Effective Green, g (s)	42.4	34.4		42.4	34.4		44.0	37.0		39.2	34.6	
Actuated g/C Ratio	0.42	0.34		0.42	0.34		0.44	0.37		0.39	0.35	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	193	1456		193	1546		177	1657		140	1522	
v/s Ratio Prot	c0.09	c0.62		0.08	0.35		c0.09	c0.49		0.02	0.42	
v/s Ratio Perm	0.38			0.33			0.47			0.15		
v/c Ratio	1.12	1.79		0.96	1.02		1.28	1.34		0.42	1.21	
Uniform Delay, d1	23.6	32.8		47.9	32.8		48.7	31.5		47.3	32.7	
Progression Factor	0.87	0.83		1.50	0.97		1.73	0.82		1.00	1.00	
Incremental Delay, d2	84.7	356.6		47.1	26.6		147.1	153.6		0.7	99.9	
Delay (s)	105.1	383.9		119.0	58.2		231.5	179.3		48.0	132.6	
Level of Service	F	F		F	E		F	F		D	F	
Approach Delay (s)		362.9			64.6			184.1			129.9	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	206.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	133.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑↑↑		↕	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		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	
Frt		0.95			0.99		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1503			1604		1583	4486		1583	4498	
Flt Permitted		0.86			0.34		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1308			566		104	4486		104	4498	
Volume (vph)	128	308	278	116	106	19	57	2086	116	25	2038	60
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	135	324	293	122	112	20	60	2196	122	26	2145	63
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	747	0	0	251	0	60	2312	0	26	2205	0
Conf. Peds. (#/hr)	29		64	64		29	102		42	42		102
Conf. Bikes (#/hr)			4			5			5			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		366			158		67	2871		67	2879	
v/s Ratio Prot								0.52			0.49	
v/s Ratio Perm		c0.57			0.44		c0.58			0.25		
v/c Ratio		2.04			1.59		0.90	0.81		0.39	0.77	
Uniform Delay, d1		36.0			36.0		15.2	13.4		8.6	12.7	
Progression Factor		1.00			1.00		1.00	1.00		1.27	1.13	
Incremental Delay, d2		477.8			293.0		83.2	2.5		1.5	0.2	
Delay (s)		513.8			329.0		98.3	15.9		12.5	14.6	
Level of Service		F			F		F	B		B	B	
Approach Delay (s)		513.8			329.0		18.0			14.6		
Approach LOS		F			F		B			B		

Intersection Summary			
HCM Average Control Delay	97.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	108.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4508		1583	4532		1583	4520		1583	4443	
Flt Permitted	0.14	1.00		0.12	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	236	4508		207	4532		200	4520		200	4443	
Volume (vph)	309	2483	165	98	1648	44	140	1861	85	242	1772	329
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	332	2670	177	105	1772	47	151	2001	91	260	1905	354
RTOR Reduction (vph)	0	8	0	0	3	0	0	6	0	0	26	0
Lane Group Flow (vph)	332	2839	0	105	1816	0	151	2086	0	260	2233	0
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	6		5		2		3		8		7	
Permitted Phases	6		2				8				4	
Actuated Green, G (s)	27.2	27.2		36.7	36.7		39.3	32.3		39.3	32.3	
Effective Green, g (s)	28.2	28.2		37.7	37.7		40.3	33.3		40.3	33.3	
Actuated g/C Ratio	0.31	0.31		0.42	0.42		0.45	0.37		0.45	0.37	
Clearance Time (s)	5.0	5.0		3.5	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1413		171	1898		197	1672		197	1644	
v/s Ratio Prot		0.63		0.04	c0.40		0.06	0.46		c0.10	c0.50	
v/s Ratio Perm	c1.40			0.22			0.28			0.49		
v/c Ratio	4.49	2.01		0.61	0.96		0.77	1.25		1.32	1.36	
Uniform Delay, d1	30.9	30.9		42.5	25.4		42.3	28.4		43.7	28.4	
Progression Factor	1.41	1.41		1.00	1.00		1.68	0.43		1.00	1.00	
Incremental Delay, d2	1571.7	454.5		6.4	12.7		1.7	112.0		174.9	165.1	
Delay (s)	1615.2	498.2		48.9	38.1		72.9	124.3		218.6	193.5	
Level of Service	F	F		D	D		E	F		F	F	
Approach Delay (s)		614.8			38.7			120.8			196.1	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	283.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	134.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3091		1583	3112		1583	4472		1583	4467	
Flt Permitted	0.29	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	485	3091		222	3112		202	4472		230	4467	
Volume (vph)	178	1349	255	190	754	99	330	1837	235	122	1902	264
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	191	1451	274	204	811	106	355	1975	253	131	2045	284
RTOR Reduction (vph)	0	17	0	0	2	0	0	18	0	0	20	0
Lane Group Flow (vph)	191	1708	0	204	915	0	355	2210	0	131	2309	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4				6				2	
Actuated Green, G (s)	25.0	25.0	38.0		38.0	42.0		42.0	28.0		28.0	
Effective Green, g (s)	26.0	26.0	39.0		39.0	43.0		43.0	29.0		29.0	
Actuated g/C Ratio	0.29	0.29	0.43		0.43	0.48		0.48	0.32		0.32	
Clearance Time (s)	5.0	5.0	3.0		5.0	4.0		5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	140	893	232		1349	250		2137	74		1439	
v/s Ratio Prot	c0.55		c0.09		0.29	c0.16		0.49			0.52	
v/s Ratio Perm	0.39		0.29			0.52			c0.57			
v/c Ratio	1.36	1.91	0.88		0.68	1.42		1.03	1.77		1.60	
Uniform Delay, d1	32.0	32.0	41.8		20.5	42.2		23.5	30.5		30.5	
Progression Factor	1.00	1.00	1.82		1.77	1.00		1.00	0.86		0.85	
Incremental Delay, d2	202.8	414.8	21.5		1.9	210.8		29.0	351.6		272.5	
Delay (s)	234.8	446.8	97.7		38.0	253.0		52.5	377.9		298.5	
Level of Service	F	F	F		D	F		D	F		F	
Approach Delay (s)	425.7				48.9	80.0			302.7			
Approach LOS	F				D	F			F			

Intersection Summary

HCM Average Control Delay	225.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	143.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.97		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.96	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1525	3064		1583	3020		1583	3033		1583	3048	
Flt Permitted	0.22	1.00		0.09	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	355	3064		155	3020		161	3033		168	3048	
Volume (vph)	140	1138	158	27	774	120	86	933	162	259	997	111
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	1173	163	28	798	124	89	962	167	267	1028	114
RTOR Reduction (vph)	0	9	0	0	10	0	0	12	0	0	7	0
Lane Group Flow (vph)	144	1327	0	28	912	0	89	1117	0	267	1135	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		4		4	
Permitted Phases	6		2		2		8		4		4	
Actuated Green, G (s)	59.6	59.6		59.6	59.6		49.1	49.1		49.1	49.1	
Effective Green, g (s)	61.5	61.5		61.5	61.5		50.5	50.5		50.5	50.5	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.42	0.42		0.42	0.42	
Clearance Time (s)	5.9	5.9		5.9	5.9		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	182	1570		79	1548		68	1276		71	1283	
v/s Ratio Prot		c0.43			0.30			0.37			0.37	
v/s Ratio Perm	0.41			0.18			0.55			c1.59		
v/c Ratio	0.79	0.85		0.35	0.59		1.31	0.88		3.76	0.88	
Uniform Delay, d1	24.0	25.2		17.4	20.4		34.8	31.9		34.8	32.1	
Progression Factor	1.00	1.00		0.64	0.62		0.98	1.01		1.00	1.00	
Incremental Delay, d2	28.7	5.8		4.1	0.5		206.8	7.8		1275.9	9.1	
Delay (s)	52.7	30.9		15.3	13.2		240.9	39.9		1310.6	41.2	
Level of Service	D	C		B	B		F	D		F	D	
Approach Delay (s)		33.0			13.3			54.6			281.8	
Approach LOS		C			B			D			F	

Intersection Summary

HCM Average Control Delay	103.8	HCM Level of Service	F
HCM Volume to Capacity ratio	2.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4512		1583	4542			1613			1637	
Flt Permitted	0.08	1.00		0.06	1.00			0.97			0.98	
Satd. Flow (perm)	136	4512		100	4542			1577			1616	
Volume (vph)	46	2383	139	71	1727	21	11	103	31	14	239	33
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	49	2562	149	76	1857	23	12	111	33	15	257	35
RTOR Reduction (vph)	0	6	0	0	1	0	0	4	0	0	5	0
Lane Group Flow (vph)	49	2705	0	76	1879	0	0	152	0	0	303	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	68.0	68.0		68.0	68.0			26.0			26.0	
Effective Green, g (s)	67.0	67.0		67.0	67.0			25.0			25.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	91	3023		67	3043			394			404	
v/s Ratio Prot		0.60			0.41							
v/s Ratio Perm	0.36			c0.76				0.10			c0.19	
v/c Ratio	0.54	0.89		1.13	0.62			0.39			0.75	
Uniform Delay, d1	8.5	13.6		16.5	9.3			31.1			34.6	
Progression Factor	0.53	0.62		0.86	0.47			1.00			1.00	
Incremental Delay, d2	2.1	0.5		76.6	0.1			2.8			12.0	
Delay (s)	6.6	8.8		90.7	4.5			34.0			46.6	
Level of Service	A	A		F	A			C			D	
Approach Delay (s)		8.8			7.8			34.0			46.6	
Approach LOS		A			A			C			D	

Intersection Summary

HCM Average Control Delay	11.4	HCM Level of Service	B
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	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)	1583	3167	1417	1583	4550	1417	1583	1667	1417	1583	1646	
Flt Permitted	0.27	1.00	1.00	0.27	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	444	3167	1417	444	4550	1417	1583	1667	1417	1583	1646	
Volume (vph)	218	839	183	111	944	72	82	672	33	231	672	62
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	232	893	195	118	1004	77	87	715	35	246	715	66
RTOR Reduction (vph)	0	0	146	0	0	58	0	0	4	0	6	0
Lane Group Flow (vph)	232	893	49	118	1004	19	87	715	31	246	775	0
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			4		1	2		1	6	
Permitted Phases	4		4	4		4			2			
Actuated Green, G (s)	14.0	14.0	14.0	14.0	14.0	14.0	4.0	28.2	28.2	4.0	28.2	
Effective Green, g (s)	15.0	15.0	15.0	15.0	15.0	15.0	4.0	29.0	29.0	4.0	29.0	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25	0.25	0.07	0.48	0.48	0.07	0.48	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.8	4.8	4.0	4.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	792	354	111	1138	354	106	806	685	106	796	
v/s Ratio Prot		0.28			0.22		0.05	0.43		c0.16	c0.47	
v/s Ratio Perm	c0.52		0.03	0.27		0.01			0.02			
v/c Ratio	2.09	1.13	0.14	1.06	0.88	0.05	0.82	0.89	0.05	2.32	0.97	
Uniform Delay, d1	22.5	22.5	17.5	22.5	21.7	17.1	27.6	14.0	8.2	28.0	15.1	
Progression Factor	1.00	1.00	1.00	1.64	1.56	2.37	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	519.9	73.2	0.8	100.2	9.3	0.3	37.7	13.8	0.1	622.8	26.2	
Delay (s)	542.4	95.7	18.3	137.0	43.1	40.7	65.4	27.8	8.3	650.8	41.3	
Level of Service	F	F	B	F	D	D	E	C	A	F	D	
Approach Delay (s)		162.7			52.2			30.9			187.3	
Approach LOS		F			D			C			F	
Intersection Summary												
HCM Average Control Delay			113.1				HCM Level of Service				F	
HCM Volume to Capacity ratio			1.44									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			101.4%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4504		1583	4532		1583	3082		1583	3146	
Flt Permitted	0.10	1.00		0.10	1.00		0.13	1.00		0.17	1.00	
Satd. Flow (perm)	161	4504		161	4532		218	3082		284	3146	
Volume (vph)	152	2485	178	194	1615	43	190	629	137	73	742	34
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	157	2562	184	200	1665	44	196	648	141	75	765	35
RTOR Reduction (vph)	0	8	0	0	3	0	0	18	0	0	4	0
Lane Group Flow (vph)	157	2738	0	200	1706	0	196	771	0	75	796	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	50.4	42.4		50.4	42.4		39.6	31.6		35.6	29.6	
Effective Green, g (s)	48.4	41.4		48.4	41.4		37.6	30.6		33.6	28.6	
Actuated g/C Ratio	0.48	0.41		0.48	0.41		0.38	0.31		0.34	0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	177	1865		177	1876		178	943		160	900	
v/s Ratio Prot	0.06	c0.61		c0.08	0.38		c0.08	0.25		0.02	0.25	
v/s Ratio Perm	0.37			0.47			c0.34			0.13		
v/c Ratio	0.89	1.47		1.13	0.91		1.10	0.82		0.47	0.88	
Uniform Delay, d1	20.3	29.3		48.7	27.5		26.7	32.1		24.4	34.1	
Progression Factor	1.88	1.48		1.69	1.78		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.1	210.9		99.4	6.5		97.1	7.8		0.8	12.4	
Delay (s)	43.4	254.2		181.9	55.6		123.9	39.9		25.2	46.5	
Level of Service	D	F		F	E		F	D		C	D	
Approach Delay (s)		242.8			68.8			56.6			44.7	
Approach LOS		F			E			E			D	

Intersection Summary

HCM Average Control Delay	139.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	119.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗↘		↖	↖↗↘		↖	↖↗		↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4537		1583	4528		1583	3060		1583	3027	
Flt Permitted	0.11	1.00		0.10	1.00		0.15	1.00		0.17	1.00	
Satd. Flow (perm)	183	4537		173	4528		256	3060		282	3027	
Volume (vph)	83	2709	54	441	1487	49	210	853	248	55	647	270
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	88	2882	57	469	1582	52	223	907	264	59	688	287
RTOR Reduction (vph)	0	2	0	0	3	0	0	28	0	0	50	0
Lane Group Flow (vph)	88	2937	0	469	1631	0	223	1143	0	59	925	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.2	37.4		47.6	39.6		35.0	27.0		30.2	24.6	
Effective Green, g (s)	41.2	36.4		45.6	38.6		33.0	26.0		28.2	23.6	
Actuated g/C Ratio	0.46	0.40		0.51	0.43		0.37	0.29		0.31	0.26	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	158	1835		197	1942		197	884		155	794	
v/s Ratio Prot	0.03	0.65		c0.18	0.36		c0.09	c0.37		0.02	0.31	
v/s Ratio Perm	0.22			c1.02			0.33			0.10		
v/c Ratio	0.56	1.60		2.38	0.84		1.13	1.29		0.38	1.16	
Uniform Delay, d1	16.7	26.8		43.7	22.9		26.3	32.0		42.1	33.2	
Progression Factor	1.00	1.00		1.43	0.72		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	272.7		622.7	0.4		104.1	140.1		0.6	87.7	
Delay (s)	19.1	299.5		685.3	16.9		130.4	172.1		42.7	120.9	
Level of Service	B	F		F	B		F	F		D	F	
Approach Delay (s)		291.4			166.0			165.4			116.4	
Approach LOS		F			F			F			F	

Intersection Summary






















HCM Average Control Delay	209.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	143.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑	↗	↗	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.99			0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4520			4522		1583	1667	1417	1583	3087	
Flt Permitted	0.09	1.00			1.00		0.22	1.00	1.00	0.38	1.00	
Satd. Flow (perm)	150	4520			4522		369	1667	1417	626	3087	
Volume (vph)	240	2649	120	0	1864	80	114	368	19	15	511	103
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	255	2818	128	0	1983	85	121	391	20	16	544	110
RTOR Reduction (vph)	0	4	0	0	5	0	0	0	13	0	16	0
Lane Group Flow (vph)	255	2942	0	0	2063	0	121	391	7	16	638	0
Turn Type	pm+pt		pm+pt			pm+pt			Perm	pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	51.4	51.4			41.4		42.6	37.2	37.2	35.2	32.8	
Effective Green, g (s)	50.4	50.4			40.4		41.6	36.2	36.2	33.2	31.8	
Actuated g/C Ratio	0.50	0.50			0.40		0.42	0.36	0.36	0.33	0.32	
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	2.0	5.0			5.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	162	2278			1827		224	603	513	221	982	
v/s Ratio Prot	c0.09	0.65			0.46		c0.03	c0.23		0.00	0.21	
v/s Ratio Perm	c0.70						0.19		0.01	0.02		
v/c Ratio	1.57	1.29			1.13		0.54	0.65	0.01	0.07	0.65	
Uniform Delay, d1	25.1	24.8			29.8		20.0	26.6	20.5	23.0	29.3	
Progression Factor	0.99	1.07			1.80		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	279.0	133.7			62.3		1.4	5.3	0.1	0.1	3.3	
Delay (s)	303.9	160.3			116.0		21.5	31.9	20.5	23.0	32.6	
Level of Service	F	F			F		C	C	C	C	C	
Approach Delay (s)		171.7			116.0			29.1			32.4	
Approach LOS		F			F			C			C	

Intersection Summary

HCM Average Control Delay	127.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2227		1118	2222		1118	2206		1118	2216	
Flt Permitted	0.07	1.00		0.07	1.00		0.37	1.00		0.26	1.00	
Satd. Flow (perm)	77	2227		77	2222		434	2206		312	2216	
Volume (vph)	13	2316	56	148	1801	72	92	472	45	100	385	23
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	13	2388	58	153	1857	74	95	487	46	103	397	24
RTOR Reduction (vph)	0	2	0	0	3	0	0	6	0	0	5	0
Lane Group Flow (vph)	13	2444	0	153	1928	0	95	527	0	103	416	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			8		4
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	60.5	60.5		60.5	60.5		20.8	20.8		20.8	20.8	
Effective Green, g (s)	61.0	61.0		61.0	61.0		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1509		52	1506		101	515		73	517	
v/s Ratio Prot		1.10			0.87			0.24			0.19	
v/s Ratio Perm	0.17			c1.98			0.22			c0.33		
v/c Ratio	0.25	1.62		2.94	1.28		0.94	1.02		1.41	0.81	
Uniform Delay, d1	5.6	14.5		14.5	14.5		33.9	34.5		34.5	32.6	
Progression Factor	0.40	0.29		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	279.1		923.7	131.3		74.5	45.6		248.0	12.6	
Delay (s)	3.3	283.3		938.2	145.8		108.4	80.1		282.5	45.2	
Level of Service	A	F		F	F		F	F		F	D	
Approach Delay (s)		281.8			203.9			84.4			91.8	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM Average Control Delay			214.1			HCM Level of Service		F				
HCM Volume to Capacity ratio			2.54									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			162.2%			ICU Level of Service		H				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3058						3075			3129	
Flt Permitted		0.99						1.00			0.82	
Satd. Flow (perm)		3058						3075			2599	
Volume (vph)	221	584	76	0	0	0	0	343	51	71	432	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	635	83	0	0	0	0	373	55	77	470	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	19	0	0	0	0
Lane Group Flow (vph)	0	952	0	0	0	0	0	409	0	0	547	0
Conf. Peds. (#/hr)	5		38					63		59	59	63
Conf. Bikes (#/hr)			5							1		1
Turn Type	Perm						Perm					
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		37.0						17.0			17.0	
Effective Green, g (s)		36.0						16.0			16.0	
Actuated g/C Ratio		0.60						0.27			0.27	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1835						820			693	
v/s Ratio Prot								0.13				
v/s Ratio Perm		0.31									c0.21	
v/c Ratio		0.52						0.50			0.79	
Uniform Delay, d1		7.0						18.6			20.4	
Progression Factor		0.69						1.00			1.00	
Incremental Delay, d2		0.6						2.2			8.9	
Delay (s)		5.4						20.8			29.3	
Level of Service		A						C			C	
Approach Delay (s)		5.4			0.0			20.8			29.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	15.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑				↗		↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99				0.94		1.00	0.92
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		0.95	1.00
Frt	1.00	1.00		1.00	0.98				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (prot)	1583	4522		1583	4378				1355		1513	1301
Flt Permitted	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (perm)	1583	4522		1583	4378				1355		1513	1301
Volume (vph)	163	1961	46	37	1696	335	0	0	87	440	10	229
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	170	2043	48	39	1767	349	0	0	91	458	10	239
RTOR Reduction (vph)	0	2	0	0	29	0	0	0	70	0	0	181
Lane Group Flow (vph)	170	2089	0	39	2087	0	0	0	21	0	468	58
Conf. Peds. (#/hr)	26		44	44		26	50		36	36		50
Conf. Bikes (#/hr)			5			6						3
Turn Type	Prot			Prot				custom	Perm		Perm	
Protected Phases	5	2		1	6						4	
Permitted Phases								8	4			4
Actuated Green, G (s)	13.2	62.1		4.9	53.8			24.0		24.0	24.0	24.0
Effective Green, g (s)	12.2	61.1		3.9	52.8			23.0		23.0	23.0	23.0
Actuated g/C Ratio	0.12	0.61		0.04	0.53			0.23		0.23	0.23	0.23
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	3.0
Vehicle Extension (s)	2.0	5.0		2.0	5.0			3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	193	2763		62	2312			312		348	299	
v/s Ratio Prot	c0.11	0.46		0.02	c0.48							
v/s Ratio Perm								0.02		0.31	0.04	
v/c Ratio	0.88	0.76		0.63	0.90			0.07		1.34	0.19	
Uniform Delay, d1	43.2	14.1		47.3	21.3			30.1		38.5	31.0	
Progression Factor	1.00	1.00		0.60	1.70			1.00		1.00	1.00	
Incremental Delay, d2	33.3	2.0		1.3	0.6			0.4		173.2	1.4	
Delay (s)	76.5	16.0		29.8	36.9			30.5		211.7	32.5	
Level of Service	E	B		C	D			C		F	C	
Approach Delay (s)		20.6			36.8			30.5		151.1		
Approach LOS		C			D			C		F		
Intersection Summary												
HCM Average Control Delay			45.2			HCM Level of Service			D			
HCM Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			100.0%			ICU Level of Service		F				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2228		1118	2228		1118	2174		1118	2198	
Flt Permitted	0.07	1.00		0.07	1.00		0.22	1.00		0.15	1.00	
Satd. Flow (perm)	84	2228		84	2228		259	2174		181	2198	
Volume (vph)	51	2151	49	34	1850	42	79	836	186	57	571	72
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	53	2241	51	35	1927	44	82	871	194	59	595	75
RTOR Reduction (vph)	0	2	0	0	2	0	0	6	0	0	11	0
Lane Group Flow (vph)	53	2290	0	35	1969	0	82	1059	0	59	659	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8		25.8	25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1386		52	1386		75	628		52	635	
v/s Ratio Prot	c1.03		0.88		0.88		c0.49		c0.49		0.30	
v/s Ratio Perm	0.63		0.42		0.42		0.32		0.32		0.33	
v/c Ratio	1.02	1.65		0.67	1.42		1.09	1.69		1.13	1.04	
Uniform Delay, d1	17.0	17.0		11.1	17.0		32.0	32.0		32.0	32.0	
Progression Factor	1.00	1.00		0.67	0.66		0.51	0.50		1.00	1.00	
Incremental Delay, d2	130.4	296.8		6.2	189.7		59.8	309.7		166.6	46.0	
Delay (s)	147.4	313.8		13.6	200.9		76.0	325.5		198.6	78.0	
Level of Service	F	F		B	F		E	F		F	E	
Approach Delay (s)	310.0		197.7		197.7		307.7		307.7		87.8	
Approach LOS	F		F		F		F		F		F	

Intersection Summary

HCM Average Control Delay	247.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	157.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕	↗		↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00		0.95	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1118	2202		1118	2226		1118	2235	1000		2216	
Flt Permitted	0.17	1.00		0.08	1.00		0.23	1.00	1.00		1.00	
Satd. Flow (perm)	202	2202		90	2226		273	2235	1000		2216	
Volume (vph)	116	1642	180	70	1072	30	82	927	192	0	637	38
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	122	1728	189	74	1128	32	86	976	202	0	671	40
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	13	0	5	0
Lane Group Flow (vph)	122	1908	0	74	1158	0	86	976	189	0	706	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	51.5	51.5		51.5	51.5		29.8	29.8	29.8		29.8	
Effective Green, g (s)	52.0	52.0		52.0	52.0		30.0	30.0	30.0		30.0	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.33	0.33	0.33		0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2	4.2		4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	117	1272		52	1286		91	745	333		739	
v/s Ratio Prot	c0.87				0.52		c0.44				0.32	
v/s Ratio Perm	0.60		0.82				0.32		0.19			
v/c Ratio	1.04	1.50		1.42	0.90		0.95	1.31	0.57		0.96	
Uniform Delay, d1	19.0	19.0		19.0	16.7		29.2	30.0	24.7		29.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.42	
Incremental Delay, d2	95.1	229.1		271.9	10.3		80.2	149.1	6.9		4.0	
Delay (s)	114.1	248.1		290.9	27.0		109.4	179.1	31.6		16.4	
Level of Service	F	F		F	C		F	F	C		B	
Approach Delay (s)	240.1				42.8		150.8				16.4	
Approach LOS	F				D		F				B	

Intersection Summary

HCM Average Control Delay	141.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	139.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		1.00						0.97			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.97						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3003						2997			3142	
Flt Permitted		0.99						1.00			0.64	
Satd. Flow (perm)		3003						2997			2015	
Volume (vph)	159	496	167	0	0	0	0	925	170	97	821	0
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	185	577	194	0	0	0	0	1076	198	113	955	0
RTOR Reduction (vph)	0	38	0	0	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	0	918	0	0	0	0	0	1249	0	0	1068	0
Conf. Peds. (#/hr)	60								223	223		
Conf. Bikes (#/hr)			1							3		
Turn Type	Perm					Perm						
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		21.0						33.0			33.0	
Effective Green, g (s)		20.0						32.0			32.0	
Actuated g/C Ratio		0.33						0.53			0.53	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1001						1598			1075	
v/s Ratio Prot								0.42				
v/s Ratio Perm		0.31									c0.53	
v/c Ratio		0.92						0.78			0.99	
Uniform Delay, d1		19.2						11.2			13.9	
Progression Factor		1.42						1.00			1.00	
Incremental Delay, d2		7.1						3.9			25.9	
Delay (s)		34.4						15.1			39.8	
Level of Service		C						B			D	
Approach Delay (s)		34.4			0.0			15.1			39.8	
Approach LOS		C			A			B			D	
Intersection Summary												
HCM Average Control Delay		28.7			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.96										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		100.8%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕	↖		↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00		0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00	0.80		1.00	0.84
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1583	4339		1583	4420		1583	3167	1133		3167	1189
Flt Permitted	0.09	1.00		0.09	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	152	4339		149	4420		1583	3167	1133		3167	1189
Volume (vph)	133	2040	236	190	1628	137	292	977	103	0	938	357
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	141	2170	251	202	1732	146	311	1039	110	0	998	380
RTOR Reduction (vph)	0	14	0	0	10	0	0	0	72	0	0	123
Lane Group Flow (vph)	141	2407	0	202	1868	0	311	1039	38	0	998	257
Conf. Peds. (#/hr)	158		220	220		158	112		142	142		112
Conf. Bikes (#/hr)			9			5			5			3
Turn Type	pm+pt			pm+pt			Prot		Perm			Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6					8			4
Actuated Green, G (s)	53.3	45.0		54.7	45.7		8.9	34.9	34.9		22.9	22.9
Effective Green, g (s)	51.3	44.0		52.7	44.7		8.0	34.0	34.0		22.0	22.0
Actuated g/C Ratio	0.52	0.45		0.54	0.46		0.08	0.35	0.35		0.22	0.22
Clearance Time (s)	3.0	3.0		3.0	3.0		3.1	3.1	3.1		3.1	3.1
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	186	1948		197	2016		129	1099	393		711	267
v/s Ratio Prot	0.06	c0.55		c0.08	0.42		c0.20	0.33			c0.32	
v/s Ratio Perm	0.34			0.47					0.03			0.22
v/c Ratio	0.76	1.24		1.03	0.93		2.41	0.95	0.10		1.40	0.96
Uniform Delay, d1	18.3	27.0		47.2	25.1		45.0	31.1	21.6		38.0	37.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	14.5	110.6		70.9	8.9		657.9	16.8	0.5		190.1	46.6
Delay (s)	32.8	137.6		118.1	34.0		702.9	47.9	22.1		228.1	84.3
Level of Service	C	F		F	C		F	D	C		F	F
Approach Delay (s)		131.8			42.2			185.5			188.4	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	127.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	122.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↕↕		↗	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.96			0.97		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3011			3047		1583	3140		1583	3147	
Flt Permitted		0.81			0.73		0.09	1.00		0.09	1.00	
Satd. Flow (perm)		2461			2252		146	3140		148	3147	
Volume (vph)	62	230	114	81	236	72	84	1231	75	68	1187	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	68	253	125	89	259	79	92	1353	82	75	1304	55
RTOR Reduction (vph)	0	45	0	0	21	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	401	0	0	406	0	92	1431	0	75	1356	0
Turn Type		Perm		Perm		pm+pt		pm+pt		pm+pt		
Protected Phases		4		8		5	2		1	6		
Permitted Phases		4		8		2			6			
Actuated Green, G (s)		29.0		29.0		52.5	46.6		51.5	46.1		
Effective Green, g (s)		28.0		28.0		50.5	45.6		49.5	45.1		
Actuated g/C Ratio		0.31		0.31		0.56	0.51		0.55	0.50		
Clearance Time (s)		3.0		3.0		3.0	3.0		3.0	3.0		
Vehicle Extension (s)		3.0		3.0		2.0	5.0		2.0	5.0		
Lane Grp Cap (vph)		766		701		160	1591		152	1577		
v/s Ratio Prot						c0.03	c0.46		0.02	0.43		
v/s Ratio Perm		0.16		c0.18		0.29			0.25			
v/c Ratio		0.52		0.58		0.57	0.90		0.49	0.86		
Uniform Delay, d1		25.5		26.0		14.4	20.1		14.8	19.7		
Progression Factor		1.00		1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2		2.5		1.2		3.1	8.5		0.9	6.4		
Delay (s)		28.0		27.2		17.5	28.6		15.8	26.0		
Level of Service		C		C		B	C		B	C		
Approach Delay (s)		28.0		27.2		27.9			25.5			
Approach LOS		C		C		C			C			

Intersection Summary

HCM Average Control Delay	27.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.96			0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4531		1583	4550		1583	3028			3091	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1583	4531		1583	4550		1583	3028			3091	
Volume (vph)	61	2996	84	7	2344	0	12	316	131	0	651	124
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	3121	88	7	2442	0	12	329	136	0	678	129
RTOR Reduction (vph)	0	3	0	0	0	0	0	50	0	0	17	0
Lane Group Flow (vph)	64	3206	0	7	2442	0	12	415	0	0	790	0
Turn Type	Prot		Prot		Split							
Protected Phases	1!	2!		5!	6!		8	8			7	
Permitted Phases												
Actuated Green, G (s)	7.4	31.7		3.0	35.1		13.9	13.9			22.0	
Effective Green, g (s)	6.9	31.2		3.0	35.1		13.9	13.9			22.0	
Actuated g/C Ratio	0.08	0.35		0.03	0.39		0.15	0.15			0.24	
Clearance Time (s)	3.5	3.5		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			3.0	
Lane Grp Cap (vph)	121	1571		53	1775		244	468			756	
v/s Ratio Prot	c0.04	c0.71		0.00	c0.54		0.01	c0.14			c0.26	
v/s Ratio Perm												
v/c Ratio	0.53	2.04		0.13	1.38		0.05	0.89			1.04	
Uniform Delay, d1	40.0	29.4		42.2	27.4		32.4	37.3			34.0	
Progression Factor	1.25	0.51		1.49	0.30		1.00	1.00			1.00	
Incremental Delay, d2	0.4	468.5		0.1	169.4		0.1	18.0			44.9	
Delay (s)	50.5	483.3		63.2	177.7		32.5	55.3			78.9	
Level of Service	D	F		E	F		C	E			E	
Approach Delay (s)		474.9			177.3			54.7			78.9	
Approach LOS		F			F			D			E	

Intersection Summary

HCM Average Control Delay	296.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↓		↑	↑↑↓		↑	↑↓		↑	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt		0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4512		1583	4517		1583	3161		1583	3167	
Flt Permitted		1.00		0.95	1.00		0.18	1.00		0.18	1.00	
Satd. Flow (perm)		4512		1583	4517		303	3161		303	3167	
Volume (vph)	0	2953	176	15	2198	111	111	819	10	13	907	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	3044	181	15	2266	114	114	844	10	13	935	0
RTOR Reduction (vph)	0	7	0	0	5	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	3218	0	15	2375	0	114	853	0	13	935	0
Turn Type				Prot			Perm			Perm		
Protected Phases		2!		5!	6			7			7	
Permitted Phases							7			7		
Actuated Green, G (s)		31.7		3.0	35.1		22.0	22.0		22.0	22.0	
Effective Green, g (s)		31.2		3.0	35.1		22.0	22.0		22.0	22.0	
Actuated g/C Ratio		0.35		0.03	0.39		0.24	0.24		0.24	0.24	
Clearance Time (s)		3.5		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	3.0	
Lane Grp Cap (vph)		1564		53	1762		74	773		74	774	
v/s Ratio Prot		c0.71		c0.01	c0.53			0.27			0.30	
v/s Ratio Perm							c0.38			0.04		
v/c Ratio		2.06		0.28	1.35		1.54	1.10		0.18	1.21	
Uniform Delay, d1		29.4		42.5	27.4		34.0	34.0		26.8	34.0	
Progression Factor		0.29		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		476.0		2.9	160.3		299.5	64.6		5.1	105.6	
Delay (s)		484.5		45.4	187.7		333.5	98.6		32.0	139.6	
Level of Service		F		D	F		F	F		C	F	
Approach Delay (s)		484.5			186.9			126.3			138.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	300.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	33.9
Intersection Capacity Utilization	113.0%	ICU Level of Service	H
Analysis Period (min)	15		

- ! Phase conflict between lane groups.
- c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frbp, ped/bikes		0.99						0.95		1.00	1.00	
Flpb, ped/bikes		0.93						1.00		0.84	1.00	
Frt		0.99						0.98		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		2870						2930		1329	3167	
Flt Permitted		0.99						1.00		0.41	1.00	
Satd. Flow (perm)		2870						2930		567	3167	
Volume (vph)	178	628	31	0	0	0	0	365	67	89	620	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	187	661	33	0	0	0	0	384	71	94	653	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	26	0	0	0	0
Lane Group Flow (vph)	0	877	0	0	0	0	0	429	0	94	653	0
Conf. Peds. (#/hr)	173		248	248			173	221		404	404	221
Conf. Bikes (#/hr)			3				2			1		4
Turn Type		Perm									Perm	
Protected Phases		2						4			4	
Permitted Phases		2									4	
Actuated Green, G (s)		17.0						17.0		17.0	17.0	
Effective Green, g (s)		16.0						16.0		16.0	16.0	
Actuated g/C Ratio		0.27						0.27		0.27	0.27	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Vehicle Extension (s)		5.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		765						781		151	845	
v/s Ratio Prot								0.15			c0.21	
v/s Ratio Perm		0.31								0.17		
v/c Ratio		1.15						0.55		0.62	0.77	
Uniform Delay, d1		22.0						18.9		19.3	20.3	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		80.7						2.8		17.8	6.8	
Delay (s)		102.7						21.7		37.1	27.1	
Level of Service		F						C		D	C	
Approach Delay (s)		102.7			0.0			21.7			28.4	
Approach LOS		F			A			C			C	

Intersection Summary			
HCM Average Control Delay	58.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	28.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖			↖↖↖		↖	↖		↖	↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00			0.98		1.00	0.87		1.00	1.00	0.78
Flpb, ped/bikes	1.00	1.00			1.00		0.86	1.00		1.00	1.00	1.00
Frt	1.00	1.00			0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4521			4383		1362	1353		1583	1667	1102
Flt Permitted	0.08	1.00			1.00		0.57	1.00		0.95	1.00	1.00
Satd. Flow (perm)	141	4521			4383		824	1353		1583	1667	1102
Volume (vph)	100	2204	29	0	2168	190	111	97	82	158	298	146
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	102	2249	30	0	2212	194	113	99	84	161	304	149
RTOR Reduction (vph)	0	1	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	102	2278	0	0	2395	0	113	183	0	161	304	149
Confl. Peds. (#/hr)	244		131	131		244	166		211	211		166
Confl. Bikes (#/hr)			3			5			2			3
Turn Type	Perm			Perm			Prot			custom		
Protected Phases	2			6			8			7		
Permitted Phases	2						8			4 4		
Actuated Green, G (s)	48.4	48.4			48.4		21.0	21.0		11.6	35.6	35.6
Effective Green, g (s)	47.4	47.4			47.4		20.0	20.0		10.6	34.6	34.6
Actuated g/C Ratio	0.53	0.53			0.53		0.22	0.22		0.12	0.38	0.38
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	2381			2308		183	301		186	641	424
v/s Ratio Prot		0.50			0.55			0.14		c0.10		
v/s Ratio Perm	c0.73						c0.14				0.18	0.14
v/c Ratio	1.38	0.96			1.04		0.62	0.61		0.87	0.47	0.35
Uniform Delay, d1	21.3	20.3			21.3		31.6	31.5		39.0	20.9	19.7
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	234.6	10.7			29.3		14.6	8.8		31.7	2.5	2.3
Delay (s)	255.9	31.1			50.6		46.2	40.3		70.7	23.4	22.0
Level of Service	F	C			D		D	D		E	C	C
Approach Delay (s)		40.7			50.6			42.6			35.4	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	44.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBR2
Lane Configurations		↔	↔↔↔		↔	↔↔↔			↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0
Lane Util. Factor		1.00	0.91		1.00	0.91			1.00
Frbp, ped/bikes		1.00	0.98		1.00	0.97			1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00
Frt		1.00	0.99		1.00	0.98			0.86
Flt Protected		0.95	1.00		0.95	1.00			1.00
Satd. Flow (prot)		1583	4437		1583	4319			1442
Flt Permitted		0.95	1.00		0.95	1.00			1.00
Satd. Flow (perm)		1583	4437		1583	4319			1442
Volume (vph)	220	611	2198	121	578	1447	110	69	304
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	227	630	2266	125	596	1492	113	71	313
RTOR Reduction (vph)	0	0	6	0	0	0	0	0	275
Lane Group Flow (vph)	0	857	2385	0	596	1676	0	0	38
Confl. Peds. (#/hr)	99	154		137	137		99	154	155
Confl. Bikes (#/hr)				6			7	10	2
Turn Type	Prot	Prot			Prot				custom
Protected Phases	1	1	2		8	6			1
Permitted Phases									
Actuated Green, G (s)		13.0	52.0		26.0	81.0			13.0
Effective Green, g (s)		12.0	51.0		25.0	80.0			12.0
Actuated g/C Ratio		0.12	0.51		0.25	0.80			0.12
Clearance Time (s)		3.0	3.0		3.0	3.0			3.0
Vehicle Extension (s)		2.5	5.0		3.0	5.0			2.5
Lane Grp Cap (vph)		190	2263		396	3455			173
v/s Ratio Prot		c0.54	c0.54		c0.38	0.39			0.03
v/s Ratio Perm									
v/c Ratio		4.51	1.05		1.51	0.49			0.22
Uniform Delay, d1		44.0	24.5		37.5	3.3			39.8
Progression Factor		1.17	1.52		1.00	1.00			1.00
Incremental Delay, d2		1580.8	25.6		240.1	0.5			0.5
Delay (s)		1632.4	62.9		277.6	3.8			40.2
Level of Service		F	E		F	A			D
Approach Delay (s)			477.0			75.6			
Approach LOS			F			E			
Intersection Summary									
HCM Average Control Delay			297.2			HCM Level of Service			F
HCM Volume to Capacity ratio			1.65						
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0
Intersection Capacity Utilization			94.6%			ICU Level of Service			F
Analysis Period (min)			15						
c Critical Lane Group									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↖↗↘		↗	↖↗↘			↕	↗		↖↗↘	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	0.86	0.86		1.00	0.91			0.95	1.00		0.86	0.86
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.98	0.85
Flt Protected	0.95	0.99		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	961	3003		1118	3209			2235	1000		2990	860
Flt Permitted	0.95	0.69		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)	961	2082		1118	3209			2235	1000		2990	860
Volume (vph)	737	1592	24	173	1786	10	0	1178	561	0	1351	916
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	838	1809	27	197	2030	11	0	1339	638	0	1535	1041
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	212	0	13	325
Lane Group Flow (vph)	442	2231	0	197	2040	0	0	1339	426	0	1693	545
Turn Type	Prot		Prot				Perm				Over	
Protected Phases	7	4		3	8			2			6	7
Permitted Phases									2			
Actuated Green, G (s)	15.9	41.4		14.9	40.4			29.4	29.4		29.4	15.9
Effective Green, g (s)	17.0	42.0		16.0	41.0			30.0	30.0		30.0	17.0
Actuated g/C Ratio	0.17	0.42		0.16	0.41			0.30	0.30		0.30	0.17
Clearance Time (s)	5.1	4.6		5.1	4.6			4.6	4.6		4.6	5.1
Vehicle Extension (s)	3.0	3.0		5.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	163	1031		179	1316			671	300		897	146
v/s Ratio Prot	0.46	0.37		0.18	c0.64			c0.60			0.57	c0.63
v/s Ratio Perm		c0.54							0.43			
v/c Ratio	2.71	2.16		1.10	1.55			2.00	1.42		1.89	3.74
Uniform Delay, d1	41.5	29.0		42.0	29.5			35.0	35.0		35.0	41.5
Progression Factor	1.00	1.00		1.17	0.58			1.00	1.00		1.00	1.00
Incremental Delay, d2	787.4	526.9		71.0	249.1			453.3	207.3		403.8	1247.9
Delay (s)	828.9	555.9		120.3	266.1			488.3	242.3		438.8	1289.4
Level of Service	F	F		F	F			F	F		F	F
Approach Delay (s)		601.0			253.3			408.9			726.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	512.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	172.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑		↑	↑↑	↑	↑	↑↑	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt		1.00		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3177		1118	3204		1118	2235	1000	1118	2091	
Flt Permitted		0.67		0.95	1.00		0.13	1.00	1.00	0.15	1.00	
Satd. Flow (perm)		2156		1118	3204		157	2235	1000	171	2091	
Volume (vph)	483	1853	10	360	1330	21	10	787	334	28	600	453
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	493	1891	10	367	1357	21	10	803	341	29	612	462
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	209	0	137	0
Lane Group Flow (vph)	0	2393	0	367	1376	0	10	803	132	29	938	0
Turn Type		Prot		Prot		Perm		Perm	Perm			
Protected Phases		7	4	3	8			2				6
Permitted Phases							2		2		6	
Actuated Green, G (s)		41.4		14.9	40.4		29.4	29.4	29.4	29.4	29.4	
Effective Green, g (s)		42.0		16.0	41.0		30.0	30.0	30.0	30.0	30.0	
Actuated g/C Ratio		0.42		0.16	0.41		0.30	0.30	0.30	0.30	0.30	
Clearance Time (s)		4.6		5.1	4.6		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		5.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1079		179	1314		47	671	300	51	627	
v/s Ratio Prot		c0.38		c0.33	0.43			0.36			c0.45	
v/s Ratio Perm		c0.55					0.06		0.13	0.17		
v/c Ratio		2.22		2.05	1.05		0.21	1.20	0.44	0.57	1.50	
Uniform Delay, d1		29.0		42.0	29.5		26.2	35.0	28.2	29.5	35.0	
Progression Factor		0.79		0.93	1.45		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		548.5		490.2	37.3		10.1	102.6	4.6	38.8	231.2	
Delay (s)		571.4		529.3	80.0		36.2	137.6	32.8	68.3	266.2	
Level of Service		F		F	F		D	F	C	E	F	
Approach Delay (s)		571.4			174.5			105.8			261.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	325.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	173.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.86	1.00	0.97	0.86	0.97	0.88
Frbp, ped/bikes		1.00	0.94	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	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		4047	940	2168	4047	2168	1760
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		4047	940	2168	4047	2168	1760
Volume (vph)	0	2293	263	521	1654	398	1204
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2364	271	537	1705	410	1241
RTOR Reduction (vph)	0	0	67	0	0	0	680
Lane Group Flow (vph)	0	2364	204	537	1705	410	561
Conf. Peds. (#/hr)			60	60		1	4
Conf. Bikes (#/hr)			23				4
Turn Type	Prot		pm+ov	Prot			Over
Protected Phases	1	6	4	3	2 3	4	3
Permitted Phases			6				
Actuated Green, G (s)		47.3	73.1	31.0	84.3	25.8	31.0
Effective Green, g (s)		49.3	78.0	30.0	83.3	28.7	30.0
Actuated g/C Ratio		0.41	0.65	0.25	0.69	0.24	0.25
Clearance Time (s)		6.0	6.9	3.0		6.9	3.0
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1663	642	542	2809	519	440
v/s Ratio Prot		c0.58	0.08	0.25	0.42	c0.19	c0.32
v/s Ratio Perm			0.14				
v/c Ratio		1.42	0.32	0.99	0.61	0.79	1.27
Uniform Delay, d1		35.3	9.3	44.9	9.7	42.8	45.0
Progression Factor		0.91	3.25	1.00	1.00	1.00	1.00
Incremental Delay, d2		190.6	0.1	36.2	0.4	7.9	140.2
Delay (s)		222.7	30.1	81.0	10.1	50.7	185.2
Level of Service		F	C	F	B	D	F
Approach Delay (s)		202.9			27.1	151.8	
Approach LOS		F			C	F	
Intersection Summary							
HCM Average Control Delay			129.6		HCM Level of Service		F
HCM Volume to Capacity ratio			1.21				
Actuated Cycle Length (s)			120.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			126.4%		ICU Level of Service		H
Analysis Period (min)			15				
c Critical Lane Group							



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↙		↖	↑↑↑		↖	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88				1.00	0.91			0.95	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1504	1504	2493				1583	4550			3167	1417
Flt Permitted	0.95	0.95	1.00				0.10	1.00			1.00	1.00
Satd. Flow (perm)	1504	1504	2493				159	4550			3167	1417
Volume (vph)	607	0	602	0	0	0	157	553	0	0	1133	208
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	690	0	684	0	0	0	178	628	0	0	1288	236
RTOR Reduction (vph)	0	0	570	0	0	0	0	0	0	0	0	164
Lane Group Flow (vph)	345	345	114	0	0	0	178	628	0	0	1288	72
Turn Type	Split		custom				pm+pt			Perm		Over
Protected Phases	4	4	7 1		3		5	2			6	4
Permitted Phases							2			6		
Actuated Green, G (s)	16.5	16.5	14.4				45.7	40.7			40.7	16.5
Effective Green, g (s)	17.1	17.1	15.0				46.9	41.9			41.9	17.1
Actuated g/C Ratio	0.19	0.19	0.17				0.52	0.47			0.47	0.19
Clearance Time (s)	4.6	4.6					4.0	5.2			5.2	4.6
Vehicle Extension (s)	3.0	3.0					3.0	3.2			3.4	3.0
Lane Grp Cap (vph)	286	286	416				162	2118			1474	269
v/s Ratio Prot	c0.23	0.23	c0.05				c0.06	0.14			0.41	0.05
v/s Ratio Perm							c0.51					
v/c Ratio	1.21	1.21	0.27				1.10	0.30			0.87	0.27
Uniform Delay, d1	36.4	36.4	32.7				17.8	14.9			21.7	31.1
Progression Factor	1.01	1.01	5.10				2.30	1.12			1.00	1.00
Incremental Delay, d2	119.2	119.2	0.3				83.7	0.2			7.5	2.4
Delay (s)	156.1	156.1	167.3				124.7	17.0			29.1	33.6
Level of Service	F	F	F				F	B			C	C
Approach Delay (s)		161.7			0.0			40.8			29.8	
Approach LOS		F			A			D			C	

Intersection Summary

HCM Average Control Delay	81.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑	↑↑↑		↑↑	↑↑	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		0.91	1.00		0.86		0.97	0.91		0.97	0.95	0.88
Frt		1.00	0.85		0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		4550	1417		5645		3072	4505		3072	3167	2493
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		4550	1417		5645		3072	4505		3072	3167	2493
Volume (vph)	0	2934	516	0	2524	290	10	869	61	334	507	259
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	3025	532	0	2602	299	10	896	63	344	523	267
RTOR Reduction (vph)	0	0	60	0	22	0	0	1	0	0	0	177
Lane Group Flow (vph)	0	3025	472	0	2879	0	10	958	0	344	523	90
Turn Type		pm+ov					Prot			Prot		Perm
Protected Phases		6	3		2		3	8		7	4	
Permitted Phases		6										4
Actuated Green, G (s)		38.5	46.1		38.5		7.6	27.7		9.0	29.1	29.1
Effective Green, g (s)		40.0	47.6		40.0		7.6	29.0		9.0	30.4	30.4
Actuated g/C Ratio		0.44	0.53		0.44		0.08	0.32		0.10	0.34	0.34
Clearance Time (s)		5.5	4.0		5.5		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)		4.9	3.0		5.2		3.0	5.1		3.0	5.1	5.1
Lane Grp Cap (vph)		2022	812		2509		259	1452		307	1070	842
v/s Ratio Prot		c0.66	0.05		0.51		0.00	c0.21		c0.11	0.17	
v/s Ratio Perm			0.28									0.04
v/c Ratio		1.50	0.58		1.15		0.04	0.66		1.12	0.49	0.11
Uniform Delay, d1		25.0	14.4		25.0		37.8	26.3		40.5	23.6	20.5
Progression Factor		1.00	1.00		0.81		1.00	1.00		1.27	1.04	2.88
Incremental Delay, d2		225.9	1.1		66.8		0.1	2.4		75.9	0.4	0.1
Delay (s)		250.9	15.5		87.1		37.9	28.6		127.1	25.0	59.0
Level of Service		F	B		F		D	C		F	C	E
Approach Delay (s)		215.7			87.1		28.7			64.0		
Approach LOS		F			F		C			E		

Intersection Summary

HCM Average Control Delay	130.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↑↑↑	↗	↖↗	↑↑↑	↖↗	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	0.97	0.91	0.94	0.88
Frbp, 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	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1118	4047	1000	2168	3212	3152	1760
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1118	4047	1000	2168	3212	3152	1760
Volume (vph)	16	1927	470	293	1737	838	643
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	16	1946	475	296	1755	846	649
RTOR Reduction (vph)	0	0	277	0	0	0	514
Lane Group Flow (vph)	16	1946	198	296	1755	846	135
Conf. Peds. (#/hr)			86	86		1	139
Conf. Bikes (#/hr)			19				3
Turn Type	Prot		Over	Prot			Over
Protected Phases	1	6	8	5	2	8	5
Permitted Phases							
Actuated Green, G (s)	2.5	47.3	30.1	25.0	68.8	30.1	25.0
Effective Green, g (s)	3.5	50.0	33.0	25.0	71.5	33.0	25.0
Actuated g/C Ratio	0.03	0.42	0.28	0.21	0.60	0.28	0.21
Clearance Time (s)	5.0	6.7	6.9	4.0	6.7	6.9	4.0
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	33	1686	275	452	1914	867	367
v/s Ratio Prot	0.01	c0.48	0.20	0.14	c0.55	c0.27	0.08
v/s Ratio Perm							
v/c Ratio	0.48	1.15	0.72	0.65	0.92	0.98	0.37
Uniform Delay, d1	57.4	35.0	39.3	43.5	21.6	43.1	40.7
Progression Factor	0.87	1.53	1.98	0.87	0.70	1.00	1.00
Incremental Delay, d2	1.0	70.1	0.9	2.6	6.7	24.5	0.6
Delay (s)	50.7	123.7	78.6	40.7	21.9	67.6	41.4
Level of Service	D	F	E	D	C	E	D
Approach Delay (s)		114.4			24.6	56.2	
Approach LOS		F			C	E	
Intersection Summary							
HCM Average Control Delay			69.1		HCM Level of Service		E
HCM Volume to Capacity ratio			1.03				
Actuated Cycle Length (s)			120.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization			93.4%		ICU Level of Service		F
Analysis Period (min)			15				
c Critical Lane Group							



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↘↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.89	1.00	1.00	0.88	1.00	1.00	0.87	1.00	0.94	
Flpb, ped/bikes	0.99	1.00	1.00	0.96	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	0.95	
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)	1572	3167	1260	1522	3167	1244	3072	4550	1231	3072	4060	
Flt Permitted	0.26	1.00	1.00	0.35	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	432	3167	1260	553	3167	1244	3072	4550	1231	3072	4060	
Volume (vph)	45	690	529	286	637	410	265	651	154	220	875	390
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	750	575	311	692	446	288	708	167	239	951	424
RTOR Reduction (vph)	0	0	1	0	0	173	0	0	56	0	87	0
Lane Group Flow (vph)	49	750	574	311	692	273	288	708	111	239	1288	0
Confl. Peds. (#/hr)	114		119	119		114	155		101	101		155
Confl. Bikes (#/hr)			4			5			4			3
Turn Type	pm+pt		pm+ov	Perm		Perm	Prot		Perm	Prot		
Protected Phases	1	6	3		2		3	8		7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	42.3	42.3	48.3	35.5	35.5	35.5	6.0	21.4	21.4	12.3	27.7	
Effective Green, g (s)	43.8	43.8	49.8	37.0	37.0	37.0	6.0	21.9	21.9	12.3	28.2	
Actuated g/C Ratio	0.49	0.49	0.55	0.41	0.41	0.41	0.07	0.24	0.24	0.14	0.31	
Clearance Time (s)	3.5	5.5	4.0	5.5	5.5	5.5	4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	3.0	4.0	2.0	4.0	4.0	4.0	2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	246	1541	753	227	1302	511	205	1107	300	420	1272	
v/s Ratio Prot	0.01	0.24	c0.05		0.22		c0.09	0.16		0.08	c0.32	
v/s Ratio Perm	0.09		0.40	c0.56		0.22			0.09			
v/c Ratio	0.20	0.49	0.76	1.37	0.53	0.54	1.40	0.64	0.37	0.57	1.01	
Uniform Delay, d1	13.3	15.5	15.5	26.5	20.0	20.0	42.0	30.5	28.3	36.4	30.9	
Progression Factor	0.97	0.98	0.99	1.07	1.08	1.24	1.03	1.13	1.17	1.00	1.00	
Incremental Delay, d2	0.4	0.3	4.1	191.8	0.5	1.4	208.4	2.8	3.4	1.1	28.5	
Delay (s)	13.3	15.6	19.4	220.1	22.1	26.1	251.7	37.4	36.5	37.4	59.4	
Level of Service	B	B	B	F	C	C	F	D	D	D	E	
Approach Delay (s)		17.1			65.8			90.3			56.1	
Approach LOS		B			E			F			E	

Intersection Summary			
HCM Average Control Delay	56.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↘	↑↑↑	↗	↘	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor					1.00	1.00	1.00	0.91	1.00	1.00	0.91	
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1583	1417	1583	4550	1417	1583	4550	
Flt Permitted					0.76	1.00	0.09	1.00	1.00	0.36	1.00	
Satd. Flow (perm)					1262	1417	154	4550	1417	605	4550	
Volume (vph)	0	0	0	125	0	197	1	668	95	204	1709	0
Peak-hour factor, PHF	0.92	0.92	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	136	0	214	1	726	103	222	1858	0
RTOR Reduction (vph)	0	0	0	0	0	175	0	0	28	0	0	0
Lane Group Flow (vph)	0	0	0	0	136	39	1	726	75	222	1858	0
Turn Type	Perm			Perm			Perm	Perm	Perm		Perm	
Protected Phases	4			4			4		2		2	
Permitted Phases	4			4			4		2		2	
Actuated Green, G (s)				15.5			15.5	64.5	64.5	64.5	64.5	64.5
Effective Green, g (s)				16.5			16.5	65.5	65.5	65.5	65.5	65.5
Actuated g/C Ratio				0.18			0.18	0.73	0.73	0.73	0.73	0.73
Clearance Time (s)				5.0			5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)				3.0			3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				231			260	112	3311	1031	440	3311
v/s Ratio Prot								0.16		c0.41		
v/s Ratio Perm				c0.11			0.03	0.01	0.05		0.37	
v/c Ratio				0.59			0.15	0.01	0.22	0.07	0.50	0.56
Uniform Delay, d1				33.6			30.9	3.4	4.0	3.5	5.3	5.6
Progression Factor				1.00			1.00	2.07	1.59	3.73	1.20	1.26
Incremental Delay, d2				3.8			0.3	0.1	0.1	0.1	1.9	0.3
Delay (s)				37.4			31.1	7.1	6.5	13.3	8.2	7.4
Level of Service				D			C	A	A	B	A	A
Approach Delay (s)	0.0			33.6			7.3		7.5			
Approach LOS	A			C			A		A			

Intersection Summary

HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 70: Olympic OnRamp & Ave of the Stars



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕	↗	↖	↕↕↕		↖↖	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	0.95	1.00	0.91		0.97	0.91	
Frt		0.96			0.96	0.85	1.00	0.96		1.00	1.00	
Flt Protected		0.97			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2961			1501	1346	1583	4376		3072	4541	
Flt Permitted		0.80			0.90	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2424			1366	1346	1583	4376		3072	4541	
Volume (vph)	84	31	42	10	16	69	11	622	213	132	1657	22
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	86	32	43	10	16	70	11	635	217	135	1691	22
RTOR Reduction (vph)	0	36	0	0	8	33	0	35	0	0	1	0
Lane Group Flow (vph)	0	125	0	0	27	28	11	817	0	135	1712	0
Turn Type		Perm		Perm		pm+ov	Prot			Prot		
Protected Phases		8		4	4	5	1	6		5	2	
Permitted Phases		8		4		4						
Actuated Green, G (s)		12.6			12.6	20.7	1.4	55.1		8.1	61.8	
Effective Green, g (s)		14.1			14.1	22.2	1.4	55.8		8.1	62.5	
Actuated g/C Ratio		0.16			0.16	0.25	0.02	0.62		0.09	0.69	
Clearance Time (s)		5.5			5.5	4.0	4.0	4.7		4.0	4.7	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		380			214	392	25	2713		276	3153	
v/s Ratio Prot						0.01	0.01	0.19		c0.04	c0.38	
v/s Ratio Perm		c0.05			0.02	0.01						
v/c Ratio		0.33			0.13	0.07	0.44	0.30		0.49	0.54	
Uniform Delay, d1		33.7			32.7	26.0	43.9	8.0		39.0	6.7	
Progression Factor		1.00			1.00	1.00	0.69	2.03		0.99	0.92	
Incremental Delay, d2		0.5			0.3	0.1	11.4	0.3		1.1	0.6	
Delay (s)		34.2			32.9	26.1	41.7	16.5		39.9	6.8	
Level of Service		C			C	C	D	B		D	A	
Approach Delay (s)		34.2			28.6			16.8			9.2	
Approach LOS		C			C			B			A	

Intersection Summary

HCM Average Control Delay	13.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔	↔		↔	↔↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3072		1417	1583		1417	3072	4520		1583	4544	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3072		1417	1583		1417	3072	4520		1583	4544	
Volume (vph)	128	0	179	16	0	71	19	676	31	78	1551	15
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	141	0	197	18	0	78	21	743	34	86	1704	16
RTOR Reduction (vph)	0	0	154	0	0	59	0	4	0	0	1	0
Lane Group Flow (vph)	141	0	43	18	0	19	21	773	0	86	1719	0
Turn Type	Prot		custom	Prot		custom	Prot			Prot		
Protected Phases	3		3 5	4		1 4	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.2		19.4	9.9		22.8	6.2	41.0		8.0	42.8	
Effective Green, g (s)	14.1		19.5	10.8		22.0	5.4	41.9		7.2	43.7	
Actuated g/C Ratio	0.16		0.22	0.12		0.24	0.06	0.47		0.08	0.49	
Clearance Time (s)	4.9			4.9			3.2	4.9		3.2	4.9	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	481		307	190		346	184	2104		127	2206	
v/s Ratio Prot	c0.05		0.03	c0.01		0.01	0.01	0.17		c0.05	c0.38	
v/s Ratio Perm												
v/c Ratio	0.29		0.14	0.09		0.06	0.11	0.37		0.68	0.78	
Uniform Delay, d1	33.5		28.5	35.2		26.0	40.0	15.5		40.3	19.2	
Progression Factor	1.00		1.00	1.00		1.00	1.38	0.39		0.84	1.17	
Incremental Delay, d2	0.3		0.2	0.2		0.1	0.0	0.0		11.9	2.5	
Delay (s)	33.9		28.7	35.5		26.1	55.4	6.1		45.7	24.8	
Level of Service	C		C	D		C	E	A		D	C	
Approach Delay (s)		30.9			27.9			7.4			25.8	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM Average Control Delay			21.6									HCM Level of Service C
HCM Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			59.6%									ICU Level of Service B
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑↑	↑↑↑↗		↖↗	↘↙
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.91	0.91		0.97	0.88
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)	3072	4550	4480		3072	2493
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3072	4550	4480		3072	2493
Volume (vph)	507	1824	1731	199	559	1138
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	551	1983	1882	216	608	1237
RTOR Reduction (vph)	0	0	16	0	0	340
Lane Group Flow (vph)	551	1983	2082	0	608	897
Turn Type	Prot					Prot
Protected Phases	5	2 5	6		4	4
Permitted Phases						
Actuated Green, G (s)	12.0	49.5	32.5		30.0	30.0
Effective Green, g (s)	13.0	51.0	34.0		31.0	31.0
Actuated g/C Ratio	0.14	0.57	0.38		0.34	0.34
Clearance Time (s)	5.0		5.5		5.0	5.0
Vehicle Extension (s)	2.0		3.0		3.0	3.0
Lane Grp Cap (vph)	444	2578	1692		1058	859
v/s Ratio Prot	c0.18	0.44	c0.46		0.20	c0.36
v/s Ratio Perm						
v/c Ratio	1.24	0.77	1.23		0.57	1.04
Uniform Delay, d1	38.5	15.0	28.0		24.1	29.5
Progression Factor	1.00	1.00	1.00		1.24	1.46
Incremental Delay, d2	126.4	2.3	109.2		0.5	37.5
Delay (s)	164.9	17.3	137.2		30.5	80.7
Level of Service	F	B	F		C	F
Approach Delay (s)		49.4	137.2		64.2	
Approach LOS		D	F		E	

Intersection Summary

HCM Average Control Delay	82.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



















HCM Signalized Intersection Capacity Analysis
73: Santa Monica Blvd & Century Park West



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	0.91
Frbp, 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	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3212	1000	2168	3212	2168	910
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3212	1000	2168	3212	2168	910
Volume (vph)	2210	334	131	2437	787	274
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2278	344	135	2512	811	282
RTOR Reduction (vph)	0	136	0	0	0	205
Lane Group Flow (vph)	2278	208	135	2512	811	77
Conf. Peds. (#/hr)		145	145		56	
Conf. Bikes (#/hr)		19				
Turn Type		Over	Prot			Perm
Protected Phases	6	4	5	2	4	
Permitted Phases						4
Actuated Green, G (s)	66.0	28.1	10.8	80.8	28.1	28.1
Effective Green, g (s)	67.2	30.0	10.8	82.0	30.0	30.0
Actuated g/C Ratio	0.56	0.25	0.09	0.68	0.25	0.25
Clearance Time (s)	5.2	5.9	4.0	5.2	5.9	5.9
Vehicle Extension (s)	3.7	3.8	1.0	3.5	3.8	3.8
Lane Grp Cap (vph)	1799	250	195	2195	542	228
v/s Ratio Prot	c0.71	0.21	0.06	c0.78	c0.37	
v/s Ratio Perm						0.08
v/c Ratio	1.27	0.83	0.69	1.14	1.50	0.34
Uniform Delay, d1	26.4	42.6	53.0	19.0	45.0	36.9
Progression Factor	1.66	1.04	0.97	0.86	1.00	1.00
Incremental Delay, d2	120.2	3.1	3.6	67.6	232.9	4.0
Delay (s)	164.1	47.6	54.9	84.0	277.9	40.9
Level of Service	F	D	D	F	F	D
Approach Delay (s)	148.8			82.5	216.8	
Approach LOS	F			F	F	

Intersection Summary

HCM Average Control Delay	132.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	123.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	  
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	0.95	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3072	2493	3167	1417	1583	4550
Flt Permitted	0.95	1.00	1.00	1.00	0.43	1.00
Satd. Flow (perm)	3072	2493	3167	1417	713	4550
Volume (vph)	556	447	394	319	229	326
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	611	491	433	351	252	358
RTOR Reduction (vph)	0	322	0	20	0	0
Lane Group Flow (vph)	611	169	433	331	252	358
Turn Type		Perm		pm+ov	pm+pt	
Protected Phases	4		2	4	1	6
Permitted Phases		4		2	6	
Actuated Green, G (s)	30.5	30.5	41.5	72.0	49.5	49.5
Effective Green, g (s)	31.0	31.0	43.0	74.0	51.0	51.0
Actuated g/C Ratio	0.34	0.34	0.48	0.82	0.57	0.57
Clearance Time (s)	4.5	4.5	5.5	4.5	3.0	5.5
Vehicle Extension (s)	3.0	3.0	5.0	3.0	3.0	5.0
Lane Grp Cap (vph)	1058	859	1513	1228	443	2578
v/s Ratio Prot	c0.20		0.14	0.09	c0.03	0.08
v/s Ratio Perm		0.07		0.14	c0.30	
v/c Ratio	0.58	0.20	0.29	0.27	0.57	0.14
Uniform Delay, d1	24.1	20.7	14.2	1.8	12.8	9.2
Progression Factor	1.13	3.83	1.33	0.79	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.5	0.1	1.7	0.1
Delay (s)	27.7	79.5	19.4	1.6	14.5	9.3
Level of Service	C	E	B	A	B	A
Approach Delay (s)	50.8		11.4			11.4
Approach LOS	D		B			B

Intersection Summary

HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			





























HCM Signalized Intersection Capacity Analysis
75: Olympic Blvd & Century Park West



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↖	↑↑↑	↑↑↑	↗	↘↘	↘↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
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)	3072	4550	4550	1417	3072	2493
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3072	4550	4550	1417	3072	2493
Volume (vph)	163	2230	2471	76	10	798
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	166	2276	2521	78	10	814
RTOR Reduction (vph)	0	0	0	34	0	0
Lane Group Flow (vph)	166	2276	2521	44	10	814
Turn Type	Prot		Perm		Perm	
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	10.1	51.8	37.7	37.7	28.3	28.3
Effective Green, g (s)	10.1	53.0	38.9	38.9	29.0	29.0
Actuated g/C Ratio	0.11	0.59	0.43	0.43	0.32	0.32
Clearance Time (s)	4.0	5.2	5.2	5.2	4.7	4.7
Vehicle Extension (s)	3.0	4.8	4.6	4.6	3.0	3.0
Lane Grp Cap (vph)	345	2679	1967	612	990	803
v/s Ratio Prot	0.05	c0.50	c0.55		0.00	
v/s Ratio Perm				0.03		c0.33
v/c Ratio	0.48	0.85	1.28	0.07	0.01	1.01
Uniform Delay, d1	37.5	15.2	25.5	15.0	20.7	30.5
Progression Factor	0.53	2.02	1.00	1.00	0.93	0.77
Incremental Delay, d2	0.1	0.3	130.8	0.2	0.0	34.0
Delay (s)	20.1	31.1	156.3	15.2	19.2	57.4
Level of Service	C	C	F	B	B	E
Approach Delay (s)		30.3	152.1		56.9	
Approach LOS		C	F		E	

Intersection Summary

HCM Average Control Delay	88.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1583	4550	1417	1583	4516		1583	3144		1583	3126	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.13	1.00		0.15	1.00	
Satd. Flow (perm)	1583	4550	1417	1583	4516		215	3144		247	3126	
Volume (vph)	160	2571	330	109	2225	118	213	1088	53	109	940	87
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	165	2651	340	112	2294	122	220	1122	55	112	969	90
RTOR Reduction (vph)	0	0	111	0	4	0	0	3	0	0	5	0
Lane Group Flow (vph)	165	2651	229	112	2412	0	220	1174	0	112	1054	0
Turn Type	Prot		Perm	Prot			pm+pt			Perm		
Protected Phases	1	6		5	2		3	8			4	
Permitted Phases			6				8			4		
Actuated Green, G (s)	14.3	53.9	53.9	12.1	51.7		40.0	40.0		26.0	26.0	
Effective Green, g (s)	14.3	54.9	54.9	12.1	52.7		41.0	41.0		27.0	27.0	
Actuated g/C Ratio	0.12	0.46	0.46	0.10	0.44		0.34	0.34		0.22	0.22	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		3.5	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	189	2082	648	160	1983		187	1074		56	703	
v/s Ratio Prot	c0.10	c0.58		0.07	0.53		0.10	c0.37			0.34	
v/s Ratio Perm			0.16				0.30			c0.45		
v/c Ratio	0.87	1.27	0.35	0.70	1.22		1.18	1.09		2.00	1.50	
Uniform Delay, d1	52.0	32.6	21.1	52.2	33.6		57.2	39.5		46.5	46.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.61	1.45		1.00	1.00	
Incremental Delay, d2	32.1	126.9	1.5	10.7	102.1		84.8	43.7		507.1	231.9	
Delay (s)	84.1	159.4	22.6	62.9	135.8		176.7	100.9		553.6	278.4	
Level of Service	F	F	C	E	F		F	F		F	F	
Approach Delay (s)		140.8			132.5			112.8			304.7	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM Average Control Delay			156.8			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.38									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			120.9%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖↗	↕	↗	↖↗	↕	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Volume (vph)	90	2095	114	105	2637	475	76	1034	76	350	1314	97
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	93	2160	118	108	2719	490	78	1066	78	361	1355	100
RTOR Reduction (vph)	0	0	50	0	0	25	0	0	46	0	0	43
Lane Group Flow (vph)	93	2160	68	108	2719	465	78	1066	32	361	1355	57
Turn Type	Prot		Perm	Prot	pm+ov		Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2	7	3	8		7		4
Permitted Phases			6			2			8			4
Actuated Green, G (s)	7.6	26.7	26.7	11.0	30.1	52.9	7.6	39.6	39.6	22.8	54.8	54.8
Effective Green, g (s)	7.6	28.2	28.2	11.0	31.6	54.4	7.6	42.0	42.0	22.8	57.2	57.2
Actuated g/C Ratio	0.06	0.24	0.24	0.09	0.26	0.45	0.06	0.35	0.35	0.19	0.48	0.48
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	4.0	4.0	6.4	6.4	4.0	6.4	6.4
Vehicle Extension (s)	2.0	4.5	4.5	2.0	5.2	2.0	2.0	4.7	4.7	2.0	4.7	4.7
Lane Grp Cap (vph)	137	755	235	199	846	453	137	782	350	412	1065	477
v/s Ratio Prot	0.04	c0.67		0.05	c0.85	0.19	0.04	c0.48		0.17	c0.61	
v/s Ratio Perm			0.07			0.27			0.03			0.06
v/c Ratio	0.68	2.86	0.29	0.54	3.21	1.03	0.57	1.36	0.09	0.88	1.27	0.12
Uniform Delay, d1	55.0	45.9	37.7	52.1	44.2	32.8	54.6	39.0	26.2	47.2	31.4	17.4
Progression Factor	1.00	0.46	0.14	0.96	0.95	0.90	1.00	1.00	1.00	0.62	0.54	0.18
Incremental Delay, d2	1.0	837.7	0.3	0.1	996.6	20.0	3.2	171.7	0.2	7.7	125.4	0.1
Delay (s)	56.2	858.7	5.6	50.0	1038.4	49.7	57.8	210.7	26.4	37.0	142.2	3.3
Level of Service	E	F	A	D	F	D	E	F	C	D	F	A
Approach Delay (s)		784.8			860.1			189.1			113.6	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	590.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	152.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	0.86		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		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)	1583	4550	1417	1583	5709		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00	1.00	0.11	1.00		0.15	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	182	4550	1417	187	5709		253	3167	1417	228	3167	1417
Volume (vph)	359	2214	177	230	3120	91	33	756	45	217	1060	303
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	370	2282	182	237	3216	94	34	779	46	224	1093	312
RTOR Reduction (vph)	0	0	19	0	4	0	0	0	5	0	0	0
Lane Group Flow (vph)	370	2282	163	237	3306	0	34	779	41	224	1093	312
Turn Type	pm+pt		Perm	pm+pt			Perm		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2			8	5	7	4	1
Permitted Phases	6		6	2			8	8	8	4		4
Actuated Green, G (s)	43.1	36.1	36.1	41.1	35.1		24.9	24.9	30.9	33.9	33.9	40.9
Effective Green, g (s)	43.6	36.6	36.6	41.6	35.6		26.4	26.4	32.4	35.4	35.4	42.4
Actuated g/C Ratio	0.48	0.41	0.41	0.46	0.40		0.29	0.29	0.36	0.39	0.39	0.47
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5		5.5	5.5	4.0	4.0	5.5	4.0
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0		5.0	5.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	197	1850	576	180	2258		74	929	573	165	1246	731
v/s Ratio Prot	c0.15	0.50		0.09	0.58			0.25	0.00	c0.08	0.35	0.03
v/s Ratio Perm	c0.76		0.12	0.52			0.13		0.02	c0.46		0.19
v/c Ratio	1.88	1.23	0.28	1.32	1.46		0.46	0.84	0.07	1.36	0.88	0.43
Uniform Delay, d1	43.7	26.7	17.9	44.2	27.2		26.0	29.8	18.9	24.7	25.3	15.8
Progression Factor	2.21	0.69	0.79	1.74	1.52		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	396.9	105.5	0.1	146.1	209.0		9.2	7.4	0.1	195.1	7.8	0.4
Delay (s)	493.5	123.9	14.3	223.1	250.4		35.1	37.3	19.0	219.8	33.1	16.2
Level of Service	F	F	B	F	F		D	D	B	F	C	B
Approach Delay (s)		165.1			248.6			36.2			55.5	
Approach LOS		F			F			D			E	

Intersection Summary

HCM Average Control Delay	165.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	128.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖		↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1583	3069		1583	3156		1504	1583	1417		1611	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1583	3069		1583	3156		1504	1583	1417		1611	
Volume (vph)	10	1146	298	178	959	21	338	605	835	27	311	98
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1194	310	185	999	22	352	630	870	28	324	102
RTOR Reduction (vph)	0	19	0	0	1	0	0	0	236	0	0	0
Lane Group Flow (vph)	10	1485	0	185	1020	0	352	630	634	0	454	0
Turn Type	Prot		Prot		Split		pm+ov		Split			
Protected Phases	1	6		5	2		3	3	5		4	4
Permitted Phases									3			
Actuated Green, G (s)	1.5	54.9		17.4	70.8		10.0	10.0	27.4		20.0	
Effective Green, g (s)	0.5	55.7		16.4	71.6		10.9	10.9	27.3		21.0	
Actuated g/C Ratio	0.00	0.46		0.14	0.60		0.09	0.09	0.23		0.18	
Clearance Time (s)	3.0	4.8		3.0	4.8		4.9	4.9	3.0		5.0	
Vehicle Extension (s)	3.0	6.0		3.0	6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	7	1425		216	1883		137	144	370		282	
v/s Ratio Prot	0.01	c0.48		0.12	0.32		0.23	c0.40	c0.23		c0.28	
v/s Ratio Perm									0.21			
v/c Ratio	1.43	1.04		0.86	0.54		2.57	4.38	1.71		1.61	
Uniform Delay, d1	59.8	32.2		50.6	14.4		54.6	54.6	46.3		49.5	
Progression Factor	1.12	1.10		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	251.9	21.4		26.7	1.1		727.1	1534.8	332.8		290.4	
Delay (s)	318.9	56.6		77.4	15.5		781.6	1589.3	379.2		339.9	
Level of Service	F	E		E	B		F	F	F		F	
Approach Delay (s)		58.4			25.0			867.3			339.9	
Approach LOS		E			C			F			F	

Intersection Summary

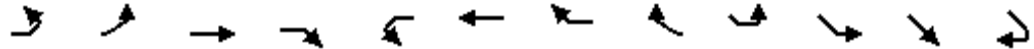
HCM Average Control Delay	373.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	140.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	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	0.89		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1504	1510	1417	1583	1483		1583	1654		1583	1667	1417
Flt Permitted	0.71	0.68	1.00	0.95	1.00		0.33	1.00		0.21	1.00	1.00
Satd. Flow (perm)	1121	1075	1417	1583	1483		557	1654		343	1667	1417
Volume (vph)	532	10	172	20	19	53	64	723	39	28	571	343
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	554	10	179	21	20	55	67	753	41	29	595	357
RTOR Reduction (vph)	0	0	153	0	50	0	0	2	0	0	0	143
Lane Group Flow (vph)	277	287	26	21	25	0	67	792	0	29	595	214
Turn Type	Perm		Perm	Split			Perm			Perm		Perm
Protected Phases		4		3	3			2			2	
Permitted Phases	4		4				2			2		2
Actuated Green, G (s)	10.0	10.0	10.0	6.0	6.0		43.6	43.6		43.6	43.6	43.6
Effective Green, g (s)	11.0	11.0	11.0	7.0	7.0		45.0	45.0		45.0	45.0	45.0
Actuated g/C Ratio	0.15	0.15	0.15	0.09	0.09		0.60	0.60		0.60	0.60	0.60
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	164	158	208	148	138		334	992		206	1000	850
v/s Ratio Prot				0.01	c0.02			c0.48				0.36
v/s Ratio Perm	0.25	c0.27	0.02				0.12			0.08		0.15
v/c Ratio	1.69	1.82	0.13	0.14	0.18		0.20	0.80		0.14	0.60	0.25
Uniform Delay, d1	32.0	32.0	27.8	31.2	31.4		6.8	11.5		6.6	9.3	7.1
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	335.0	391.2	0.3	0.4	0.6		1.3	6.7		1.4	2.6	0.7
Delay (s)	367.0	423.2	28.1	31.7	32.0		8.2	18.2		8.0	11.9	7.8
Level of Service	F	F	C	C	C		A	B		A	B	A
Approach Delay (s)		307.1			31.9			17.4			10.3	
Approach LOS		F			C			B			B	

Intersection Summary

HCM Average Control Delay	95.6	HCM Level of Service	F
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	SEL2	SEL	SET	SER
Lane Configurations			↕	↗		↕↗				↘	↕↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)			4.0	4.0		4.0				4.0	4.0	
Lane Util. Factor			1.00	1.00		0.95				1.00	0.95	
Frt			1.00	0.85		0.98				1.00	0.99	
Flt Protected			0.99	1.00		0.98				0.95	1.00	
Satd. Flow (prot)			1159	1000		2161				1118	2209	
Flt Permitted			0.35	1.00		0.56				0.51	1.00	
Satd. Flow (perm)			413	1000		1227				596	2209	
Volume (vph)	11	236	592	48	333	529	53	55	11	5	557	48
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	11	246	617	50	347	551	55	57	11	5	580	50
RTOR Reduction (vph)	0	0	0	26	0	6	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	874	24	0	1004	0	0	0	16	621	0
Turn Type		Perm		Perm	Perm				Perm	Perm		
Protected Phases			6			2					4	
Permitted Phases		6		6	2				4	4		
Actuated Green, G (s)			34.0	34.0		34.0				30.0	30.0	
Effective Green, g (s)			36.0	36.0		36.0				31.0	31.0	
Actuated g/C Ratio			0.48	0.48		0.48				0.41	0.41	
Clearance Time (s)			6.0	6.0		6.0				5.0	5.0	
Vehicle Extension (s)			3.0	3.0		3.0				3.0	3.0	
Lane Grp Cap (vph)			198	480		589				246	913	
v/s Ratio Prot											0.28	
v/s Ratio Perm			c2.12	0.02		0.82				0.03		
v/c Ratio			4.41	0.05		5.03dl				0.07	0.68	
Uniform Delay, d1			19.5	10.4		19.5				13.3	18.0	
Progression Factor			1.06	1.10		1.00				1.00	1.00	
Incremental Delay, d2			1537.4	0.0		324.5				0.5	4.1	
Delay (s)			1558.1	11.5		344.0				13.8	22.0	
Level of Service			F	B		F				B	C	
Approach Delay (s)			1474.4			344.0					21.8	
Approach LOS			F			F					C	

Intersection Summary

HCM Average Control Delay	495.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.88		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	190.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	NWL	NWT	NWR	NWR2
Lane Configurations	↶	↷	↶	↷
Ideal Flow (vphpl)	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1118	1176	1000	
Flt Permitted	0.33	1.00	1.00	
Satd. Flow (perm)	393	1176	1000	
Volume (vph)	154	272	102	452
Peak-hour factor, PHF	0.96	0.96	0.96	0.96
Adj. Flow (vph)	160	283	106	471
RTOR Reduction (vph)	0	0	119	0
Lane Group Flow (vph)	160	283	458	0
Turn Type	Perm		Perm	
Protected Phases		8		
Permitted Phases	8		8	
Actuated Green, G (s)	30.0	30.0	30.0	
Effective Green, g (s)	31.0	31.0	31.0	
Actuated g/C Ratio	0.41	0.41	0.41	
Clearance Time (s)	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	
Lane Grp Cap (vph)	162	486	413	
v/s Ratio Prot		0.24		
v/s Ratio Perm	0.41		0.46	
v/c Ratio	0.99	0.58	1.11	
Uniform Delay, d1	21.8	17.0	22.0	
Progression Factor	1.14	1.04	1.27	
Incremental Delay, d2	18.5	0.5	52.6	
Delay (s)	43.3	18.1	80.5	
Level of Service	D	B	F	
Approach Delay (s)		57.4		
Approach LOS		E		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (prot)	2168	4027		1118	3962			1121		1118	1176	1000
Flt Permitted	0.95	1.00		0.06	1.00			0.24		0.42	1.00	1.00
Satd. Flow (perm)	2168	4027		68	3962			276		495	1176	1000
Volume (vph)	233	2377	80	133	2368	386	380	341	178	264	449	304
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	245	2502	84	140	2493	406	400	359	187	278	473	320
RTOR Reduction (vph)	0	3	0	0	19	0	0	3	0	0	0	0
Lane Group Flow (vph)	245	2583	0	140	2880	0	0	943	0	278	473	320
Turn Type	Prot		Perm			Perm			Perm		pm+ov	
Protected Phases	5	2			6			4			4	5
Permitted Phases				6			4			4		4
Actuated Green, G (s)	18.6	92.0		69.4	69.4			49.0		49.0	49.0	67.6
Effective Green, g (s)	18.6	92.0		69.4	69.4			50.0		50.0	50.0	68.6
Actuated g/C Ratio	0.12	0.61		0.46	0.46			0.33		0.33	0.33	0.46
Clearance Time (s)	4.0	4.0		4.0	4.0			5.0		5.0	5.0	4.0
Vehicle Extension (s)	1.5	4.0		4.0	4.0			3.0		3.0	3.0	1.5
Lane Grp Cap (vph)	269	2470		31	1833			92		165	392	484
v/s Ratio Prot	0.11	c0.64			0.73						0.40	0.08
v/s Ratio Perm				c2.06				c3.42		0.56		0.24
v/c Ratio	0.91	1.05		4.52	1.57			10.25		1.68	1.21	0.66
Uniform Delay, d1	64.9	29.0		40.3	40.3			50.0		50.0	50.0	31.7
Progression Factor	1.30	0.69		1.00	1.00			1.00		0.94	0.94	1.05
Incremental Delay, d2	4.6	22.0		1653.6	259.6			4185.7		317.8	102.0	1.0
Delay (s)	88.9	42.0		1693.9	299.9			4235.7		364.7	148.8	34.1
Level of Service	F	D		F	F			F		F	F	C
Approach Delay (s)		46.1			364.1			4235.7			170.6	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	688.1	HCM Level of Service	F
HCM Volume to Capacity ratio	6.11		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	204.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.95		1.00	0.98		1.00	1.00	0.55	1.00	1.00	0.79
Flpb, ped/bikes	0.94	1.00		0.97	1.00		0.92	1.00	1.00	0.66	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1488	1512		1538	1607		1463	3167	776	1050	3167	1122
Flt Permitted	0.55	1.00		0.36	1.00		0.35	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)	864	1512		589	1607		538	3167	776	597	3167	1122
Volume (vph)	48	244	94	169	289	47	148	308	234	10	553	192
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	50	254	98	176	301	49	154	321	244	10	576	200
RTOR Reduction (vph)	0	18	0	0	7	0	0	0	52	0	0	125
Lane Group Flow (vph)	50	334	0	176	343	0	154	321	192	10	576	75
Conf. Peds. (#/hr)	117		216	216		117	196		419	419		196
Conf. Bikes (#/hr)			5			6			8			20
Turn Type	Perm			pm+pt			Perm		pm+ov	Perm		Perm
Protected Phases		6		5	2			8	5		4	
Permitted Phases	6			2			8	8	4			4
Actuated Green, G (s)	27.6	27.6		37.6	37.6		27.0	27.0	33.5	27.0	27.0	27.0
Effective Green, g (s)	29.0	29.0		39.0	39.0		28.0	28.0	34.0	28.0	28.0	28.0
Actuated g/C Ratio	0.39	0.39		0.52	0.52		0.37	0.37	0.45	0.37	0.37	0.37
Clearance Time (s)	5.4	5.4		3.5	5.4		5.0	5.0	3.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	334	585		382	836		201	1182	393	223	1182	419
v/s Ratio Prot		c0.22		0.04	0.21			0.10	c0.04		0.18	
v/s Ratio Perm	0.06			0.20			c0.29		0.21	0.02		0.07
v/c Ratio	0.15	0.57		0.46	0.41		0.77	0.27	0.49	0.04	0.49	0.18
Uniform Delay, d1	15.0	18.1		10.8	11.0		20.6	16.4	14.4	15.0	18.0	15.8
Progression Factor	0.81	0.85		1.00	1.00		1.09	1.04	1.27	1.00	1.00	1.00
Incremental Delay, d2	0.9	3.9		0.9	1.5		20.1	0.5	0.8	0.4	1.4	0.9
Delay (s)	13.0	19.4		11.7	12.5		42.5	17.6	19.0	15.4	19.4	16.7
Level of Service	B	B		B	B		D	B	B	B	B	B
Approach Delay (s)		18.6			12.2			23.4			18.7	
Approach LOS		B			B			C			B	

Intersection Summary

HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
84: Weyburn Ave & Westwood Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕			↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95			0.95	1.00
Frbp, ped/bikes		1.00	1.00		0.91		1.00	0.92			1.00	0.30
Flpb, ped/bikes		0.95	1.00		0.95		0.84	1.00			0.97	1.00
Frt		1.00	0.85		0.96		1.00	0.98			1.00	0.85
Flt Protected		0.98	1.00		0.99		0.95	1.00			0.99	1.00
Satd. Flow (prot)		1555	1417		1386		1330	2877			3047	420
Flt Permitted		0.58	1.00		0.92		0.24	1.00			0.82	1.00
Satd. Flow (perm)		921	1417		1287		332	2877			2505	420
Volume (vph)	118	165	121	67	337	145	178	475	58	94	747	61
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	122	170	125	69	347	149	184	490	60	97	770	63
RTOR Reduction (vph)	0	0	125	0	1	0	0	3	0	0	0	4
Lane Group Flow (vph)	0	292	0	0	564	0	184	547	0	0	867	59
Confl. Peds. (#/hr)	570		715	715		570	814		795	795		814
Confl. Bikes (#/hr)			9			12			43			28
Turn Type	Perm		NA	Perm			Perm			Perm		Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		2
Actuated Green, G (s)		30.5	0.0		30.5		34.1	34.1			34.1	34.1
Effective Green, g (s)		32.0	0.0		32.0		35.0	35.0			35.0	35.0
Actuated g/C Ratio		0.43	0.00		0.43		0.47	0.47			0.47	0.47
Clearance Time (s)		5.5			5.5		4.9	4.9			4.9	4.9
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		393	0		549		155	1343			1169	196
v/s Ratio Prot								0.19				
v/s Ratio Perm		0.32			c0.44		c0.55				0.35	0.14
v/c Ratio		0.74	0.00		1.03		1.19	0.41			0.74	0.30
Uniform Delay, d1		18.0	37.5		21.5		20.0	13.2			16.3	12.4
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.76	1.87
Incremental Delay, d2		12.0	0.0		45.5		131.4	0.9			3.9	3.6
Delay (s)		30.0	37.5		67.0		151.4	14.1			32.6	26.8
Level of Service		C	D		E		F	B			C	C
Approach Delay (s)		32.3			67.0			48.5			32.2	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM Average Control Delay	44.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕	↗		↕↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			0.95	1.00		0.95	
Frbp, ped/bikes		0.80			0.98			1.00	0.54		0.98	
Flpb, ped/bikes		1.00			0.96			1.00	1.00		1.00	
Frt		0.90			0.99			1.00	0.85		0.99	
Flt Protected		1.00			0.98			1.00	1.00		1.00	
Satd. Flow (prot)		1614			2044			2235	540		2187	
Flt Permitted		0.91			0.55			1.00	1.00		0.95	
Satd. Flow (perm)		1473			1144			2235	540		2082	
Volume (vph)	22	203	414	286	357	30	0	848	540	5	1173	43
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	207	422	292	364	31	0	865	551	5	1197	44
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	77	0	2	0
Lane Group Flow (vph)	0	649	0	0	685	0	0	865	474	0	1244	0
Confl. Peds. (#/hr)	238		195	195		238	518		548	548		518
Confl. Bikes (#/hr)			8			5			23			18
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			4			2				2
Permitted Phases	4			4			2		2	2		
Actuated Green, G (s)		61.5			61.5			78.0	78.0		78.0	
Effective Green, g (s)		63.0			63.0			79.0	79.0		79.0	
Actuated g/C Ratio		0.42			0.42			0.53	0.53		0.53	
Clearance Time (s)		5.5			5.5			5.0	5.0		5.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		619			480			1177	284		1097	
v/s Ratio Prot								0.39				
v/s Ratio Perm		0.44			c0.60				c0.88		0.60	
v/c Ratio		1.40dr			2.12dl			0.73	1.67		1.13	
Uniform Delay, d1		43.5			43.5			27.4	35.5		35.5	
Progression Factor		0.75			1.05			1.77	2.22		1.00	
Incremental Delay, d2		26.6			193.0			0.4	302.2		72.0	
Delay (s)		59.3			238.6			48.8	380.9		107.5	
Level of Service		E			F			D	F		F	
Approach Delay (s)		59.3			238.6			178.0			107.5	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	147.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	163.2%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.97	0.86		0.97	0.86		1.00	0.91		1.00	0.86	0.86
Frbp, ped/bikes	1.00	0.95		1.00	0.99		1.00	0.95		1.00	0.99	0.71
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.94	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98		1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	2168	3763		2168	3993		1118	2969		1045	2979	614
Flt Permitted	0.95	1.00		0.95	1.00		0.06	1.00		0.21	1.00	1.00
Satd. Flow (perm)	2168	3763		2168	3993		75	2969		233	2979	614
Volume (vph)	258	2374	392	39	2839	83	708	1021	177	301	1322	367
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	269	2473	408	41	2957	86	738	1064	184	314	1377	382
RTOR Reduction (vph)	0	19	0	0	3	0	0	16	0	0	3	1
Lane Group Flow (vph)	269	2862	0	41	3040	0	738	1232	0	314	1431	324
Conf. Peds. (#/hr)	237		298	298		237	247		419	419		247
Conf. Bikes (#/hr)			4			3			8			8
Turn Type	Prot			Prot			pm+pt			Perm		pm+ov
Protected Phases	5	2		1	6		3	8			4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	7.0	48.5		4.0	45.5		82.1	82.1		57.1	57.1	64.1
Effective Green, g (s)	7.0	50.0		4.0	47.0		84.0	84.0		59.0	59.0	66.0
Actuated g/C Ratio	0.05	0.33		0.03	0.31		0.56	0.56		0.39	0.39	0.44
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.9		5.9	5.9	4.0
Vehicle Extension (s)	2.0	4.0		2.0	4.0		3.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	101	1254		58	1251		188	1663		92	1172	287
v/s Ratio Prot	0.12	c0.76		0.02	c0.76		c0.55	0.41			0.48	0.05
v/s Ratio Perm							c1.66			1.35		0.48
v/c Ratio	2.66	2.28		0.71	2.43		3.93	0.74		3.41	1.22	1.13
Uniform Delay, d1	71.5	50.0		72.4	51.5		49.9	24.8		45.5	45.5	42.0
Progression Factor	1.20	0.90		1.15	1.20		1.00	1.00		1.08	1.08	1.16
Incremental Delay, d2	751.1	577.1		2.9	643.8		1329.2	1.6		1088.4	100.2	63.2
Delay (s)	836.7	622.4		86.0	705.6		1379.1	26.4		1137.4	149.2	111.9
Level of Service	F	F		F	F		F	C		F	F	F
Approach Delay (s)		640.7			697.3			529.1			293.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	566.1	HCM Level of Service	F
HCM Volume to Capacity ratio	3.32		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	200.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.95		1.00	0.95	
Frt		0.94			0.96		1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1093			1102		1118	2183		1118	2195	
Flt Permitted		0.66			0.68		0.17	1.00		0.17	1.00	
Satd. Flow (perm)		737			760		205	2183		205	2195	
Volume (vph)	110	101	153	392	259	314	60	1316	242	250	1269	172
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	128	117	178	456	301	365	70	1530	281	291	1476	200
RTOR Reduction (vph)	0	3	0	0	2	0	0	25	0	0	18	0
Lane Group Flow (vph)	0	420	0	0	1120	0	70	1786	0	291	1658	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		28.0			28.0		22.6	22.6		22.6	22.6	
Effective Green, g (s)		29.0			29.0		23.0	23.0		23.0	23.0	
Actuated g/C Ratio		0.48			0.48		0.38	0.38		0.38	0.38	
Clearance Time (s)		5.0			5.0		4.4	4.4		4.4	4.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		356			367		79	837		79	841	
v/s Ratio Prot								0.82			0.76	
v/s Ratio Perm		0.57			c1.47		0.34			c1.42		
v/c Ratio		1.18			3.05		0.89	2.13		3.68	1.97	
Uniform Delay, d1		15.5			15.5		17.3	18.5		18.5	18.5	
Progression Factor		1.00			1.00		0.53	0.51		1.00	1.00	
Incremental Delay, d2		106.6			930.5		12.8	510.4		1238.1	441.5	
Delay (s)		122.1			946.0		22.0	519.8		1256.6	460.0	
Level of Service		F			F		C	F		F	F	
Approach Delay (s)		122.1			946.0			501.2			577.9	
Approach LOS		F			F			F			F	

Intersection Summary

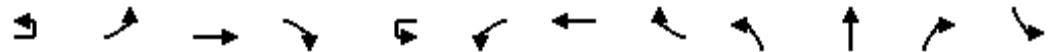
HCM Average Control Delay	592.0	HCM Level of Service	F
HCM Volume to Capacity ratio	3.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	224.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.98		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	1100		1118	1157		1118	2206		1118	2192	
Flt Permitted	0.43	1.00		0.16	1.00		0.15	1.00		0.15	1.00	
Satd. Flow (perm)	509	1100		188	1157		174	2206		174	2192	
Volume (vph)	141	371	286	73	322	39	91	1509	143	44	1697	249
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	144	379	292	74	329	40	93	1540	146	45	1732	254
RTOR Reduction (vph)	0	3	0	0	6	0	0	12	0	0	19	0
Lane Group Flow (vph)	144	668	0	74	363	0	93	1674	0	45	1967	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		4		4		2		2		2	
Permitted Phases	4		4		4		2		2		2	
Actuated Green, G (s)	23.4	23.4		23.4	23.4		26.5	26.5		26.5	26.5	
Effective Green, g (s)	25.0	25.0		25.0	25.0		27.0	27.0		27.0	27.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.45	0.45		0.45	0.45	
Clearance Time (s)	5.6	5.6		5.6	5.6		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)	212	458		78	482		78	993		78	986	
v/s Ratio Prot	c0.61				0.31		0.76				c0.90	
v/s Ratio Perm	0.28		0.39				0.53		0.26			
v/c Ratio	0.68	1.46		0.95	0.75		1.19	1.69		0.58	1.99	
Uniform Delay, d1	14.2	17.5		16.9	14.9		16.5	16.5		12.3	16.5	
Progression Factor	0.59	0.54		1.00	1.00		1.60	1.71		0.70	0.73	
Incremental Delay, d2	4.1	212.2		83.5	6.6		117.7	310.1		2.8	447.9	
Delay (s)	12.5	221.6		100.4	21.5		144.1	338.4		11.4	460.0	
Level of Service	B		F		C		F		F		B	
Approach Delay (s)	184.6				34.6		328.2				450.1	
Approach LOS	F				C		F				F	

Intersection Summary

HCM Average Control Delay	328.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.74		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	173.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↔↔↔	↔		↔↔	↔↔↔	↔	↔	↔↔		↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		0.97	0.91	1.00		0.97	0.91	1.00	1.00	0.95		1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		3072	4550	1417		3072	4550	1417	1583	3163		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.09	1.00		0.09
Satd. Flow (perm)		3072	4550	1417		3072	4550	1417	148	3163		148
Volume (vph)	3	286	2084	100	22	267	2004	421	225	1279	10	583
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	3	289	2105	101	22	270	2024	425	227	1292	10	589
RTOR Reduction (vph)	0	0	0	28	0	0	0	27	0	1	0	0
Lane Group Flow (vph)	0	292	2105	73	0	292	2024	398	227	1301	0	589
Turn Type	Prot	Prot	pm+ov		Prot	Prot	pm+ov	pm+pt				pm+pt
Protected Phases	1	1	6	3	5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		16.2	29.0	41.0		16.5	29.3	41.3	54.3	42.3		54.3
Effective Green, g (s)		16.2	30.5	42.5		16.5	30.8	42.8	57.0	45.0		57.0
Actuated g/C Ratio		0.13	0.25	0.35		0.14	0.26	0.36	0.48	0.38		0.48
Clearance Time (s)		4.0	5.5	4.0		4.0	5.5	4.0	4.0	6.7		4.0
Vehicle Extension (s)		3.0	5.0	3.0		3.0	5.0	3.0	3.0	4.0		3.0
Lane Grp Cap (vph)		415	1156	549		422	1168	553	214	1186		214
v/s Ratio Prot		c0.10	c0.46	0.01		0.10	0.44	0.07	0.11	0.41		c0.28
v/s Ratio Perm				0.04				0.21	0.40			c1.03
v/c Ratio		0.70	1.82	0.13		0.69	1.73	0.72	1.06	1.10		2.75
Uniform Delay, d1		49.6	44.8	26.3		49.3	44.6	33.4	56.2	37.5		35.7
Progression Factor		1.56	0.71	0.11		1.57	0.78	0.24	1.00	1.00		1.28
Incremental Delay, d2		0.5	369.7	0.0		0.5	330.1	0.4	78.5	56.9		789.7
Delay (s)		78.1	401.5	3.0		78.1	364.8	8.3	134.7	94.4		835.4
Level of Service		E	F	A		E	F	A	F	F		F
Approach Delay (s)			347.5				279.0			100.4		
Approach LOS			F				F			F		

Intersection Summary			
HCM Average Control Delay	285.4	HCM Level of Service	F
HCM Volume to Capacity ratio	2.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	143.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3167	1417
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3167	1417
Volume (vph)	1570	109
Peak-hour factor, PHF	0.99	0.99
Adj. Flow (vph)	1586	110
RTOR Reduction (vph)	0	44
Lane Group Flow (vph)	1586	66
Turn Type		Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	42.3	42.3
Effective Green, g (s)	45.0	45.0
Actuated g/C Ratio	0.38	0.38
Clearance Time (s)	6.7	6.7
Vehicle Extension (s)	4.0	4.0
Lane Grp Cap (vph)	1188	531
v/s Ratio Prot	0.50	
v/s Ratio Perm		0.05
v/c Ratio	1.34	0.12
Uniform Delay, d1	37.5	24.6
Progression Factor	1.05	1.14
Incremental Delay, d2	151.3	0.0
Delay (s)	190.8	28.1
Level of Service	F	C
Approach Delay (s)	349.1	
Approach LOS	F	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4524		1583	5676		1583	3136		1583	3139	
Flt Permitted	0.14	1.00		0.12	1.00		0.15	1.00		0.13	1.00	
Satd. Flow (perm)	228	4524		200	5676		247	3136		215	3139	
Volume (vph)	51	2234	88	184	3119	222	58	1257	85	315	1472	92
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	53	2327	92	192	3249	231	60	1309	89	328	1533	96
RTOR Reduction (vph)	0	5	0	0	12	0	0	6	0	0	0	0
Lane Group Flow (vph)	53	2414	0	192	3468	0	60	1392	0	328	1629	0
Turn Type	Perm		pm+pt		Perm		pm+pt					
Protected Phases	2		1		6		8		7		4	
Permitted Phases	2		6		8		4					
Actuated Green, G (s)	28.3	28.3		41.0	41.0		25.6	25.6		38.6	38.6	
Effective Green, g (s)	29.3	29.3		42.0	42.0		27.0	27.0		40.0	40.0	
Actuated g/C Ratio	0.33	0.33		0.47	0.47		0.30	0.30		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.5	5.0		5.4	5.4		3.5	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1473		227	2649		74	941		232	1395	
v/s Ratio Prot	c0.53		0.08		c0.61		0.44		c0.14		0.52	
v/s Ratio Perm	0.23		0.31		0.24		c0.49					
v/c Ratio	0.72	1.64		0.85	1.31		0.81	1.48		1.41	1.17	
Uniform Delay, d1	26.7	30.4		41.8	24.0		29.1	31.5		42.7	25.0	
Progression Factor	1.77	1.73		2.12	0.54		0.95	0.93		1.00	1.00	
Incremental Delay, d2	5.3	287.8		2.8	139.4		48.0	220.0		209.7	83.6	
Delay (s)	52.5	340.4		91.5	152.4		75.6	249.3		252.4	108.6	
Level of Service	D		F		F		E		F		F	
Approach Delay (s)	334.2		149.2		242.2		132.7					
Approach LOS	F		F		F		F					

Intersection Summary

HCM Average Control Delay	207.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	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	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4550	1417	1583	3167	1417	1583	3117	3117
Flt Permitted	0.14	1.00	1.00	0.14	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	227	4550	1417	227	4550	1417	1583	3167	1417	1583	3117	3117
Volume (vph)	196	1843	332	351	2264	370	284	802	83	297	1120	132
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	198	1862	335	355	2287	374	287	810	84	300	1131	133
RTOR Reduction (vph)	0	0	8	0	0	43	0	0	1	0	10	0
Lane Group Flow (vph)	198	1862	327	355	2287	331	287	810	83	300	1254	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	Prot		pm+ov		Prot	
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	34.0	27.5	35.6	34.0	27.5	34.0	8.1	31.4	37.9	6.5	29.8	
Effective Green, g (s)	35.4	29.4	37.0	35.4	29.4	35.4	7.6	32.6	38.6	6.0	31.0	
Actuated g/C Ratio	0.39	0.33	0.41	0.39	0.33	0.39	0.08	0.36	0.43	0.07	0.34	
Clearance Time (s)	3.5	5.9	3.5	3.5	5.9	3.5	3.5	5.2	3.5	3.5	5.2	
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	
Lane Grp Cap (vph)	180	1486	583	180	1486	620	134	1147	671	106	1074	
v/s Ratio Prot	0.07	0.41	0.05	c0.13	0.50	0.04	c0.18	0.26	0.01	c0.19	c0.40	
v/s Ratio Perm	0.36		0.18	c0.65		0.20			0.05			
v/c Ratio	1.10	1.25	0.56	1.97	1.54	0.53	2.14	0.71	0.12	2.83	1.17	
Uniform Delay, d1	44.2	30.3	20.3	44.2	30.3	21.0	41.2	24.6	15.5	42.0	29.5	
Progression Factor	0.94	0.68	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.28	1.10	
Incremental Delay, d2	53.4	114.4	0.1	456.9	246.0	0.9	537.9	2.5	0.1	825.9	76.5	
Delay (s)	95.1	135.1	15.4	501.2	276.3	21.9	579.1	27.1	15.6	879.7	109.1	
Level of Service	F	F	B	F	F	C	F	C	B	F	F	
Approach Delay (s)		115.1			271.2			160.4			256.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	206.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	131.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 92: Le Conte Ave & Gayley Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.96		1.00	1.00	0.75	1.00	0.88		1.00	0.99	
Flpb, ped/bikes	0.84	1.00		0.67	1.00	1.00	0.94	1.00		0.87	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.93		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1335	1573		1054	1667	1062	1491	2584		1379	3124	
Flt Permitted	0.50	1.00		0.69	1.00	1.00	0.21	1.00		0.49	1.00	
Satd. Flow (perm)	708	1573		763	1667	1062	330	2584		716	3124	
Volume (vph)	9	91	10	287	214	83	107	215	199	139	991	26
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	97	11	305	228	88	114	229	212	148	1054	28
RTOR Reduction (vph)	0	6	0	0	0	63	0	34	0	0	2	0
Lane Group Flow (vph)	10	102	0	305	228	25	114	407	0	148	1080	0
Conf. Peds. (#/hr)	212		207	207		212	177		203	203		177
Conf. Bikes (#/hr)			13			9			15			12
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2			2		
Actuated Green, G (s)	20.2	20.2		20.2	20.2	20.2	45.3	45.3		45.3	45.3	
Effective Green, g (s)	21.0	21.0		21.0	21.0	21.0	46.0	46.0		46.0	46.0	
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.8	4.8		4.8	4.8	4.8	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	198	440		214	467	297	202	1585		439	1916	
v/s Ratio Prot		0.07			0.14			0.16			0.35	
v/s Ratio Perm	0.01			0.40		0.02	0.35			0.21		
v/c Ratio	0.05	0.23		1.43	0.49	0.08	0.56	0.26		0.34	0.56	
Uniform Delay, d1	19.7	20.8		27.0	22.5	19.9	8.6	6.7		7.1	8.6	
Progression Factor	1.00	1.00		1.03	1.03	1.29	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.2		213.8	3.2	0.5	10.9	0.4		2.1	1.2	
Delay (s)	20.2	22.0		241.7	26.5	26.2	19.5	7.0		9.1	9.8	
Level of Service	C	C		F	C	C	B	A		A	A	
Approach Delay (s)		21.9			132.2			9.6			9.7	
Approach LOS		C			F			A			A	

Intersection Summary			
HCM Average Control Delay	40.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕	↕	↕	↕↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes		0.99		1.00	0.86		1.00	1.00	0.72	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		0.98	1.00	1.00	0.94	1.00	
Frt		0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1069		1118	867		1093	2235	722	1051	2234	
Flt Permitted		0.99		0.76	1.00		0.17	1.00	1.00	0.23	1.00	
Satd. Flow (perm)		1069		888	867		190	2235	722	260	2234	
Volume (vph)	1	1	2	233	8	187	3	862	160	477	1037	2
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1	1	2	238	8	191	3	880	163	487	1058	2
RTOR Reduction (vph)	0	2	0	0	127	0	0	0	86	0	0	0
Lane Group Flow (vph)	0	2	0	238	72	0	3	880	77	487	1060	0
Conf. Peds. (#/hr)	82						82	77		239	239	
Conf. Bikes (#/hr)			2			6			9			5
Turn Type	Split			Perm			Perm			Perm custom		
Protected Phases	3	3			4			6				
Permitted Phases				4			6		6	2	2	
Actuated Green, G (s)		1.3		24.2	24.2		34.9	34.9	34.9	34.9	34.9	
Effective Green, g (s)		2.3		25.2	25.2		35.5	35.5	35.5	35.5	35.5	
Actuated g/C Ratio		0.03		0.34	0.34		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)		5.0		5.0	5.0		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		33		298	291		90	1058	342	123	1057	
v/s Ratio Prot		c0.00			0.08			0.39				
v/s Ratio Perm				c0.27			0.02		0.11	c1.88	0.47	
v/c Ratio		0.06		0.80	0.25		0.03	0.83	0.23	3.96	1.00	
Uniform Delay, d1		35.3		22.6	18.0		10.6	17.2	11.6	19.7	19.7	
Progression Factor		1.00		1.86	4.73		0.92	1.14	1.88	1.00	1.00	
Incremental Delay, d2		0.8		1.4	0.0		0.1	0.7	0.1	1351.0	28.4	
Delay (s)		36.1		43.4	85.3		9.8	20.2	22.0	1370.8	48.1	
Level of Service		D		D	F		A	C	C	F	D	
Approach Delay (s)		36.1			62.5			20.5			464.5	
Approach LOS		D			E			C			F	

Intersection Summary			
HCM Average Control Delay	252.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.55		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔	↑↑↑		↔	↑↑	↔	↔	↑	↔↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86		1.00	0.95	1.00	1.00	1.00	0.88
Frbp, ped/bikes	1.00	0.97		1.00	0.96		1.00	1.00	0.69	1.00	1.00	0.80
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00	1.00	0.80	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3874		1110	3849		1118	2235	691	897	1176	1411
Flt Permitted	0.95	1.00		0.06	1.00		0.10	1.00	1.00	0.57	1.00	1.00
Satd. Flow (perm)	2168	3874		75	3849		115	2235	691	535	1176	1411
Volume (vph)	338	2603	167	44	3444	340	372	292	83	300	499	534
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	352	2711	174	46	3588	354	388	304	86	312	520	556
RTOR Reduction (vph)	0	6	0	0	11	0	0	0	1	0	0	0
Lane Group Flow (vph)	352	2879	0	46	3931	0	388	304	85	312	520	556
Confl. Peds. (#/hr)	150		269	269		450	284		210	210		284
Confl. Bikes (#/hr)			4			9			6			5
Turn Type	Prot			Perm			pm+pt		Perm	Perm		pm+ov
Protected Phases	1	6			2		3	8			4	1
Permitted Phases				2			8		8	4		4
Actuated Green, G (s)	25.0	90.0		61.0	61.0		49.2	49.2	49.2	35.2	35.2	60.2
Effective Green, g (s)	25.0	91.0		62.0	62.0		51.0	51.0	51.0	37.0	37.0	62.0
Actuated g/C Ratio	0.17	0.61		0.41	0.41		0.34	0.34	0.34	0.25	0.25	0.41
Clearance Time (s)	4.0	5.0		5.0	5.0		4.0	5.8	5.8	5.8	5.8	4.0
Vehicle Extension (s)	2.0	4.0		4.0	4.0		2.0	3.0	3.0	3.0	3.0	2.0
Lane Grp Cap (vph)	361	2350		31	1591		106	760	235	132	290	621
v/s Ratio Prot	0.16	c0.74			c1.02		c0.24	0.14			0.44	0.15
v/s Ratio Perm				0.61			c1.00		0.12	0.58		0.24
v/c Ratio	0.98	1.22		1.48	2.47		3.66	0.40	0.36	2.36	1.79	0.90
Uniform Delay, d1	62.2	29.5		44.0	44.0		72.2	37.8	37.3	56.5	56.5	41.0
Progression Factor	0.85	1.48		0.46	0.48		1.00	1.00	1.00	0.91	0.91	1.06
Incremental Delay, d2	9.1	101.6		232.7	662.1		1220.1	0.3	1.0	626.1	364.3	9.0
Delay (s)	61.8	145.3		253.2	683.4		1292.3	38.2	38.2	677.8	415.9	52.4
Level of Service	E	F		F	F		F	D	D	F	F	D
Approach Delay (s)		136.2			678.5			663.6			329.1	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	438.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.66		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	191.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 95: Sunset Blvd & Veteran Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑		↖		↖		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0		4.0			
Lane Util. Factor		0.95		1.00	0.95		1.00		1.00			
Frt		0.99		1.00	1.00		1.00		0.85			
Flt Protected		1.00		0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3121		1583	3167		1583		1417			
Flt Permitted		1.00		0.10	1.00		0.76		1.00			
Satd. Flow (perm)		3121		164	3167		1262		1417			
Volume (vph)	0	1456	156	702	1672	0	382	0	880	0	0	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1501	161	724	1724	0	394	0	907	0	0	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	325	0	0	0
Lane Group Flow (vph)	0	1655	0	724	1724	0	394	0	582	0	0	0
Turn Type				pm+pt		custom		Over	Perm			
Protected Phases		2		1	6			1			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		35.6		81.0	81.0		30.0		41.4			
Effective Green, g (s)		36.6		82.0	82.0		30.0		41.4			
Actuated g/C Ratio		0.30		0.68	0.68		0.25		0.34			
Clearance Time (s)		5.0		4.0	5.0		4.0		4.0			
Vehicle Extension (s)		4.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		952		602	2164		316		489			
v/s Ratio Prot		c0.53		c0.42	0.54				0.41			
v/s Ratio Perm				0.41			c0.31					
v/c Ratio		1.74		1.20	0.80		1.25		1.19			
Uniform Delay, d1		41.7		41.5	13.2		45.0		39.3			
Progression Factor		1.00		0.95	0.95		1.00		1.00			
Incremental Delay, d2		336.7		103.0	2.4		134.8		104.6			
Delay (s)		378.4		142.3	15.0		179.8		143.9			
Level of Service		F		F	B		F		F			
Approach Delay (s)		378.4			52.7			154.7			0.0	
Approach LOS		F			D			F			A	
Intersection Summary												
HCM Average Control Delay			177.3			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.40									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			127.7%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		0.97	0.86		1.00	0.95	1.00	1.00	0.95	0.88
Frbp, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00	0.93	1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3927		2168	3925		1118	2235	928	1106	2235	1607
Flt Permitted	0.95	1.00		0.95	1.00		0.12	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	2168	3927		2168	3925		136	2235	928	196	2235	1607
Volume (vph)	285	2830	243	19	3606	670	234	794	323	152	706	1129
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	310	3076	264	21	3920	728	254	863	351	165	767	1227
RTOR Reduction (vph)	0	9	0	0	22	0	0	0	0	0	0	1
Lane Group Flow (vph)	310	3331	0	21	4626	0	254	863	351	165	767	1226
Conf. Peds. (#/hr)	16		74	74		16	73		33	33		73
Conf. Bikes (#/hr)			14			12			27			14
Turn Type	Prot			Prot			pm+pt		pm+ov	Perm		pm+ov
Protected Phases	5	2		1	6		3	8	1		4	5
Permitted Phases							8		8	4		4
Actuated Green, G (s)	22.0	80.5		5.0	63.5		48.1	48.1	53.1	39.1	39.1	61.1
Effective Green, g (s)	22.0	82.0		5.0	65.0		51.0	51.0	56.0	42.0	42.0	64.0
Actuated g/C Ratio	0.15	0.55		0.03	0.43		0.34	0.34	0.37	0.28	0.28	0.43
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.9	4.0	6.9	6.9	4.0
Vehicle Extension (s)	1.0	4.0		1.0	4.0		3.0	2.0	1.0	2.0	2.0	1.0
Lane Grp Cap (vph)	318	2147		72	1701		79	760	371	55	626	686
v/s Ratio Prot	0.14	0.85		0.01	c1.18		c0.11	0.39	0.03		0.34	c0.26
v/s Ratio Perm							c0.98		0.35	0.84		0.50
v/c Ratio	0.97	1.55		0.29	2.72		3.22	1.14	0.95	3.00	1.23	1.79
Uniform Delay, d1	63.7	34.0		70.8	42.5		48.2	49.5	45.5	54.0	54.0	43.0
Progression Factor	0.63	0.31		1.30	0.48		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.9	248.4		0.1	773.9		1028.9	76.8	32.5	946.7	115.1	360.4
Delay (s)	50.1	258.8		92.2	794.3		1077.1	126.3	78.0	1000.7	169.1	403.4
Level of Service	D	F		F	F		F	F	E	F	F	F
Approach Delay (s)		241.1			791.1			279.2			365.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	483.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.72		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	198.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86		0.97	0.81		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	4005		2168	4705		1118	2168		1118	2194	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1118	4005		2168	4705		1118	2168		1118	2194	
Volume (vph)	117	2503	184	537	3098	282	67	1188	297	304	1014	141
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	122	2607	192	559	3227	294	70	1238	309	317	1056	147
RTOR Reduction (vph)	0	7	0	0	11	0	0	15	0	0	7	0
Lane Group Flow (vph)	122	2792	0	559	3510	0	70	1532	0	317	1196	0
Turn Type	Prot		Prot		Prot		Prot		Prot			
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	12.0	63.2		21.0	72.2		11.0	33.0		13.3	35.3	
Effective Green, g (s)	12.0	64.7		21.0	73.7		11.0	35.0		13.3	37.3	
Actuated g/C Ratio	0.08	0.43		0.14	0.49		0.07	0.23		0.09	0.25	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	1.0	4.0		1.0	4.0		1.0	4.0		1.0	4.0	
Lane Grp Cap (vph)	89	1727		304	2312		82	506		99	546	
v/s Ratio Prot	0.11	c0.70		c0.26	0.75		0.06	c0.71		c0.28	0.55	
v/s Ratio Perm												
v/c Ratio	1.37	1.62		1.84	1.52		0.85	3.03		3.20	2.19	
Uniform Delay, d1	69.0	42.6		64.5	38.1		68.7	57.5		68.4	56.4	
Progression Factor	1.05	0.91		0.71	0.51		1.00	1.00		1.00	1.00	
Incremental Delay, d2	173.3	277.6		378.6	233.4		52.2	918.1		1016.7	541.9	
Delay (s)	245.7	316.5		424.7	252.8		120.9	975.6		1085.0	598.3	
Level of Service	F	F		F	F		F	F		F	F	
Approach Delay (s)		313.5			276.3			938.6			699.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	456.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.18		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	193.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 98: Olympic Blvd & Sepulveda Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗	↖	↖	↗↖	↖	↖	↗↖	↖↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4492		1583	4550	1417	1583	3167	1417	1583	3124	
Flt Permitted	0.12	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.11	1.00	
Satd. Flow (perm)	208	4492		1583	4550	1417	185	3167	1417	185	3124	
Volume (vph)	120	2146	198	147	3172	198	30	1524	80	91	1168	115
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	122	2190	202	150	3237	202	31	1555	82	93	1192	117
RTOR Reduction (vph)	0	12	0	0	0	2	0	0	20	0	0	0
Lane Group Flow (vph)	122	2380	0	150	3237	200	31	1555	62	93	1309	0
Turn Type	Perm			Prot		Perm	Perm		Perm	Perm		
Protected Phases	8			7	4			6			2	
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	31.1	31.1		10.4	45.0	45.0	35.0	35.0	35.0	35.0	35.0	
Effective Green, g (s)	32.1	32.1		9.9	46.0	46.0	36.0	36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.36	0.36		0.11	0.51	0.51	0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)	5.0	5.0		3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	74	1602		174	2326	724	74	1267	567	74	1250	
v/s Ratio Prot		0.53		0.09	c0.71			0.49			0.42	
v/s Ratio Perm	c0.59					0.14	0.17		0.04	c0.50		
v/c Ratio	1.65	1.49		0.86	1.39	0.28	0.42	1.23	0.11	1.26	1.05	
Uniform Delay, d1	28.9	28.9		39.4	22.0	12.5	19.5	27.0	16.9	27.0	27.0	
Progression Factor	0.82	0.80		1.08	0.54	0.21	0.99	0.91	1.14	1.00	1.00	
Incremental Delay, d2	333.5	221.1		4.2	176.5	0.1	1.6	103.0	0.0	188.5	38.8	
Delay (s)	357.1	244.2		46.8	188.3	2.7	20.9	127.4	19.4	215.5	65.8	
Level of Service	F			D	F	A	C	F	B	F	E	
Approach Delay (s)	249.7			172.0				120.1		75.7		
Approach LOS	F			F				F		E		

Intersection Summary

HCM Average Control Delay	169.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	145.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑		↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4480		1583	3121		1583	3167	1417
Flt Permitted	0.18	1.00	1.00	0.15	1.00		0.95	1.00		0.11	1.00	1.00
Satd. Flow (perm)	303	4550	1417	256	4480		1583	3121		185	3167	1417
Volume (vph)	74	1854	201	222	1843	211	463	1568	166	118	1467	112
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	75	1873	203	224	1862	213	468	1584	168	119	1482	113
RTOR Reduction (vph)	0	0	9	0	16	0	0	9	0	0	0	1
Lane Group Flow (vph)	75	1873	194	224	2059	0	468	1743	0	119	1482	112
Turn Type	Perm		pm+ov	pm+pt			Prot			Perm		Perm
Protected Phases		6	3	5	2		3	8			4	
Permitted Phases	6		6	2						4		4
Actuated Green, G (s)	20.5	20.5	32.0	29.5	29.5		11.5	50.5		35.5	35.5	35.5
Effective Green, g (s)	22.0	22.0	33.0	31.0	31.0		11.0	51.0		36.0	36.0	36.0
Actuated g/C Ratio	0.24	0.24	0.37	0.34	0.34		0.12	0.57		0.40	0.40	0.40
Clearance Time (s)	5.5	5.5	3.5	3.0	5.5		3.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	1112	583	162	1543		193	1769		74	1267	567
v/s Ratio Prot		c0.41	0.04	0.08	c0.46		c0.30	0.56			0.47	
v/s Ratio Perm	0.25		0.10	0.40						c0.64		0.08
v/c Ratio	1.01	1.68	0.33	1.38	1.33		2.42	0.99		1.61	1.17	0.20
Uniform Delay, d1	34.0	34.0	20.6	44.7	29.5		39.5	19.1		27.0	27.0	17.6
Progression Factor	1.00	1.00	1.00	1.64	1.53		1.00	1.00		1.43	1.43	1.48
Incremental Delay, d2	108.4	311.9	0.1	175.8	151.0		656.7	18.2		289.9	78.9	0.2
Delay (s)	142.4	345.9	20.7	249.3	196.2		696.2	37.3		328.4	117.6	26.2
Level of Service	F	F	C	F	F		F	D		F	F	C
Approach Delay (s)		308.1			201.4			176.2			126.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	206.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	141.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗↗		↘	↗↗↗	↗	↘	↗↗	↗	↗↗	↗↗	↗↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	0.86	0.86	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.97	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	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (prot)	1303	3743		1304	3747	1129	1304	2608	1137	2243	2285	
Flt Permitted	0.07	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	
Satd. Flow (perm)	90	3743		1304	3747	1129	1304	2608	1137	2243	2285	
Volume (vph)	22	1583	10	44	1791	1260	139	297	257	989	220	7
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	1615	10	45	1828	1286	142	303	262	1009	224	7
RTOR Reduction (vph)	0	1	0	0	0	352	0	0	0	0	1	0
Lane Group Flow (vph)	22	1624	0	45	1828	934	142	303	262	673	566	0
Confl. Peds. (#/hr)	11		9	9		11	58		11	11		58
Confl. Bikes (#/hr)			6			8			10			4
Turn Type	Perm		Prot		Perm	Split	pm+ov		Split			
Protected Phases	6		5	2		3	3	5	4	4		
Permitted Phases	6				2			3				
Actuated Green, G (s)	60.2	60.2		10.0	74.2	74.2	20.8	20.8	30.8	40.0	40.0	
Effective Green, g (s)	61.2	61.2		10.0	75.2	75.2	21.8	21.8	31.8	41.0	41.0	
Actuated g/C Ratio	0.41	0.41		0.07	0.50	0.50	0.15	0.15	0.21	0.27	0.27	
Clearance Time (s)	5.0	5.0		4.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0	
Vehicle Extension (s)	4.0	4.0		2.0	4.0	4.0	2.0	2.0	2.0	4.0	4.0	
Lane Grp Cap (vph)	37	1527		87	1878	566	190	379	241	613	625	
v/s Ratio Prot		0.43		0.03	0.49		0.11	0.12	c0.07	c0.30	0.25	
v/s Ratio Perm	0.25					c0.83			0.16			
v/c Ratio	0.59	1.06		0.52	0.97	1.65	0.75	0.80	1.09	1.10	1.03dl	
Uniform Delay, d1	34.7	44.4		67.7	36.4	37.4	61.5	62.0	59.1	54.5	52.6	
Progression Factor	1.70	1.70		1.16	0.98	3.79	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	42.3	39.2		0.2	2.6	293.3	13.1	10.5	83.2	66.0	17.0	
Delay (s)	101.4	114.8		78.9	38.4	435.1	74.5	72.5	142.3	120.5	69.7	
Level of Service	F	F		E	D	F	E	E	F	F	E	
Approach Delay (s)		114.6			200.5			98.8			97.3	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	149.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	145.5%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
101: W San Vicente Ave & Barrington Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑	↗		↕			↕↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00		1.00			0.95	
Frt	1.00	0.98		1.00	1.00	0.85		0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1583	4476		1583	3167	1417		1655			3111	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.88			0.56	
Satd. Flow (perm)	1583	4476		1583	3167	1417		1465			1752	
Volume (vph)	189	953	116	90	1117	140	10	882	47	181	575	32
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	199	1003	122	95	1176	147	11	928	49	191	605	34
RTOR Reduction (vph)	0	13	0	0	0	83	0	1	0	0	4	0
Lane Group Flow (vph)	199	1112	0	95	1176	64	0	987	0	0	826	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2						
Actuated Green, G (s)	12.8	43.4		8.3	38.9	38.9		26.0			26.0	
Effective Green, g (s)	12.8	43.7		8.3	39.2	39.2		26.0			26.0	
Actuated g/C Ratio	0.14	0.49		0.09	0.44	0.44		0.29			0.29	
Clearance Time (s)	4.0	4.3		4.0	4.3	4.3		4.0			4.0	
Vehicle Extension (s)	3.0	5.7		3.0	5.5	5.5		3.0			3.0	
Lane Grp Cap (vph)	225	2173		146	1379	617		423			506	
v/s Ratio Prot	c0.13	0.25		0.06	c0.37							
v/s Ratio Perm						0.05	c0.67					0.47
v/c Ratio	0.88	0.51		0.65	0.85	0.10		2.33			38.20dl	
Uniform Delay, d1	37.9	15.8		39.5	22.8	15.0		32.0			32.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	31.0	0.9		9.9	6.9	0.3		606.9			293.9	
Delay (s)	68.9	16.7		49.4	29.7	15.4		638.9			325.9	
Level of Service	E	B		D	C	B		F			F	
Approach Delay (s)	24.5			29.5				638.9			325.9	
Approach LOS	C			C				F			F	

Intersection Summary

HCM Average Control Delay	214.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	140.0%	ICU Level of Service	H
Analysis Period (min)	15		
dl	Defacto Left Lane. Recode with 1 though lane as a left lane.		
dr	Defacto Right Lane. Recode with 1 though lane as a right lane.		
c	Critical Lane Group		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗↗	↗	↗	↗↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	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		0.95	1.00		0.92	1.00	
Frt	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	3726		1304	3740		1238	2608		1194	2491	
Flt Permitted	0.07	1.00		0.11	1.00		0.20	1.00		0.58	1.00	
Satd. Flow (perm)	92	3726		146	3740		265	2608		727	2491	
Volume (vph)	594	1542	32	79	1865	10	93	205	0	37	585	74
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	619	1606	33	82	1943	10	97	214	0	39	609	77
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	619	1638	0	82	1953	0	97	214	0	39	680	0
Conf. Peds. (#/hr)	63		61	61		63	79		72	72		79
Conf. Bikes (#/hr)			9			13			4			9
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		6			2			8				4
Permitted Phases	6			2			8		8	4		
Actuated Green, G (s)	95.5	95.5		95.5	95.5		46.0	46.0		46.0	46.0	
Effective Green, g (s)	96.0	96.0		96.0	96.0		46.0	46.0		46.0	46.0	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.31	0.31		0.31	0.31	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	59	2385		93	2394		81	800		223	764	
v/s Ratio Prot		0.44			0.52			0.08			0.27	
v/s Ratio Perm	c6.74			0.56			c0.37			0.05		
v/c Ratio	10.49	0.69		0.88	0.82		1.20	0.27		0.17	0.89	
Uniform Delay, d1	27.0	17.3		22.3	20.3		52.0	39.3		38.1	49.6	
Progression Factor	1.00	1.00		1.58	1.69		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4304.6	1.6		32.4	1.2		162.6	0.8		1.7	14.7	
Delay (s)	4331.6	19.0		67.7	35.6		214.6	40.1		39.8	64.3	
Level of Service	F	B		E	D		F	D		D	E	
Approach Delay (s)		1201.2			36.9			94.5			62.9	
Approach LOS		F			D			F			E	

Intersection Summary

HCM Average Control Delay	537.1	HCM Level of Service	F
HCM Volume to Capacity ratio	7.49		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	141.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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
Frt		0.98			0.99		1.00	1.00		1.00	1.00	0.85
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1622			1644		1583	1662		1583	1667	1417
Flt Permitted		0.94			0.91		0.29	1.00		0.36	1.00	1.00
Satd. Flow (perm)		1535			1499		487	1662		602	1667	1417
Volume (vph)	66	474	104	19	214	18	93	503	10	93	602	76
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	69	494	108	20	223	19	97	524	10	97	627	79
RTOR Reduction (vph)	0	12	0	0	5	0	0	1	0	0	0	36
Lane Group Flow (vph)	0	659	0	0	257	0	97	533	0	97	627	43
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		8		4		4		2		6		6
Permitted Phases		8		4		2		6		6		6
Actuated Green, G (s)		18.5		18.5		32.7		32.7		32.7		32.7
Effective Green, g (s)		19.0		19.0		33.0		33.0		33.0		33.0
Actuated g/C Ratio		0.32		0.32		0.55		0.55		0.55		0.55
Clearance Time (s)		4.5		4.5		4.3		4.3		4.3		4.3
Vehicle Extension (s)		3.0		3.0		3.0		3.0		3.0		3.0
Lane Grp Cap (vph)		486		475		268		914		331		779
v/s Ratio Prot								0.32				c0.38
v/s Ratio Perm		c0.43		0.17		0.20				0.16		0.03
v/c Ratio		1.36		0.54		0.36		0.58		0.29		0.06
Uniform Delay, d1		20.5		16.9		7.6		8.9		7.2		6.3
Progression Factor		1.00		1.00		1.03		0.91		1.00		1.00
Incremental Delay, d2		173.6		1.3		1.7		1.2		2.2		4.1
Delay (s)		194.1		18.2		9.4		9.3		9.5		13.9
Level of Service		F		B		A		A		A		B
Approach Delay (s)		194.1		18.2		9.3						12.6
Approach LOS		F		B		A						B

Intersection Summary

HCM Average Control Delay	63.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	109.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑	↗	↖	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1304	3700		1304	3717		1304	1373	1167	1304	1369	
Flt Permitted	0.17	1.00		0.17	1.00		0.28	1.00	1.00	0.29	1.00	
Satd. Flow (perm)	239	3700		239	3717		383	1373	1167	392	1369	
Volume (vph)	39	1658	150	117	1622	90	98	563	14	60	561	10
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	40	1692	153	119	1655	92	100	574	14	61	572	10
RTOR Reduction (vph)	0	17	0	0	10	0	0	0	1	0	1	0
Lane Group Flow (vph)	40	1828	0	119	1737	0	100	574	13	61	581	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	2			2			4			4	4	
Permitted Phases	2			2			4			4	4	
Actuated Green, G (s)	22.4	22.4		22.4	22.4		28.0	28.0	28.0	28.0	28.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		29.0	29.0	29.0	29.0	29.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)	4.6	4.6		4.6	4.6		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)	92	1418		92	1425		185	664	564	189	662	
v/s Ratio Prot		0.49			0.47			0.42			c0.42	
v/s Ratio Perm	0.17			c0.50			0.26		0.01	0.16		
v/c Ratio	0.43	1.29		1.29	1.22		0.54	0.86	0.02	0.32	0.88	
Uniform Delay, d1	13.7	18.5		18.5	18.5		10.8	13.8	8.1	9.5	13.9	
Progression Factor	1.00	1.00		1.52	1.55		1.00	1.00	1.00	0.48	0.67	
Incremental Delay, d2	14.3	135.5		174.7	103.0		10.9	14.1	0.1	2.7	10.0	
Delay (s)	27.9	154.0		202.9	131.7		21.7	27.8	8.2	7.3	19.4	
Level of Service	C	F		F	F		C	C	A	A	B	
Approach Delay (s)		151.3			136.2			26.5			18.2	
Approach LOS		F			F			C			B	

Intersection Summary

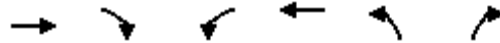
HCM Average Control Delay	112.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	132.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑		↰	↑↑↑	↰	↰	↑↑		↰	↑↑	↰
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.86	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4450		1583	5733	1417	1583	3072		1583	3167	1417
Flt Permitted	0.10	1.00		0.10	1.00	1.00	0.12	1.00		0.14	1.00	1.00
Satd. Flow (perm)	167	4450		167	5733	1417	208	3072		231	3167	1417
Volume (vph)	118	1346	230	231	1899	279	142	713	178	227	1228	62
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	123	1402	240	241	1978	291	148	743	185	236	1279	65
RTOR Reduction (vph)	0	27	0	0	0	33	0	15	0	0	0	18
Lane Group Flow (vph)	123	1615	0	241	1978	258	148	913	0	236	1279	47
Turn Type	Perm			Perm		pm+ov	pm+pt			pm+pt		Perm
Protected Phases	6			2		7	3	8		7	4	
Permitted Phases	6			2		2	8			4		4
Actuated Green, G (s)	39.0	39.0		39.0	39.0	45.0	36.1	30.1		36.1	30.1	30.1
Effective Green, g (s)	40.0	40.0		40.0	40.0	46.0	38.0	32.0		38.0	32.0	32.0
Actuated g/C Ratio	0.44	0.44		0.44	0.44	0.51	0.42	0.36		0.42	0.36	0.36
Clearance Time (s)	5.0	5.0		5.0	5.0	4.0	4.0	5.9		4.0	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	1978		74	2548	787	179	1092		188	1126	504
v/s Ratio Prot		0.36			0.35	0.02	0.05	0.30		c0.08	0.40	
v/s Ratio Perm	0.74			c1.45		0.16	0.29			c0.45		0.03
v/c Ratio	1.66	0.82		3.26	0.78	0.33	0.83	0.84		1.26	1.14	0.09
Uniform Delay, d1	25.0	21.8		25.0	21.2	12.9	22.0	26.6		22.2	29.0	19.3
Progression Factor	1.00	1.00		1.05	1.02	1.55	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	350.0	3.9		1018.7	0.2	0.0	25.7	7.6		150.8	72.4	0.4
Delay (s)	375.0	25.7		1044.9	21.9	20.0	47.7	34.2		173.0	101.4	19.7
Level of Service	F	C		F	C	C	D	C		F	F	B
Approach Delay (s)		50.0			119.9			36.1			108.8	
Approach LOS		D			F			D			F	

Intersection Summary

HCM Average Control Delay	86.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	0.98		1.00	1.00	0.97	
Flt Protected	1.00		0.95	1.00	0.96	
Satd. Flow (prot)	3691		1304	3747	1280	
Flt Permitted	1.00		0.07	1.00	0.96	
Satd. Flow (perm)	3691		98	3747	1280	
Volume (vph)	1965	220	66	1925	235	71
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	2047	229	69	2005	245	74
RTOR Reduction (vph)	13	0	0	0	5	0
Lane Group Flow (vph)	2263	0	69	2005	314	0
Turn Type			Perm			
Protected Phases	6			2	4	
Permitted Phases			2			
Actuated Green, G (s)	55.9		55.9	55.9	25.3	
Effective Green, g (s)	56.0		56.0	56.0	26.0	
Actuated g/C Ratio	0.62		0.62	0.62	0.29	
Clearance Time (s)	4.1		4.1	4.1	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2297		61	2331	370	
v/s Ratio Prot	0.61			0.54	c0.25	
v/s Ratio Perm			c0.70			
v/c Ratio	0.99		1.13	0.86	0.85	
Uniform Delay, d1	16.6		17.0	13.8	30.1	
Progression Factor	0.51		1.00	1.00	1.00	
Incremental Delay, d2	12.1		155.6	4.4	16.4	
Delay (s)	20.7		172.6	18.3	46.5	
Level of Service	C		F	B	D	
Approach Delay (s)	20.7			23.4	46.5	
Approach LOS	C			C	D	
Intersection Summary						
HCM Average Control Delay			23.6		HCM Level of Service	C
HCM Volume to Capacity ratio			1.04			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			100.1%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗			↕			↖	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99			0.94			1.00	0.94
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99			0.98	1.00
Frt	1.00	1.00		1.00	1.00			0.90			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	1.00
Satd. Flow (prot)	1292	3722		1300	3697			1145			1308	1095
Flt Permitted	0.07	1.00		0.07	1.00			0.95			0.76	1.00
Satd. Flow (perm)	90	3722		97	3697			1095			1022	1095
Volume (vph)	49	1853	47	84	1908	58	33	26	157	40	36	45
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	1930	49	88	1988	60	34	27	164	42	38	47
RTOR Reduction (vph)	0	2	0	0	3	0	0	7	0	0	0	4
Lane Group Flow (vph)	51	1977	0	88	2045	0	0	218	0	0	80	43
Conf. Peds. (#/hr)	123		38	38		123	46		63	63		46
Conf. Bikes (#/hr)			7			9						1
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)	60.3	60.3		60.3	60.3			21.7			21.7	21.7
Effective Green, g (s)	60.3	60.3		60.3	60.3			21.7			21.7	21.7
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24			0.24	0.24
Clearance Time (s)	4.0	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	3.0
Lane Grp Cap (vph)	60	2494		65	2477			264			246	264
v/s Ratio Prot		0.53			0.55							
v/s Ratio Perm	0.57			c0.90				c0.20			0.08	0.04
v/c Ratio	0.85	0.79		1.35	0.83			0.83			0.33	0.16
Uniform Delay, d1	11.4	10.4		14.9	11.0			32.4			28.1	27.0
Progression Factor	2.55	2.85		0.71	0.66			1.00			1.00	1.00
Incremental Delay, d2	12.9	0.2		200.1	1.6			18.7			0.8	0.3
Delay (s)	41.9	30.0		210.6	8.9			51.0			28.9	27.3
Level of Service	D	C		F	A			D			C	C
Approach Delay (s)		30.3			17.2			51.0			28.3	
Approach LOS		C			B			D			C	

Intersection Summary

HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑	↵↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	
Frt	1.00	0.85	1.00	1.00	0.97	
Flt Protected	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (prot)	3167	1417	1583	3167	3006	
Flt Permitted	1.00	1.00	0.95	1.00	0.96	
Satd. Flow (perm)	3167	1417	1583	3167	3006	
Volume (vph)	1373	826	95	1570	472	141
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1445	869	100	1653	497	148
RTOR Reduction (vph)	0	76	0	0	32	0
Lane Group Flow (vph)	1445	793	100	1653	613	0
Turn Type		pt+ov	Prot			
Protected Phases	2	2 4	1	6	4	
Permitted Phases						
Actuated Green, G (s)	40.6	73.9	9.0	37.1	29.4	
Effective Green, g (s)	40.5	73.5	8.5	37.0	29.0	
Actuated g/C Ratio	0.45	0.82	0.09	0.41	0.32	
Clearance Time (s)	3.9		3.5	3.9	3.6	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	1425	1157	150	1302	969	
v/s Ratio Prot	c0.46	c0.56	c0.06	c0.52	0.20	
v/s Ratio Perm						
v/c Ratio	1.01	0.69	0.67	1.27	0.63	
Uniform Delay, d1	24.8	3.4	39.4	26.5	26.0	
Progression Factor	0.84	0.82	1.00	1.00	1.00	
Incremental Delay, d2	22.4	1.1	10.7	127.5	1.4	
Delay (s)	43.3	3.9	50.0	154.0	27.3	
Level of Service	D	A	D	F	C	
Approach Delay (s)	28.5			148.1	27.3	
Approach LOS	C			F	C	

Intersection Summary

HCM Average Control Delay	72.8	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		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		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	3696		1304	3638		1302	2607		1304	2518	
Flt Permitted	0.13	1.00		0.13	1.00		0.14	1.00		0.15	1.00	
Satd. Flow (perm)	176	3696		176	3638		188	2607		205	2518	
Volume (vph)	116	1806	94	129	1541	111	211	1139	2	104	743	107
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	120	1862	97	133	1589	114	218	1174	2	107	766	110
RTOR Reduction (vph)	0	7	0	0	9	0	0	0	0	0	13	0
Lane Group Flow (vph)	120	1952	0	133	1694	0	218	1176	0	107	863	0
Conf. Peds. (#/hr)	105		77	77		105	97		104	104		97
Conf. Bikes (#/hr)			5			11			3			7
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	36.2	30.2		36.2	30.2		38.1	28.1		33.5	25.8	
Effective Green, g (s)	37.2	31.2		37.2	31.2		39.1	29.1		34.5	26.8	
Actuated g/C Ratio	0.41	0.35		0.41	0.35		0.43	0.32		0.38	0.30	
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	148	1281		148	1261		205	843		173	750	
v/s Ratio Prot	0.05	c0.53		c0.06	0.47		c0.12	c0.45		0.05	0.34	
v/s Ratio Perm	0.28			0.31			0.34			0.18		
v/c Ratio	0.81	1.52		0.90	1.34		1.06	1.40		0.62	1.15	
Uniform Delay, d1	21.6	29.4		22.7	29.4		22.0	30.4		22.4	31.6	
Progression Factor	1.29	0.97		1.46	0.74		1.28	1.33		1.00	1.00	
Incremental Delay, d2	12.2	237.4		29.9	157.5		53.6	180.1		6.4	83.0	
Delay (s)	40.0	265.8		62.9	179.4		81.9	220.6		28.8	114.6	
Level of Service	D	F		E	F		F	F		C	F	
Approach Delay (s)		252.8			170.9			198.9			105.3	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	193.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		0.98			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.95			0.98			0.99			0.99	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1548			1616			3131			3120	
Flt Permitted		0.94			0.75			0.79			0.80	
Satd. Flow (perm)		1467			1215			2467			2496	
Volume (vph)	31	234	156	47	224	36	45	1188	50	43	1182	65
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	35	266	177	53	255	41	51	1350	57	49	1343	74
RTOR Reduction (vph)	0	23	0	0	5	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	455	0	0	344	0	0	1455	0	0	1462	0
Confl. Peds. (#/hr)	28		18	18		28	29		26	26		29
Confl. Bikes (#/hr)			4			2			1			6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		26.0			26.0			55.6			55.6	
Effective Green, g (s)		26.0			26.0			56.0			56.0	
Actuated g/C Ratio		0.29			0.29			0.62			0.62	
Clearance Time (s)		4.0			4.0			4.4			4.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		424			351			1535			1553	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.28			c0.59			0.59	
v/c Ratio		1.07			0.98			0.95			0.94	
Uniform Delay, d1		32.0			31.7			15.6			15.5	
Progression Factor		1.00			1.00			1.00			1.01	
Incremental Delay, d2		64.3			42.5			13.5			8.2	
Delay (s)		96.3			74.3			29.1			23.9	
Level of Service		F			E			C			C	
Approach Delay (s)		96.3			74.3			29.1			23.9	
Approach LOS		F			E			C			C	
Intersection Summary												
HCM Average Control Delay			39.8				HCM Level of Service				D	
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			113.6%				ICU Level of Service				H	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗		↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95	1.00		0.91		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85		0.98		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1304	2608	1167		3689		1304	2608	1167	1304	2604	
Flt Permitted	0.09	1.00	1.00		1.00		0.20	1.00	1.00	0.11	1.00	
Satd. Flow (perm)	118	2608	1167		3689		268	2608	1167	156	2604	
Volume (vph)	80	1341	173	0	1308	152	58	1197	201	192	939	10
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	82	1368	177	0	1335	155	59	1221	205	196	958	10
RTOR Reduction (vph)	0	0	46	0	12	0	0	0	8	0	1	0
Lane Group Flow (vph)	82	1368	131	0	1478	0	59	1221	197	196	967	0
Turn Type	Perm		Perm				Perm		Perm	Perm		
Protected Phases	4		8				2		2	6		
Permitted Phases	4		4				2		2	6		
Actuated Green, G (s)	52.0	52.0	52.0		52.0		58.0	58.0	58.0	58.0	58.0	
Effective Green, g (s)	53.0	53.0	53.0		53.0		59.0	59.0	59.0	59.0	59.0	
Actuated g/C Ratio	0.44	0.44	0.44		0.44		0.49	0.49	0.49	0.49	0.49	
Clearance Time (s)	5.0	5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	52	1152	515		1629		132	1282	574	77	1280	
v/s Ratio Prot		0.52			0.40			0.47			0.37	
v/s Ratio Perm	c0.69		0.11				0.22		0.17	c1.26		
v/c Ratio	1.58	1.19	0.25		0.91		0.45	0.95	0.34	2.55	0.76	
Uniform Delay, d1	33.5	33.5	21.1		31.2		19.9	29.2	18.6	30.5	24.7	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	333.3	93.3	1.2		8.9		10.6	16.1	1.6	732.0	4.2	
Delay (s)	366.8	126.8	22.3		40.1		30.4	45.2	20.3	762.5	28.9	
Level of Service	F	F	C		D		C	D	C	F	C	
Approach Delay (s)		127.5			40.1			41.2			152.4	
Approach LOS		F			D			D			F	

Intersection Summary

HCM Average Control Delay	87.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	130.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘↗	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	3072	4550	1417	1583	3167	1417	1583	3167	1417
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1583	4550	1417	3072	4550	1417	1583	3167	1417	1583	3167	1417
Volume (vph)	240	1684	582	205	1582	255	285	1549	266	85	950	128
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	250	1754	606	214	1648	266	297	1614	277	89	990	133
RTOR Reduction (vph)	0	0	18	0	0	145	0	0	55	0	0	4
Lane Group Flow (vph)	250	1754	588	214	1648	121	297	1614	222	89	990	129
Turn Type	Prot	pm+ov		Prot	Perm		Prot	pm+ov		Prot	pm+ov	
Protected Phases	3	8	1	7	4		1	6	7	5	2	3
Permitted Phases			8			4			6			2
Actuated Green, G (s)	13.0	37.9	50.9	12.1	37.0	37.0	13.0	39.0	51.1	11.0	37.0	50.0
Effective Green, g (s)	13.0	39.9	52.9	12.1	39.0	39.0	13.0	41.0	53.1	11.0	39.0	52.0
Actuated g/C Ratio	0.11	0.33	0.44	0.10	0.32	0.32	0.11	0.34	0.44	0.09	0.32	0.43
Clearance Time (s)	4.0	6.0	4.0	4.0	6.0	6.0	4.0	6.0	4.0	4.0	6.0	4.0
Vehicle Extension (s)	3.0	4.7	3.0	3.0	5.0	5.0	3.0	4.5	3.0	3.0	4.6	3.0
Lane Grp Cap (vph)	171	1513	672	310	1479	461	171	1082	674	145	1029	661
v/s Ratio Prot	c0.16	c0.39	0.09	0.07	0.36		c0.19	c0.51	0.03	0.06	0.31	0.02
v/s Ratio Perm			0.32			0.09			0.12			0.07
v/c Ratio	1.46	1.16	0.87	0.69	1.11	0.26	1.74	1.49	0.33	0.61	0.96	0.20
Uniform Delay, d1	53.5	40.0	30.5	52.1	40.5	29.9	53.5	39.5	21.8	52.5	39.8	21.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.17	0.73	0.39	1.00	1.00	1.00
Incremental Delay, d2	237.1	79.5	12.1	6.5	61.4	0.6	350.9	225.3	0.2	7.5	20.3	0.1
Delay (s)	290.6	119.5	42.7	58.6	101.9	30.5	413.7	254.3	8.7	59.9	60.1	21.2
Level of Service	F	F	D	E	F	C	F	F	A	E	E	C
Approach Delay (s)		118.1			88.6			244.9			55.8	
Approach LOS		F			F			F			E	

Intersection Summary

HCM Average Control Delay	135.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘↙		↗	↗↘	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	0.91		1.00	0.95	1.00
Frt	1.00	0.97		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	3070		1583	3092		1583	4448		1583	3167	1417
Flt Permitted	0.10	1.00		0.07	1.00		0.12	1.00		0.12	1.00	1.00
Satd. Flow (perm)	163	3070		123	3092		196	4448		196	3167	1417
Volume (vph)	126	1420	361	167	992	184	356	1022	179	183	1420	128
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	129	1449	368	170	1012	188	363	1043	183	187	1449	131
RTOR Reduction (vph)	0	19	0	0	13	0	0	21	0	0	0	31
Lane Group Flow (vph)	129	1798	0	170	1187	0	363	1205	0	187	1449	100
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+ov	
Protected Phases	1	6		5	2		3	8		7	4	1
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)	61.4	53.0		61.6	53.1		41.5	33.0		41.5	33.0	41.4
Effective Green, g (s)	61.9	54.0		62.1	54.1		42.0	34.0		42.0	34.0	41.9
Actuated g/C Ratio	0.52	0.45		0.52	0.45		0.35	0.28		0.35	0.28	0.35
Clearance Time (s)	3.5	5.0		3.5	5.0		3.5	5.0		3.5	5.0	3.5
Vehicle Extension (s)	3.0	5.0		3.0	5.0		3.0	4.3		3.0	4.6	3.0
Lane Grp Cap (vph)	178	1382		161	1394		161	1260		161	897	542
v/s Ratio Prot	0.05	c0.59		c0.07	0.38		c0.15	0.27		0.08	0.46	0.01
v/s Ratio Perm	0.33			0.48			c0.64			0.33		0.06
v/c Ratio	0.72	1.30		1.06	0.85		2.25	0.96		1.16	1.62	0.19
Uniform Delay, d1	21.5	33.0		58.2	29.4		58.2	42.3		33.5	43.0	27.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.27	1.19	1.73
Incremental Delay, d2	13.6	141.0		86.5	6.7		584.0	16.1		97.3	279.1	0.1
Delay (s)	35.1	174.0		144.7	36.1		642.2	58.4		139.8	330.1	47.2
Level of Service	D	F		F	D		F	E		F	F	D
Approach Delay (s)		164.8			49.6			191.8			289.0	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	180.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	146.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2601		1304	2608	1304	1167
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	2601		94	2608	1304	1167
Volume (vph)	1690	31	120	1649	165	196
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1724	32	122	1683	168	200
RTOR Reduction (vph)	1	0	0	0	0	14
Lane Group Flow (vph)	1755	0	122	1683	168	186
Turn Type			Perm			Perm
Protected Phases	5			2	4	
Permitted Phases			2			4
Actuated Green, G (s)	58.9		58.9	58.9	23.1	23.1
Effective Green, g (s)	58.9		58.9	58.9	23.1	23.1
Actuated g/C Ratio	0.65		0.65	0.65	0.26	0.26
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	4.0		4.0	4.0	3.0	3.0
Lane Grp Cap (vph)	1702		62	1707	335	300
v/s Ratio Prot	0.67			0.65	0.13	
v/s Ratio Perm			c1.30			c0.16
v/c Ratio	1.03		1.97	0.99	0.50	0.62
Uniform Delay, d1	15.6		15.6	15.1	28.5	29.6
Progression Factor	1.38		1.86	1.94	1.00	1.00
Incremental Delay, d2	20.4		440.7	4.1	1.2	3.8
Delay (s)	41.9		469.7	33.4	29.7	33.4
Level of Service	D		F	C	C	C
Approach Delay (s)	41.9			62.9	31.7	
Approach LOS	D			E	C	

Intersection Summary

HCM Average Control Delay	50.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.98	
Satd. Flow (prot)	1583	3163		1583	3153			1561			1576	
Flt Permitted	0.22	1.00		0.18	1.00			0.98			0.64	
Satd. Flow (perm)	369	3163		297	3153			1540			1033	
Volume (vph)	44	1009	7	161	865	26	15	168	151	43	45	34
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	52	1187	8	189	1018	31	18	198	178	51	53	40
RTOR Reduction (vph)	0	0	0	0	2	0	0	36	0	0	17	0
Lane Group Flow (vph)	52	1195	0	189	1047	0	0	358	0	0	127	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		2		2		4		4		4	
Permitted Phases	2		2		4		4		4		4	
Actuated Green, G (s)	56.5	56.5		56.5	56.5			24.3			24.3	
Effective Green, g (s)	56.8	56.8		56.8	56.8			25.2			25.2	
Actuated g/C Ratio	0.63	0.63		0.63	0.63			0.28			0.28	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	233	1996		187	1990			431			289	
v/s Ratio Prot		0.38			0.33							
v/s Ratio Perm	0.14			c0.64				c0.23			0.12	
v/c Ratio	0.22	0.60		1.01	0.53			0.83			0.44	
Uniform Delay, d1	7.1	9.8		16.6	9.2			30.4			26.6	
Progression Factor	0.64	0.71		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.4	0.8		68.6	1.0			12.8			1.1	
Delay (s)	5.9	7.8		85.2	10.2			43.2			27.7	
Level of Service	A	A		F	B			D			C	
Approach Delay (s)		7.7			21.6			43.2			27.7	
Approach LOS		A			C			D			C	

Intersection Summary

HCM Average Control Delay	19.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙	↑↑↑		↙	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00	1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.82	1.00	1.00	0.71	1.00	0.97		1.00	0.99	
Flpb, ped/bikes	0.96	1.00	1.00	0.99	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)	1527	3167	1162	1571	3167	1005	1583	4353		1583	4440	
Flt Permitted	0.33	1.00	1.00	0.21	1.00	1.00	0.15	1.00		0.14	1.00	
Satd. Flow (perm)	530	3167	1162	355	3167	1005	247	4353		236	4440	
Volume (vph)	216	762	73	167	567	132	46	1743	241	88	1554	113
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	223	786	75	172	585	136	47	1797	248	91	1602	116
RTOR Reduction (vph)	0	0	38	0	0	33	0	19	0	0	9	0
Lane Group Flow (vph)	223	786	37	172	585	103	47	2026	0	91	1709	0
Confl. Peds. (#/hr)	150		150	150		150	150		150	150		150
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	pm+pt			pm+pt		
Protected Phases	7	4	5	3	4	1	5	2		1	6	
Permitted Phases	4		4	4		4	2			6		
Actuated Green, G (s)	38.7	31.7	37.1	38.7	31.7	38.3	31.1	25.7		33.5	26.9	
Effective Green, g (s)	40.2	33.0	38.6	40.2	33.0	39.8	32.6	27.0		35.0	28.2	
Actuated g/C Ratio	0.45	0.37	0.43	0.45	0.37	0.44	0.36	0.30		0.39	0.31	
Clearance Time (s)	4.2	5.3	4.2	4.2	5.3	4.2	4.2	5.3		4.2	5.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	316	1161	550	256	1161	489	173	1306		194	1391	
v/s Ratio Prot	c0.06	0.25	0.00	0.05	0.18	0.02	0.02	c0.47		c0.04	0.38	
v/s Ratio Perm	c0.26		0.03	0.25		0.09	0.08			0.15		
v/c Ratio	0.71	0.68	0.07	0.67	0.50	0.21	0.27	1.55		0.47	1.23	
Uniform Delay, d1	17.7	24.0	15.1	16.8	22.1	15.4	40.8	31.5		40.8	30.9	
Progression Factor	1.44	0.27	0.00	1.90	1.64	2.51	1.15	1.27		1.00	1.00	
Incremental Delay, d2	0.7	0.1	0.0	5.9	0.3	0.2	0.4	249.8		1.8	109.4	
Delay (s)	26.2	6.6	0.0	37.7	36.6	39.0	47.4	289.9		42.6	140.3	
Level of Service	C	A	A	D	D	D	D	F		D	F	
Approach Delay (s)		10.2			37.1			284.4			135.4	
Approach LOS		B			D			F			F	

Intersection Summary

HCM Average Control Delay	150.4	HCM Level of Service	F
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.98			0.92		1.00	1.00		1.00	1.00	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1598			1503		1583	4528		1583	4543	
Flt Permitted		0.88			0.88		0.09	1.00		0.09	1.00	
Satd. Flow (perm)		1434			1349		142	4528		142	4543	
Volume (vph)	7	7	3	131	17	238	6	1868	61	118	1745	17
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	8	8	3	146	19	264	7	2076	68	131	1939	19
RTOR Reduction (vph)	0	2	0	0	2	0	0	4	0	0	1	0
Lane Group Flow (vph)	0	17	0	0	427	0	7	2140	0	131	1957	0
Turn Type	Perm		Perm			Perm			Perm			
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		35.5			35.5		47.5	47.5		47.5	47.5	
Effective Green, g (s)		35.0			35.0		47.0	47.0		47.0	47.0	
Actuated g/C Ratio		0.39			0.39		0.52	0.52		0.52	0.52	
Clearance Time (s)		3.5			3.5		3.5	3.5		3.5	3.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		558			525		74	2365		74	2372	
v/s Ratio Prot								0.47			0.43	
v/s Ratio Perm		0.01			0.32		0.05			0.92		
v/c Ratio		0.03			0.81		0.09	0.90		1.77	0.83	
Uniform Delay, d1		17.0			24.6		10.8	19.5		21.5	18.0	
Progression Factor		1.00			1.00		0.51	0.89		0.81	0.80	
Incremental Delay, d2		0.1			12.9		0.2	0.6		361.6	1.0	
Delay (s)		17.1			37.5		5.7	18.1		379.0	15.3	
Level of Service		B			D		A	B		F	B	
Approach Delay (s)		17.1			37.5			18.0			38.2	
Approach LOS		B			D			B			D	

Intersection Summary

HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	1.00		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4501		1583	4545		1583	4475		1583	4467	
Flt Permitted	0.13	1.00		0.15	1.00		0.13	1.00		0.12	1.00	
Satd. Flow (perm)	222	4501		256	4545		215	4475		207	4467	
Volume (vph)	419	1901	146	163	1499	10	62	1598	198	117	1696	234
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	455	2066	159	177	1629	11	67	1737	215	127	1843	254
RTOR Reduction (vph)	0	10	0	0	1	0	0	17	0	0	19	0
Lane Group Flow (vph)	455	2216	0	177	1639	0	67	1935	0	127	2078	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	41.0	32.0		31.0	25.0		34.8	30.0		37.2	31.2	
Effective Green, g (s)	42.0	33.0		31.0	26.0		34.8	31.0		37.2	32.2	
Actuated g/C Ratio	0.47	0.37		0.34	0.29		0.39	0.34		0.41	0.36	
Clearance Time (s)	3.0	5.0		3.0	5.0		3.0	5.0		3.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	285	1650		162	1313		141	1541		162	1598	
v/s Ratio Prot	c0.21	0.49		0.06	0.36		0.02	0.43		c0.04	c0.47	
v/s Ratio Perm	c0.53			0.32			0.16			0.28		
v/c Ratio	1.60	1.34		1.09	1.25		0.48	1.26		0.78	1.30	
Uniform Delay, d1	41.2	28.5		44.7	32.0		23.0	29.5		43.6	28.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.42	1.35	
Incremental Delay, d2	284.4	158.4		97.6	118.3		2.5	120.5		14.0	138.0	
Delay (s)	325.6	186.9		142.3	150.3		25.5	150.0		75.9	176.9	
Level of Service	F	F		F	F		C	F		E	F	
Approach Delay (s)		210.4			149.6			145.9			171.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	172.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	118.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3098		1583	3086		1583	4519		1583	4476	
Flt Permitted	0.11	1.00		0.11	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	189	3098		190	3086		185	4519		185	4476	
Volume (vph)	246	1265	213	121	1127	229	103	1761	85	139	1839	225
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	270	1390	234	133	1238	252	113	1935	93	153	2021	247
RTOR Reduction (vph)	0	15	0	0	7	0	0	6	0	0	17	0
Lane Group Flow (vph)	270	1609	0	133	1483	0	113	2022	0	153	2251	0
Turn Type	pm+pt		pm+pt		Perm		Perm		Perm		Perm	
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8				4	
Actuated Green, G (s)	42.3	34.3		41.9	34.1		35.2	35.2		35.2	35.2	
Effective Green, g (s)	42.2	35.2		41.8	35.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.47	0.39		0.46	0.39		0.40	0.40		0.40	0.40	
Clearance Time (s)	3.0	4.9		3.0	4.9		4.8	4.8		4.8	4.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	197	1212		193	1200		74	1808		74	1790	
v/s Ratio Prot	c0.11	0.52		0.05	0.48			0.45			0.50	
v/s Ratio Perm	c0.53			0.27			0.61			c0.83		
v/c Ratio	1.37	1.33		0.69	1.24		1.53	1.12		2.07	1.26	
Uniform Delay, d1	43.7	27.4		42.0	27.5		27.0	27.0		27.0	27.0	
Progression Factor	1.50	1.05		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	185.9	151.0		9.8	113.4		294.0	61.4		523.6	120.7	
Delay (s)	251.3	179.9		51.8	140.9		321.0	88.4		550.6	147.7	
Level of Service	F	F		D	F		F	F		F	F	
Approach Delay (s)		190.0			133.6			100.7			173.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	150.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↗	↖	↖	↗↗	↖		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		0.93			0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417		1537			1535	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.98	
Satd. Flow (perm)	1583	3167	1417	1583	3167	1417		1537			1535	
Volume (vph)	40	926	53	89	547	142	34	77	125	61	39	91
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1007	58	97	595	154	37	84	136	66	42	99
RTOR Reduction (vph)	0	0	42	0	0	107	0	45	0	0	37	0
Lane Group Flow (vph)	43	1007	16	97	595	47	0	212	0	0	170	0
Turn Type	Prot		Perm	Prot		Perm	Split				Split	
Protected Phases	1	6		5	2		3	3			4	4
Permitted Phases			6			2						
Actuated Green, G (s)	5.4	24.7	24.7	7.9	27.2	27.2		21.0			21.0	
Effective Green, g (s)	4.4	24.9	24.9	6.9	27.4	27.4		21.6			20.6	
Actuated g/C Ratio	0.05	0.28	0.28	0.08	0.30	0.30		0.24			0.23	
Clearance Time (s)	3.0	4.2	4.2	3.0	4.2	4.2		4.6			3.6	
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0	5.0		3.0			3.0	
Lane Grp Cap (vph)	77	876	392	121	964	431		369			351	
v/s Ratio Prot	0.03	c0.32		c0.06	0.19			c0.14			c0.11	
v/s Ratio Perm			0.01			0.03						
v/c Ratio	0.56	1.15	0.04	0.80	0.62	0.11		0.57			0.48	
Uniform Delay, d1	41.9	32.6	23.8	40.9	26.8	22.5		30.2			30.1	
Progression Factor	1.50	0.65	0.19	1.07	1.68	4.44		1.00			1.00	
Incremental Delay, d2	3.2	72.6	0.1	27.0	2.6	0.4		6.4			4.7	
Delay (s)	66.0	93.8	4.6	70.9	47.6	100.4		36.5			34.8	
Level of Service	E	F	A	E	D	F		D			C	
Approach Delay (s)		88.1			59.9			36.5			34.8	
Approach LOS		F			E			D			C	

Intersection Summary		
HCM Average Control Delay	68.2	HCM Level of Service E
HCM Volume to Capacity ratio	0.75	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization	67.6%	ICU Level of Service C
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis
 121: Santa Monica Ave & Orange Dr



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.95			0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3162		1583	3148			1561			1561	
Flt Permitted	0.13	1.00		0.09	1.00			0.98			0.84	
Satd. Flow (perm)	211	3162		144	3148			1540			1326	
Volume (vph)	193	1603	12	46	1366	29	8	90	59	34	83	54
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	214	1781	13	51	1518	32	9	100	66	38	92	60
RTOR Reduction (vph)	0	0	0	0	1	0	0	12	0	0	20	0
Lane Group Flow (vph)	214	1794	0	51	1549	0	0	163	0	0	170	0
Conf. Peds. (#/hr)	40		16	16		40	10		8	8		10
Conf. Bikes (#/hr)			15			9			2			5
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	66.1	66.1		66.1	66.1			14.8			14.8	
Effective Green, g (s)	66.6	66.6		66.6	66.6			15.4			15.4	
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.17			0.17	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.6			4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	156	2340		107	2330			264			227	
v/s Ratio Prot		0.57			0.49							
v/s Ratio Perm	c1.01			0.35				0.11			c0.13	
v/c Ratio	1.37	0.77		0.48	0.66			0.62			0.75	
Uniform Delay, d1	11.7	7.0		4.7	6.0			34.6			35.5	
Progression Factor	1.00	1.00		0.70	0.50			1.00			1.00	
Incremental Delay, d2	202.5	2.5		1.4	0.1			4.3			12.7	
Delay (s)	214.2	9.5		4.6	3.1			38.9			48.2	
Level of Service	F	A		A	A			D			D	
Approach Delay (s)		31.3			3.2			38.9			48.2	
Approach LOS		C			A			D			D	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2931		1490	2952		1490	2900		1490	2863	
Flt Permitted	0.19	1.00		0.17	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	303	2931		273	2952		157	2900		157	2863	
Volume (vph)	490	665	82	200	565	38	113	1166	256	32	1118	396
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	521	707	87	213	601	40	120	1240	272	34	1189	421
RTOR Reduction (vph)	0	10	0	0	5	0	0	21	0	0	39	0
Lane Group Flow (vph)	521	784	0	213	636	0	120	1491	0	34	1571	0
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	7	4		3	8			2			2	
Permitted Phases	4			8			2			2		
Actuated Green, G (s)	39.4	23.4		36.6	22.0		39.0	39.0		39.0	39.0	
Effective Green, g (s)	39.4	24.4		36.6	23.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.44	0.27		0.41	0.26		0.44	0.44		0.44	0.44	
Clearance Time (s)	3.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	5.1		3.0	4.1		5.7	5.7		5.7	5.7	
Lane Grp Cap (vph)	330	795		295	754		70	1289		70	1272	
v/s Ratio Prot	c0.26	0.27		0.11	0.22			0.51			0.55	
v/s Ratio Perm	c0.43			0.18			c0.76			0.22		
v/c Ratio	1.58	0.99		0.72	0.84		1.71	1.16		0.49	1.23	
Uniform Delay, d1	21.6	32.6		20.1	31.8		25.0	25.0		17.7	25.0	
Progression Factor	1.00	1.00		0.88	1.14		1.17	1.20		1.00	1.00	
Incremental Delay, d2	274.6	28.7		7.5	9.9		326.9	71.6		22.2	112.6	
Delay (s)	296.1	61.3		25.2	46.3		356.2	101.5		39.9	137.6	
Level of Service	F	E		C	D		F	F		D	F	
Approach Delay (s)		154.4			41.0			120.2			135.6	
Approach LOS		F			D			F			F	

Intersection Summary


























HCM Average Control Delay	120.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1490	4223		1490	4252		1490	2980	1333	1490	4227	
Flt Permitted	0.14	1.00		0.12	1.00		0.19	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	217	4223		182	4252		296	2980	1333	1490	4227	
Volume (vph)	10	1738	177	293	1204	60	76	1507	290	151	1125	107
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	11	1869	190	315	1295	65	82	1620	312	162	1210	115
RTOR Reduction (vph)	0	13	0	0	5	0	0	0	38	0	13	0
Lane Group Flow (vph)	11	2046	0	315	1355	0	82	1620	274	162	1312	0
Turn Type	pm+pt		pm+pt		Perm		pm+ov		Prot			
Protected Phases	3	8		7	4		2	7		1	6	
Permitted Phases	8			4			2	2				
Actuated Green, G (s)	31.2	29.2		45.4	38.2		21.2	21.2	32.2	10.0	19.8	
Effective Green, g (s)	33.6	30.4		45.4	38.2		21.2	21.2	32.2	11.4	21.2	
Actuated g/C Ratio	0.37	0.34		0.50	0.42		0.24	0.24	0.36	0.13	0.24	
Clearance Time (s)	5.2	5.2		4.0	4.0		4.0	4.0	4.0	5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.5	3.0		3.0	3.0	3.5	3.0	3.0	
Lane Grp Cap (vph)	126	1426		252	1805		70	702	536	189	996	
v/s Ratio Prot	0.00	c0.48		c0.15	0.32			c0.54	0.06	c0.11	0.31	
v/s Ratio Perm	0.03			0.48			0.28		0.14			
v/c Ratio	0.09	1.44		1.25	0.75		1.17	2.31	0.51	0.86	1.32	
Uniform Delay, d1	18.2	29.8		41.7	21.9		34.4	34.4	22.7	38.5	34.4	
Progression Factor	1.39	1.38		1.00	1.00		1.11	1.09	0.66	1.40	0.79	
Incremental Delay, d2	0.0	196.2		141.0	2.9		90.6	588.9	0.1	3.7	143.4	
Delay (s)	25.3	237.3		182.7	24.8		128.7	626.4	15.2	57.5	170.6	
Level of Service	C	F		F	C		F	F	B	E	F	
Approach Delay (s)		236.2			54.5			511.4			158.3	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	254.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	136.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
124: Fountain Ave & La Brea Ave

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						  			  	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2967		1509	1586		1509	4327		1509	4257	
Flt Permitted	0.21	1.00		0.21	1.00		0.22	1.00		0.22	1.00	
Satd. Flow (perm)	334	2967		334	1586		353	4327		353	4257	
Volume (vph)	154	953	119	125	926	10	144	1704	22	74	1509	209
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	166	1025	128	134	996	11	155	1832	24	80	1623	225
RTOR Reduction (vph)	0	2	0	0	1	0	0	3	0	0	28	0
Lane Group Flow (vph)	166	1151	0	134	1006	0	155	1853	0	80	1820	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)	19.0	19.0		19.0	19.0		18.0	18.0		18.0	18.0	
Effective Green, g (s)	19.0	19.0		19.0	19.0		18.0	18.0		18.0	18.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.40	0.40		0.40	0.40	
Clearance Time (s)	4.0	4.0		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		3.0	3.0	
Lane Grp Cap (vph)	141	1253		141	670		141	1731		141	1703	
v/s Ratio Prot		0.39			c0.63			0.43			0.43	
v/s Ratio Perm	0.50			0.40			c0.44			0.23		
v/c Ratio	1.18	0.92		0.95	1.50		1.10	1.07		0.57	1.07	
Uniform Delay, d1	13.0	12.3		12.5	13.0		13.5	13.5		10.5	13.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.88	0.92	
Incremental Delay, d2	131.3	10.7		60.6	233.3		104.9	43.3		1.5	32.4	
Delay (s)	144.3	23.0		73.1	246.3		118.4	56.8		10.7	44.8	
Level of Service	F	C		E	F		F	E		B	D	
Approach Delay (s)		38.2			226.0			61.5			43.4	
Approach LOS		D			F			E			D	
Intersection Summary												
HCM Average Control Delay			80.6				HCM Level of Service				F	
HCM Volume to Capacity ratio			1.31									
Actuated Cycle Length (s)			45.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			130.2%				ICU Level of Service				H	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		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	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2927		1509	2947		1509	4149		1509	4156	
Flt Permitted	0.09	1.00		0.09	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	138	2927		138	2947		219	4149		227	4156	
Volume (vph)	210	1365	116	189	1182	75	106	1706	288	103	1517	134
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	221	1437	122	199	1244	79	112	1796	303	108	1597	141
RTOR Reduction (vph)	0	6	0	0	5	0	0	23	0	0	10	0
Lane Group Flow (vph)	221	1553	0	199	1318	0	112	2076	0	108	1728	0
Confl. Peds. (#/hr)	161		157	157		161	381		91	91		381
Confl. Bikes (#/hr)			19			25			10			23
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	52.0	46.0		52.0	46.0		35.0	29.0		33.0	28.0	
Effective Green, g (s)	51.0	46.0		51.0	46.0		34.0	29.0		32.0	28.0	
Actuated g/C Ratio	0.51	0.46		0.51	0.46		0.34	0.29		0.32	0.28	
Clearance Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	1.0	0.2		1.0	0.2		1.0	5.0		1.0	5.0	
Lane Grp Cap (vph)	139	1346		139	1356		139	1203		124	1164	
v/s Ratio Prot	c0.08	0.53		0.07	0.45		c0.04	c0.50		0.03	0.42	
v/s Ratio Perm	c0.73			0.66			0.23			0.24		
v/c Ratio	1.59	1.15		1.43	0.97		0.81	1.73		0.87	1.48	
Uniform Delay, d1	20.3	27.0		22.9	26.4		48.7	35.5		49.6	36.0	
Progression Factor	1.97	0.51		1.00	1.00		1.04	0.83		1.00	1.00	
Incremental Delay, d2	268.6	69.9		230.4	18.6		3.0	326.7		43.1	222.6	
Delay (s)	308.6	83.8		253.3	45.0		53.6	356.1		92.7	258.6	
Level of Service	F	F		F	D		D	F		F	F	
Approach Delay (s)		111.7			72.2			340.8			248.9	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	206.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	128.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 126: Romaine St & La Brea Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↕		↖	↗		↖	↗	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.98			0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	0.97	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90			0.98		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1464	1402			1518		1509	2987		1509	2896	
Flt Permitted	0.56	1.00			0.54		0.06	1.00		0.07	1.00	
Satd. Flow (perm)	860	1402			827		102	2987		108	2896	
Volume (vph)	101	100	186	61	92	22	226	1954	95	22	1581	176
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	105	196	64	97	23	238	2057	100	23	1664	185
RTOR Reduction (vph)	0	74	0	0	5	0	0	3	0	0	7	0
Lane Group Flow (vph)	106	227	0	0	179	0	238	2154	0	23	1842	0
Conf. Peds. (#/hr)	33		13	13			33	97		20	20	97
Conf. Bikes (#/hr)			3				4			6		22
Turn Type	Perm			Perm			pm+pt			pm+pt		
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	24.2	24.2			24.2		67.8	62.4		61.2	58.8	
Effective Green, g (s)	24.2	24.2			24.2		67.4	62.4		60.2	58.8	
Actuated g/C Ratio	0.24	0.24			0.24		0.67	0.62		0.60	0.59	
Clearance Time (s)	4.0	4.0			4.0		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	5.0	5.0			5.0		1.0	0.2		1.0	0.2	
Lane Grp Cap (vph)	208	339			200		139	1864		85	1703	
v/s Ratio Prot		0.16					c0.09	0.72		0.00	0.64	
v/s Ratio Perm	0.12				c0.22		c1.07			0.16		
v/c Ratio	0.51	0.67			0.89		1.71	1.16		0.27	1.08	
Uniform Delay, d1	32.8	34.3			36.7		28.2	18.8		24.2	20.6	
Progression Factor	1.00	1.00			1.00		1.00	1.00		2.12	1.80	
Incremental Delay, d2	4.1	6.7			37.6		349.1	76.7		0.1	37.8	
Delay (s)	36.8	41.0			74.2		377.3	95.5		51.3	74.9	
Level of Service	D	D			E		F	F		D	E	
Approach Delay (s)		39.9			74.2			123.5			74.6	
Approach LOS		D			E			F			E	

Intersection Summary

HCM Average Control Delay	95.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑↑↑		↕	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frt		0.98			0.97		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1526			1516		1490	4250		1490	4273	
Flt Permitted		0.82			0.76		0.08	1.00		0.08	1.00	
Satd. Flow (perm)		1259			1159		123	4250		123	4273	
Volume (vph)	76	375	80	65	267	78	61	2251	121	121	1868	27
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	80	395	84	68	281	82	64	2369	127	127	1966	28
RTOR Reduction (vph)	0	6	0	0	2	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	553	0	0	429	0	64	2490	0	127	1992	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	8		4		4		6		2			
Permitted Phases	8		4		6		2					
Actuated Green, G (s)	30.0		30.0		50.6		50.6		50.6		50.6	
Effective Green, g (s)	31.0		31.0		51.0		51.0		51.0		51.0	
Actuated g/C Ratio	0.34		0.34		0.57		0.57		0.57		0.57	
Clearance Time (s)	5.0		5.0		4.4		4.4		4.4		4.4	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	434		399		70		2408		70		2421	
v/s Ratio Prot					0.59						0.47	
v/s Ratio Perm	c0.44		0.37		0.52				c1.03			
v/c Ratio	1.27		1.08		0.91		1.03		1.81		0.82	
Uniform Delay, d1	29.5		29.5		17.5		19.5		19.5		15.8	
Progression Factor	1.00		1.00		0.43		0.46		1.00		1.00	
Incremental Delay, d2	140.4		66.6		17.1		17.1		416.8		3.3	
Delay (s)	169.9		96.1		24.6		26.0		436.3		19.2	
Level of Service	F		F		C		C		F		B	
Approach Delay (s)	169.9		96.1		26.0						44.1	
Approach LOS	F		F		C						D	

Intersection Summary

HCM Average Control Delay	52.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕		↖	↕	↗
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2946		1490	2958		1490	4210		1490	4229	
Flt Permitted	0.23	1.00		0.12	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	365	2946		185	2958		161	4210		161	4229	
Volume (vph)	125	1187	99	195	947	51	10	2180	275	47	1893	172
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	1263	105	207	1007	54	11	2319	293	50	2014	183
RTOR Reduction (vph)	0	7	0	0	1	0	0	18	0	0	12	0
Lane Group Flow (vph)	133	1361	0	207	1060	0	11	2594	0	50	2185	0
Turn Type	Perm		pm+pt		Perm		Perm		Perm			
Protected Phases	8		7		4		6		6		2	
Permitted Phases	8		4		6		6		6		2	
Actuated Green, G (s)	28.6	28.6		41.6	41.6		37.6	37.6		37.6	37.6	
Effective Green, g (s)	30.0	30.0		43.0	43.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.33	0.33		0.48	0.48		0.43	0.43		0.43	0.43	
Clearance Time (s)	5.4	5.4		3.5	5.4		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	982		219	1413		70	1824		70	1833	
v/s Ratio Prot	c0.46		c0.09		0.36		c0.62		c0.62		0.52	
v/s Ratio Perm	0.36		0.36		0.36		0.07		0.07		0.31	
v/c Ratio	1.09	1.39		0.95	0.75		0.16	1.42		0.71	1.19	
Uniform Delay, d1	30.0	30.0		42.3	19.1		15.5	25.5		20.9	25.5	
Progression Factor	0.63	0.65		1.00	1.00		0.16	0.30		1.36	1.39	
Incremental Delay, d2	52.9	174.4		45.2	3.7		0.4	190.4		29.9	89.8	
Delay (s)	71.8	194.0		87.6	22.8		2.9	197.9		58.3	125.1	
Level of Service	E		F		C		A		F		E	
Approach Delay (s)	183.2		33.4		33.4		197.1		197.1		123.6	
Approach LOS	F		C		C		F		F		F	

Intersection Summary

HCM Average Control Delay	145.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕	↗		↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	0.98		1.00	0.99			1.00	0.93		0.97	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.97	1.00		1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	
Satd. Flow (prot)	1487	2918		1509	2967			1477	1255		1436	
Flt Permitted	0.16	1.00		0.06	1.00			0.64	1.00		0.97	
Satd. Flow (perm)	244	2918		99	2967			990	1255		1393	
Volume (vph)	42	1584	137	128	1224	68	139	34	132	11	48	46
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	47	1760	152	142	1360	76	154	38	147	12	53	51
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	92	0	32	0
Lane Group Flow (vph)	47	1907	0	142	1433	0	0	192	55	0	84	0
Confl. Peds. (#/hr)	50		85	85		50	37		38	38		37
Confl. Bikes (#/hr)			12			7			3			3
Turn Type	Perm			pm+pt			Perm		Perm	Perm		
Protected Phases		2		1	6			8				4
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	59.9	59.9		68.9	68.9			23.1	23.1			23.1
Effective Green, g (s)	59.9	59.9		68.9	68.9			23.1	23.1			23.1
Actuated g/C Ratio	0.60	0.60		0.69	0.69			0.23	0.23			0.23
Clearance Time (s)	4.0	4.0		3.0	4.0			4.0	4.0			4.0
Vehicle Extension (s)	0.2	0.2		1.0	0.2			4.0	4.0			3.0
Lane Grp Cap (vph)	146	1748		139	2044			229	290			322
v/s Ratio Prot		c0.65		c0.05	0.48							
v/s Ratio Perm	0.19			0.65				c0.19	0.04			0.06
v/c Ratio	0.32	1.09		1.02	0.70			0.84	0.19			0.26
Uniform Delay, d1	10.0	20.0		29.2	9.4			36.7	30.9			31.5
Progression Factor	0.70	0.99		1.81	1.37			1.00	1.00			1.00
Incremental Delay, d2	5.0	49.8		48.1	0.6			23.5	0.4			0.4
Delay (s)	12.0	69.6		100.8	13.4			60.2	31.4			31.9
Level of Service	B	E		F	B			E	C			C
Approach Delay (s)		68.2			21.3			47.7				31.9
Approach LOS		E			C			D				C

Intersection Summary

HCM Average Control Delay	46.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↙	↑↑	↑↑		↘	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frt	1.00	1.00	0.99		0.89	
Flt Protected	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1509	3018	2994		1405	
Flt Permitted	0.14	1.00	1.00		0.99	
Satd. Flow (perm)	230	3018	2994		1405	
Volume (vph)	88	1486	1394	76	26	94
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	91	1532	1437	78	27	97
RTOR Reduction (vph)	0	0	3	0	64	0
Lane Group Flow (vph)	91	1532	1512	0	60	0
Turn Type	Perm					
Protected Phases		2	6		4	
Permitted Phases	2					
Actuated Green, G (s)	80.2	80.2	80.2		11.8	
Effective Green, g (s)	79.7	79.7	79.7		12.3	
Actuated g/C Ratio	0.80	0.80	0.80		0.12	
Clearance Time (s)	3.5	3.5	3.5		4.5	
Vehicle Extension (s)	0.2	0.2	0.2		3.0	
Lane Grp Cap (vph)	183	2405	2386		173	
v/s Ratio Prot		c0.51	0.51		c0.04	
v/s Ratio Perm	0.40					
v/c Ratio	0.50	0.64	0.63		0.35	
Uniform Delay, d1	3.4	4.2	4.2		40.2	
Progression Factor	0.42	0.26	1.73		1.00	
Incremental Delay, d2	7.0	1.0	0.9		1.2	
Delay (s)	8.5	2.1	8.1		41.4	
Level of Service	A	A	A		D	
Approach Delay (s)		2.4	8.1		41.4	
Approach LOS		A	A		D	

Intersection Summary

HCM Average Control Delay	6.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗	↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4500		1583	4502		1583	3167	1417	1583	3167	1417
Flt Permitted	0.12	1.00		0.11	1.00		0.16	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	206	4500		175	4502		268	3167	1417	222	3167	1417
Volume (vph)	345	1736	137	292	1122	86	153	1282	300	175	783	309
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	371	1867	147	314	1206	92	165	1378	323	188	842	332
RTOR Reduction (vph)	0	10	0	0	10	0	0	0	1	0	0	178
Lane Group Flow (vph)	371	2004	0	314	1288	0	165	1378	322	188	842	154
Turn Type	pm+pt			pm+pt			Perm		pm+ov	Perm		Perm
Protected Phases	1	6		5	2			8	5		4	
Permitted Phases	6			2			8	8	4			4
Actuated Green, G (s)	48.0	37.0		48.0	37.0		28.1	28.1	39.1	28.1	28.1	28.1
Effective Green, g (s)	48.0	38.0		48.0	38.0		30.0	30.0	40.0	30.0	30.0	30.0
Actuated g/C Ratio	0.53	0.42		0.53	0.42		0.33	0.33	0.44	0.33	0.33	0.33
Clearance Time (s)	3.0	5.0		3.0	5.0		5.9	5.9	3.0	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	263	1900		250	1901		89	1056	693	74	1056	472
v/s Ratio Prot	c0.16	0.45		0.14	0.29			0.44	0.05		0.27	
v/s Ratio Perm	c0.60			0.53			0.62		0.18	c0.85		0.11
v/c Ratio	1.41	1.05		1.26	0.68		1.85	1.30	0.46	2.54	0.80	0.33
Uniform Delay, d1	20.7	26.0		25.2	21.0		30.0	30.0	17.5	30.0	27.2	22.4
Progression Factor	1.00	1.00		1.55	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	205.9	36.9		134.8	1.3		424.1	144.2	0.5	731.3	6.3	1.8
Delay (s)	226.5	62.9		173.9	21.3		454.1	174.2	18.0	761.3	33.5	24.3
Level of Service	F	E		F	C		F	F	B	F	C	C
Approach Delay (s)		88.3			51.0			171.9			131.7	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	109.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2999		1509	2978		1509	2971		1509	2950	
Flt Permitted	0.21	1.00		0.12	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	329	2999		196	2978		176	2971		176	2950	
Volume (vph)	299	1189	51	205	884	85	66	1307	149	43	963	169
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	315	1252	54	216	931	89	69	1376	157	45	1014	178
RTOR Reduction (vph)	0	3	0	0	2	0	0	9	0	0	14	0
Lane Group Flow (vph)	315	1303	0	216	1018	0	69	1524	0	45	1178	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			4			8		
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Effective Green, g (s)	56.0	56.0		56.0	56.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	4.9	4.9		4.9	4.9		4.9	4.9		4.9	4.9	
Lane Grp Cap (vph)	184	1679		110	1668		63	1070		63	1062	
v/s Ratio Prot		0.43			0.34			c0.51			0.40	
v/s Ratio Perm	0.96			c1.10			0.39			0.26		
v/c Ratio	1.71	0.78		1.96	0.61		1.10	1.42		0.71	1.11	
Uniform Delay, d1	22.0	17.1		22.0	14.7		32.0	32.0		27.6	32.0	
Progression Factor	1.00	1.00		1.00	1.00		0.97	0.94		1.00	1.00	
Incremental Delay, d2	342.4	3.6		464.7	1.7		115.7	194.3		51.1	62.6	
Delay (s)	364.4	20.7		486.7	16.4		146.8	224.2		78.7	94.6	
Level of Service	F	C		F	B		F	F		E	F	
Approach Delay (s)		87.5			98.6			220.9			94.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	128.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
133: Norton Ave & Fairfax Ave



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frbp, ped/bikes	0.95		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.92		1.00	1.00	1.00	
Flt Protected	0.98		0.95	1.00	1.00	
Satd. Flow (prot)	1350		1509	3018	2988	
Flt Permitted	0.98		0.18	1.00	1.00	
Satd. Flow (perm)	1350		283	3018	2988	
Volume (vph)	78	132	211	1540	1144	28
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	140	224	1638	1217	30
RTOR Reduction (vph)	61	0	0	0	2	0
Lane Group Flow (vph)	162	0	224	1638	1245	0
Conf. Peds. (#/hr)		58	70			70
Conf. Bikes (#/hr)						3
Turn Type			Perm			
Protected Phases	4			2	2	
Permitted Phases			2			
Actuated Green, G (s)	23.4		69.0	69.0	69.0	
Effective Green, g (s)	23.4		68.6	68.6	68.6	
Actuated g/C Ratio	0.23		0.69	0.69	0.69	
Clearance Time (s)	4.0		3.6	3.6	3.6	
Vehicle Extension (s)	3.0		0.2	0.2	0.2	
Lane Grp Cap (vph)	316		194	2070	2050	
v/s Ratio Prot	c0.12			0.54	0.42	
v/s Ratio Perm			c0.79			
v/c Ratio	0.51		1.15	0.79	0.61	
Uniform Delay, d1	33.4		15.7	10.8	8.5	
Progression Factor	1.00		0.89	0.50	1.59	
Incremental Delay, d2	5.9		75.3	0.3	0.1	
Delay (s)	39.2		89.4	5.7	13.6	
Level of Service	D		F	A	B	
Approach Delay (s)	39.2			15.7	13.6	
Approach LOS	D			B	B	
Intersection Summary						
HCM Average Control Delay			16.5		HCM Level of Service	B
HCM Volume to Capacity ratio			0.99			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			81.1%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↖	↕	↗		↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		1.00	0.95	1.00		0.91	0.91
Frbp, ped/bikes	1.00	0.98		1.00	0.98		1.00	1.00	0.77		1.00	0.69
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1509	2903		1509	2910		1509	3018	1041		2879	844
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.52	1.00
Satd. Flow (perm)	1509	2903		1509	2910		1509	3018	1041		1500	844
Volume (vph)	314	1203	167	222	1065	102	153	1262	231	95	1085	84
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	331	1266	176	234	1121	107	161	1328	243	100	1142	88
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	84	0	0	51
Lane Group Flow (vph)	331	1442	0	234	1221	0	161	1328	159	0	1242	37
Confl. Peds. (#/hr)	212		147	147		212	215		146	146		215
Confl. Bikes (#/hr)			11			9			6			6
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases									8			4
Actuated Green, G (s)	13.0	51.0		4.5	42.5		6.5	33.5	33.5		24.0	24.0
Effective Green, g (s)	12.0	51.0		3.5	42.5		5.5	33.5	33.5		24.0	24.0
Actuated g/C Ratio	0.12	0.51		0.04	0.42		0.06	0.34	0.34		0.24	0.24
Clearance Time (s)	3.0	4.0		3.0	4.0		3.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	1.0	0.2		1.0	0.2		1.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	181	1481		53	1237		83	1011	349		360	203
v/s Ratio Prot	c0.22	c0.50		c0.16	0.42		c0.11	0.44				
v/s Ratio Perm									0.15		c0.83	0.04
v/c Ratio	1.83	0.97		4.42	0.99		1.94	1.31	0.45		3.45	0.18
Uniform Delay, d1	44.0	23.8		48.2	28.5		47.2	33.2	26.1		38.0	30.2
Progression Factor	1.13	0.58		1.07	0.79		1.00	1.00	1.00		0.90	0.87
Incremental Delay, d2	381.4	9.8		1570.8	19.9		463.7	148.2	4.2		1108.1	1.6
Delay (s)	431.2	23.7		1622.2	42.3		511.0	181.4	30.3		1142.4	27.8
Level of Service	F	C		F	D		F	F	C		F	C
Approach Delay (s)		99.8			295.2			190.9			1068.6	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	374.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	154.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 135: Willoughby Ave & Fairfax Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.99			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.99			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1639			1555		1583	4529		1583	4510	
Flt Permitted		0.87			0.92		0.11	1.00		0.09	1.00	
Satd. Flow (perm)		1439			1437		187	4529		156	4510	
Volume (vph)	54	353	34	37	181	191	59	1492	48	48	1352	84
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	57	376	36	39	193	203	63	1587	51	51	1438	89
RTOR Reduction (vph)	0	4	0	0	4	0	0	3	0	0	6	0
Lane Group Flow (vph)	0	465	0	0	431	0	63	1635	0	51	1521	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		8		4		4		6		6		2
Permitted Phases		8		4		4		6		6		2
Actuated Green, G (s)		31.2		31.2		31.2		49.0		49.0		49.0
Effective Green, g (s)		32.6		32.6		32.6		49.4		49.4		49.4
Actuated g/C Ratio		0.36		0.36		0.36		0.55		0.55		0.55
Clearance Time (s)		5.4		5.4		5.4		4.4		4.4		4.4
Vehicle Extension (s)		3.0		3.0		3.0		3.0		3.0		3.0
Lane Grp Cap (vph)		521		521		521		103		2486		86
v/s Ratio Prot								c0.36				0.34
v/s Ratio Perm		c0.32		0.30		0.34		0.34		0.33		
v/c Ratio		0.89		0.83		0.61		0.66		0.59		0.61
Uniform Delay, d1		27.1		26.1		13.8		14.3		13.6		13.8
Progression Factor		1.00		1.00		1.53		1.64		1.00		1.00
Incremental Delay, d2		17.4		10.3		8.6		0.5		26.6		1.2
Delay (s)		44.5		36.5		29.6		23.9		40.2		15.0
Level of Service		D		D		C		C		D		B
Approach Delay (s)		44.5		36.5		24.1		24.1		15.8		15.8
Approach LOS		D		D		C		C		B		B

Intersection Summary

HCM Average Control Delay	24.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘↙		↗	↗↘↙	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.97		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3109		1583	3082		1583	4469		1583	4464	
Flt Permitted	0.30	1.00		0.10	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	500	3109		163	3082		202	4469		202	4464	
Volume (vph)	239	1224	168	205	769	167	75	1363	184	145	1068	154
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	244	1249	171	209	785	170	77	1391	188	148	1090	157
RTOR Reduction (vph)	0	12	0	0	3	0	0	19	0	0	21	0
Lane Group Flow (vph)	244	1408	0	209	952	0	77	1560	0	148	1226	0
Turn Type	Perm		pm+pt			Perm			Perm			
Protected Phases	8		7			4			6			2
Permitted Phases	8		4			6			2			
Actuated Green, G (s)	35.7	35.7		47.7	47.7		32.1	32.1		32.1	32.1	
Effective Green, g (s)	37.0	37.0		49.0	49.0		33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.41	0.41		0.54	0.54		0.37	0.37		0.37	0.37	
Clearance Time (s)	5.3	5.3		3.5	5.3		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	206	1278		215	1678		74	1639		74	1637	
v/s Ratio Prot		0.45		c0.09	0.31			0.35			0.27	
v/s Ratio Perm	c0.49			0.44			0.38			c0.73		
v/c Ratio	1.18	1.10		0.97	0.57		1.04	0.95		2.00	0.75	
Uniform Delay, d1	26.5	26.5		24.3	13.5		28.5	27.7		28.5	24.9	
Progression Factor	1.00	1.00		0.80	0.78		0.58	0.56		1.00	1.07	
Incremental Delay, d2	121.4	57.9		38.1	0.8		42.4	1.8		485.1	2.5	
Delay (s)	147.9	84.4		57.7	11.3		58.8	17.5		513.6	29.2	
Level of Service	F	F		E	B		E	B		F	C	
Approach Delay (s)		93.7			19.6			19.4			80.6	
Approach LOS		F			B			B			F	

Intersection Summary

HCM Average Control Delay	55.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗		↕		↖	↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95	1.00		0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	3016		1509	3018	1350		2989		1509	3018	1350
Flt Permitted	0.09	1.00		0.10	1.00	1.00		0.95		0.13	1.00	1.00
Satd. Flow (perm)	138	3016		151	3018	1350		2841		205	3018	1350
Volume (vph)	292	1494	5	23	1120	91	8	1183	79	79	682	207
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	304	1556	5	24	1167	95	8	1232	82	82	710	216
RTOR Reduction (vph)	0	0	0	0	0	25	0	5	0	0	0	149
Lane Group Flow (vph)	304	1561	0	24	1167	70	0	1317	0	82	710	67
Turn Type	pm+pt			pm+pt		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	61.0	56.2		43.8	42.0	42.0		31.0		31.0	31.0	31.0
Effective Green, g (s)	61.0	56.2		42.8	42.0	42.0		31.0		31.0	31.0	31.0
Actuated g/C Ratio	0.61	0.56		0.43	0.42	0.42		0.31		0.31	0.31	0.31
Clearance Time (s)	3.0	4.0		3.0	4.0	4.0		4.0		4.0	4.0	4.0
Vehicle Extension (s)	1.0	3.0		1.0	3.0	3.0		3.5		3.5	3.5	3.5
Lane Grp Cap (vph)	290	1695		75	1268	567		881		64	936	419
v/s Ratio Prot	c0.16	0.52		0.00	0.39						0.24	
v/s Ratio Perm	c0.48			0.13		0.05		c0.46		0.40		0.05
v/c Ratio	1.05	0.92		0.32	0.92	0.12		1.50		1.28	0.76	0.16
Uniform Delay, d1	30.6	19.9		20.1	27.4	17.7		34.5		34.5	31.1	25.0
Progression Factor	1.00	1.00		0.81	1.01	0.96		1.00		1.00	1.00	1.00
Incremental Delay, d2	66.1	9.7		0.1	1.4	0.0		228.8		205.5	5.7	0.8
Delay (s)	96.6	29.6		16.3	29.0	17.1		263.3		240.0	36.9	25.9
Level of Service	F	C		B	C	B		F		F	D	C
Approach Delay (s)		40.5			27.9			263.3			51.0	
Approach LOS		D			C			F			D	

Intersection Summary

HCM Average Control Delay	93.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	132.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.97			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3164		1583	3153			1615			1617	
Flt Permitted	0.15	1.00		0.15	1.00			0.99			0.90	
Satd. Flow (perm)	243	3164		243	3153			1600			1459	
Volume (vph)	150	1820	10	49	1071	32	13	409	119	41	208	51
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	156	1896	10	51	1116	33	14	426	124	43	217	53
RTOR Reduction (vph)	0	1	0	0	3	0	0	1	0	0	14	0
Lane Group Flow (vph)	156	1905	0	51	1146	0	0	563	0	0	299	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	27.1	27.1		27.1	27.1			23.7			23.7	
Effective Green, g (s)	27.4	27.4		27.4	27.4			24.6			24.6	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.41			0.41	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	111	1445		111	1440			656			598	
v/s Ratio Prot		0.60			0.36							
v/s Ratio Perm	c0.64			0.21				c0.35			0.21	
v/c Ratio	1.41	1.32		0.46	0.80			0.86			0.50	
Uniform Delay, d1	16.3	16.3		11.2	13.9			16.1			13.1	
Progression Factor	1.69	1.82		1.00	1.00			1.00			1.00	
Incremental Delay, d2	187.4	143.9		13.1	4.6			10.8			0.7	
Delay (s)	214.9	173.5		24.3	18.5			27.0			13.8	
Level of Service	F	F		C	B			C			B	
Approach Delay (s)		176.7			18.8			27.0			13.8	
Approach LOS		F			B			C			B	

Intersection Summary

HCM Average Control Delay	98.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑	↑		↑↓		↑	↑↓	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	1.00		1.00		0.95	0.95	
Frt		1.00			1.00	0.85		0.96		1.00	0.99	
Flt Protected		1.00			1.00	1.00		0.99		0.95	0.96	
Satd. Flow (prot)		3014			3018	1350		1499		1433	1440	
Flt Permitted		1.00			1.00	1.00		0.99		0.95	0.96	
Satd. Flow (perm)		3014			3018	1350		1499		1433	1440	
Volume (vph)	0	1823	16	0	1288	423	12	18	15	506	59	22
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1879	16	0	1328	436	12	19	15	522	61	23
RTOR Reduction (vph)	0	0	0	0	0	73	0	14	0	0	3	0
Lane Group Flow (vph)	0	1895	0	0	1328	363	0	32	0	300	303	0
Turn Type					pm+ov		Split			Split		
Protected Phases		2			6	4	3	3		4	4	
Permitted Phases						6						
Actuated Green, G (s)		61.3			61.3	83.3		4.7		22.0	22.0	
Effective Green, g (s)		61.3			61.3	83.3		4.7		22.0	22.0	
Actuated g/C Ratio		0.61			0.61	0.83		0.05		0.22	0.22	
Clearance Time (s)		4.0			4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)		4.5			4.5	4.0		3.0		4.0	4.0	
Lane Grp Cap (vph)		1848			1850	1179		70		315	317	
v/s Ratio Prot		c0.63			0.44	0.07		c0.02		0.21	c0.21	
v/s Ratio Perm						0.20						
v/c Ratio		1.03			0.72	0.31		0.45		0.95	0.96	
Uniform Delay, d1		19.4			13.4	1.9		46.4		38.5	38.5	
Progression Factor		1.00			1.00	1.00		1.00		1.23	1.24	
Incremental Delay, d2		14.2			2.4	0.2		4.6		22.4	22.8	
Delay (s)		33.5			15.8	2.1		51.0		69.9	70.6	
Level of Service		C			B	A		D		E	E	
Approach Delay (s)		33.5			12.4			51.0			70.2	
Approach LOS		C			B			D			E	

Intersection Summary

HCM Average Control Delay	30.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕	↖		↕	↖
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	
Satd. Flow (prot)	1509	2978		1509	3002			1535	1350		1557	
Flt Permitted	0.16	1.00		0.09	1.00			0.97	1.00		0.99	
Satd. Flow (perm)	252	2978		136	3002			1535	1350		1557	
Volume (vph)	16	1637	157	477	1079	38	194	85	671	39	98	7
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	17	1741	167	507	1148	40	206	90	714	41	104	7
RTOR Reduction (vph)	0	6	0	0	2	0	0	0	275	0	2	0
Lane Group Flow (vph)	17	1902	0	507	1186	0	0	296	439	0	150	0
Turn Type	Perm		pm+pt			Split		pm+ov		Split		
Protected Phases	6		5 7			4		4 5 7		8 8		
Permitted Phases	6		2					4				
Actuated Green, G (s)	42.8	42.8		54.8	50.8			18.0	27.0		4.0	
Effective Green, g (s)	42.8	42.8		54.8	50.8			18.0	26.0		4.0	
Actuated g/C Ratio	0.43	0.43		0.55	0.51			0.18	0.26		0.04	
Clearance Time (s)	4.0	4.0			4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0			4.0			3.0	
Lane Grp Cap (vph)	108	1275		184	1525			276	351		62	
v/s Ratio Prot		0.64		c0.22	0.40			0.19	c0.10		c0.10	
v/s Ratio Perm	0.07			c1.29					0.22			
v/c Ratio	0.16	1.49		2.76	0.78			1.07	1.25		2.42	
Uniform Delay, d1	17.5	28.6		48.2	20.0			41.0	37.0		48.0	
Progression Factor	1.00	1.00		1.00	1.00			1.51	3.60		1.00	
Incremental Delay, d2	3.1	225.6		805.0	4.0			49.9	119.1		685.4	
Delay (s)	20.6	254.2		853.2	24.0			111.9	252.4		733.4	
Level of Service	C	F		F	C			F	F		F	
Approach Delay (s)		252.1			272.0			211.2			733.4	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	265.8	HCM Level of Service	F
HCM Volume to Capacity ratio	2.33		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	23.2
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations			↗	↖	↔			↕	↗		↕	↔	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	
Total Lost time (s)			4.0	4.0	4.0			4.0	4.0		4.0		
Lane Util. Factor			1.00	0.95	0.95			0.95	1.00		0.95		
Frbp, ped/bikes			1.00	1.00	0.99			1.00	1.00		1.00		
Flpb, ped/bikes			1.00	1.00	1.00			1.00	1.00		1.00		
Frt			0.86	1.00	0.97			1.00	0.85		1.00		
Flt Protected			1.00	0.95	0.96			1.00	1.00		1.00		
Satd. Flow (prot)			1374	1433	1394			3015	1350		3012		
Flt Permitted			1.00	0.95	0.96			0.93	1.00		1.00		
Satd. Flow (perm)			1374	1433	1394			2812	1350		3012		
Volume (vph)	0	0	7	981	11	114	16	879	1698	0	711	4	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Adj. Flow (vph)	0	0	8	1115	12	130	18	999	1930	0	808	5	
RTOR Reduction (vph)	0	0	4	0	10	0	0	0	698	0	1	0	
Lane Group Flow (vph)	0	0	4	665	582	0	0	1017	1232	0	812	0	
Confl. Peds. (#/hr)	14						14	31				31	
Confl. Bikes (#/hr)							3					2	
Turn Type			custom	Prot			Perm		Perm				
Protected Phases				4	8			2				2	
Permitted Phases			4				2		2				
Actuated Green, G (s)			56.0	56.0	56.0			35.0	35.0			35.0	
Effective Green, g (s)			56.0	56.0	56.0			36.0	36.0			36.0	
Actuated g/C Ratio			0.56	0.56	0.56			0.36	0.36			0.36	
Clearance Time (s)			4.0	4.0	4.0			5.0	5.0			5.0	
Vehicle Extension (s)			7.0	7.0	3.0			3.0	3.0			3.0	
Lane Grp Cap (vph)			769	802	781			1012	486			1084	
v/s Ratio Prot				c0.46	0.42							0.27	
v/s Ratio Perm			0.00					0.36	c0.91				
v/c Ratio			0.01	0.83	0.75			1.00	2.53			0.75	
Uniform Delay, d1			9.7	18.1	16.6			32.0	32.0			28.0	
Progression Factor			1.00	1.00	1.00			0.77	5.10			1.30	
Incremental Delay, d2			0.0	8.7	3.9			9.7	691.1			0.4	
Delay (s)			9.7	26.7	20.5			34.3	854.3			36.9	
Level of Service			A	C	C			C	F			D	
Approach Delay (s)		9.7			23.8			571.3				36.9	
Approach LOS		A			C			F				D	
Intersection Summary													
HCM Average Control Delay			347.0									HCM Level of Service	F
HCM Volume to Capacity ratio			1.50										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			126.6%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	0.94	1.00	0.97		1.00	0.99		1.00	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	1588	1274	1490	1472		1509	2972		1509	3018	1250
Flt Permitted	0.15	1.00	1.00	0.52	1.00		0.10	1.00		0.10	1.00	1.00
Satd. Flow (perm)	234	1588	1274	817	1472		160	2972		164	3018	1250
Volume (vph)	544	407	163	31	292	141	137	1712	82	143	1178	144
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	549	411	165	31	295	142	138	1729	83	144	1190	145
RTOR Reduction (vph)	0	0	68	0	17	0	0	4	0	0	0	35
Lane Group Flow (vph)	549	411	97	31	420	0	138	1808	0	144	1190	110
Conf. Peds. (#/hr)	41		27	27		41	29		45	45		29
Conf. Bikes (#/hr)			1						3			3
Turn Type	pm+pt		Perm	pm+pt			pm+pt			pm+pt		Perm
Protected Phases	1	6		5	2		7	4		3		8
Permitted Phases	6		6	2			4			8		8
Actuated Green, G (s)	43.7	37.8	37.8	26.1	23.2		45.3	39.3		43.8	38.8	38.8
Effective Green, g (s)	44.2	38.3	38.3	25.1	23.2		44.8	39.8		42.8	38.8	38.8
Actuated g/C Ratio	0.44	0.38	0.38	0.25	0.23		0.45	0.40		0.43	0.39	0.39
Clearance Time (s)	3.0	4.5	4.5	3.0	4.0		3.0	4.5		3.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	1.0	2.5		1.0	5.0		1.0	5.0	5.0
Lane Grp Cap (vph)	320	608	488	218	342		139	1183		124	1171	485
v/s Ratio Prot	c0.29	0.26		0.00	0.29		c0.05	c0.61		0.05	0.39	
v/s Ratio Perm	c0.47		0.08	0.03			0.40			0.45		0.09
v/c Ratio	1.72	0.68	0.20	0.14	1.23		0.99	1.53		1.16	1.02	0.23
Uniform Delay, d1	28.5	25.7	20.6	28.6	38.4		24.5	30.1		50.2	30.6	20.5
Progression Factor	1.00	1.00	1.00	0.98	0.99		1.40	0.62		1.09	1.08	1.11
Incremental Delay, d2	335.0	3.0	0.2	0.1	125.1		21.1	238.3		113.4	24.7	0.7
Delay (s)	363.5	28.7	20.8	28.2	163.2		55.4	256.8		168.2	57.8	23.4
Level of Service	F	C	C	C	F		E	F		F	E	C
Approach Delay (s)		190.9			154.3			242.6			65.2	
Approach LOS		F			F			F			E	

Intersection Summary

HCM Average Control Delay	170.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	145.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 143: Santa Monica Blvd & La Cienega Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔↔	↕↔		↔↔	↕↔			↕↕	↕↔
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.95			0.95	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	0.97			1.00	0.94
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	0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	2927	2918		2927	2998		2927	2837			3018	1271
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (perm)	2927	2918		2927	2998		2927	2837			3018	1271
Volume (vph)	663	1697	157	369	942	17	236	1279	311	0	879	593
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	713	1825	169	397	1013	18	254	1375	334	0	945	638
RTOR Reduction (vph)	0	7	0	0	1	0	0	21	0	0	0	260
Lane Group Flow (vph)	713	1987	0	397	1030	0	254	1688	0	0	945	378
Confl. Peds. (#/hr)	157		168	168		157	46		116	116		46
Confl. Bikes (#/hr)			17			14			1			
Turn Type	Prot			Prot			Prot					Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases												4
Actuated Green, G (s)	20.5	44.5		4.0	28.0		4.0	38.0			29.0	29.0
Effective Green, g (s)	20.5	45.0		4.0	28.5		5.0	39.0			30.0	30.0
Actuated g/C Ratio	0.20	0.45		0.04	0.28		0.05	0.39			0.30	0.30
Clearance Time (s)	4.0	4.5		4.0	4.5		5.0	5.0			5.0	5.0
Vehicle Extension (s)	1.0	5.0		1.0	5.0		2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	600	1313		117	854		146	1106			905	381
v/s Ratio Prot	0.24	c0.68		c0.14	0.34		0.09	c0.59			0.31	
v/s Ratio Perm												0.30
v/c Ratio	1.19	1.51		3.39	1.21		1.74	1.53			1.04	0.99
Uniform Delay, d1	39.8	27.5		48.0	35.8		47.5	30.5			35.0	34.9
Progression Factor	0.99	0.49		0.78	1.41		1.00	1.00			1.63	2.75
Incremental Delay, d2	86.4	231.3		1092.7	100.8		359.7	241.3			35.8	33.6
Delay (s)	125.8	244.8		1130.4	151.2		407.2	271.8			92.8	129.3
Level of Service	F	F		F	F		F	F			F	F
Approach Delay (s)		213.5			423.4			289.3			107.5	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	250.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	138.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘		↗	↗↘	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1509	2989		1509	2992		1509	2929		1509	2981	
Flt Permitted	0.37	1.00		0.95	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	583	2989		1509	2992		151	2929		151	2981	
Volume (vph)	96	974	65	306	693	42	106	1695	413	83	1156	103
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	98	994	66	312	707	43	108	1730	421	85	1180	105
RTOR Reduction (vph)	0	6	0	0	3	0	0	23	0	0	7	0
Lane Group Flow (vph)	98	1054	0	312	747	0	108	2128	0	85	1278	0
Turn Type	Perm		Prot		Perm		Perm		Perm			
Protected Phases	8		7		4		6		2			
Permitted Phases	8						6		2			
Actuated Green, G (s)	25.0	25.0		11.0	39.0		41.0	41.0		41.0	41.0	
Effective Green, g (s)	26.0	26.0		10.0	40.0		42.0	42.0		42.0	42.0	
Actuated g/C Ratio	0.29	0.29		0.11	0.44		0.47	0.47		0.47	0.47	
Clearance Time (s)	5.0	5.0		3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	863		168	1330		70	1367		70	1391	
v/s Ratio Prot	c0.35		c0.21		0.25		c0.73		0.43			
v/s Ratio Perm	0.17						0.71		0.56			
v/c Ratio	0.58	1.22		1.86	0.56		1.54	1.56		1.21	0.92	
Uniform Delay, d1	27.4	32.0		40.0	18.5		24.0	24.0		24.0	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.0	110.2		407.7	1.7		303.2	254.0		176.2	11.2	
Delay (s)	41.3	142.2		447.7	20.2		327.2	278.0		200.2	33.6	
Level of Service	D	F		F	C		F	F		F	C	
Approach Delay (s)	133.6		145.8		280.3		43.9					
Approach LOS	F		F		F		D					

Intersection Summary

HCM Average Control Delay	171.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	146.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			0.99		1.00	1.00	
Flpb, ped/bikes					0.99			1.00		1.00	1.00	
Frt					0.91			0.99		1.00	1.00	
Flt Protected					0.98			1.00		0.95	1.00	
Satd. Flow (prot)					1478			3105		1583	3167	
Flt Permitted					0.89			1.00		0.07	1.00	
Satd. Flow (perm)					1341			3105		109	3167	
Volume (vph)	0	0	0	89	0	170	0	1804	103	124	1524	0
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	102	0	195	0	2074	118	143	1752	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	291	0	0	2188	0	143	1752	0
Conf. Peds. (#/hr)			20	20			47		58	58		47
Conf. Bikes (#/hr)			1						7			1
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					30.5			61.0		61.0	61.0	
Effective Green, g (s)					31.0			61.0		61.0	61.0	
Actuated g/C Ratio					0.31			0.61		0.61	0.61	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					416			1894		66	1932	
v/s Ratio Prot								0.70			0.55	
v/s Ratio Perm					c0.22					c1.31		
v/c Ratio					0.70			1.16		2.17	0.91	
Uniform Delay, d1					30.4			19.5		19.5	17.0	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					9.5			76.3		571.5	7.7	
Delay (s)					39.9			95.8		591.0	24.7	
Level of Service					D			F		F	C	
Approach Delay (s)		0.0			39.9			95.8			67.4	
Approach LOS		A			D			F			E	
Intersection Summary												
HCM Average Control Delay			79.7									HCM Level of Service E
HCM Volume to Capacity ratio			1.66									
Actuated Cycle Length (s)			100.0									Sum of lost time (s) 8.0
Intersection Capacity Utilization			97.3%									ICU Level of Service F
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↗	↑↑	↗	↗	↑↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.74	1.00	1.00		1.00	1.00	0.79	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	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1048	3072	3165		1583	3167	1113	1583	4403	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3072	3167	1048	3072	3165		153	3167	1113	168	4403	
Volume (vph)	166	1625	57	450	762	1	405	1806	438	12	1391	114
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	175	1711	60	474	802	1	426	1901	461	13	1464	120
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	73	0	8	0
Lane Group Flow (vph)	175	1711	60	474	803	0	426	1901	388	13	1576	0
Conf. Peds. (#/hr)	102		193	193		102	173		149	149		173
Conf. Bikes (#/hr)			6			6			9			5
Turn Type	Prot		pm+ov	Prot			pm+pt		pm+ov		pm+pt	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2				8		8	4		
Actuated Green, G (s)	8.0	48.0	55.0	8.0	48.0		49.3	42.6	50.6	41.0	38.3	
Effective Green, g (s)	8.0	49.3	56.3	8.0	49.3		50.7	44.0	52.0	42.4	39.7	
Actuated g/C Ratio	0.07	0.41	0.47	0.07	0.41		0.42	0.37	0.43	0.35	0.33	
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3		4.0	5.4	4.0	4.0	5.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	205	1301	527	205	1300		148	1161	519	91	1457	
v/s Ratio Prot	0.06	c0.54	0.01	c0.15	0.25		c0.17	0.60	0.05	0.00	0.36	
v/s Ratio Perm			0.05				c1.05		0.30	0.05		
v/c Ratio	0.85	1.32	0.11	2.31	0.62		2.88	1.64	0.75	0.14	1.08	
Uniform Delay, d1	55.4	35.3	17.9	56.0	27.9		29.5	38.0	28.5	31.9	40.2	
Progression Factor	0.91	0.84	0.80	1.09	0.70		1.20	1.13	1.83	1.00	1.00	
Incremental Delay, d2	3.3	142.3	0.0	600.7	1.5		846.9	287.2	0.5	0.7	49.0	
Delay (s)	53.8	172.0	14.3	661.6	21.0		882.4	330.1	52.8	32.6	89.2	
Level of Service	D	F	B	F	C		F	F	D	C	F	
Approach Delay (s)		156.5			258.7			368.6			88.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	237.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↑↑	↗	↘	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3026		1583	3167	1417	1583	3115	
Flt Permitted	0.20	1.00	1.00	0.07	1.00		0.11	1.00	1.00	0.14	1.00	
Satd. Flow (perm)	340	3167	1417	113	3026		183	3167	1417	240	3115	
Volume (vph)	174	1487	159	117	625	263	182	978	253	198	958	117
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	185	1582	169	124	665	280	194	1040	269	211	1019	124
RTOR Reduction (vph)	0	0	25	0	23	0	0	0	7	0	8	0
Lane Group Flow (vph)	185	1582	144	124	922	0	194	1040	262	211	1135	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8	4		
Actuated Green, G (s)	57.1	57.1	57.1	57.1	57.1		51.5	51.5	51.5	51.5	51.5	
Effective Green, g (s)	59.0	59.0	59.0	59.0	59.0		53.0	53.0	53.0	53.0	53.0	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49		0.44	0.44	0.44	0.44	0.44	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	167	1557	697	56	1488		81	1399	626	106	1376	
v/s Ratio Prot		0.50			0.30			0.33			0.36	
v/s Ratio Perm	0.54		0.10	c1.10			c1.06		0.18	0.88		
v/c Ratio	1.11	1.02	0.21	2.21	0.62		2.40	0.74	0.42	1.99	0.82	
Uniform Delay, d1	30.5	30.5	17.3	30.5	22.3		33.5	27.8	22.9	33.5	29.4	
Progression Factor	1.26	1.26	1.35	0.70	0.70		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	57.0	11.4	0.1	551.7	0.2		663.9	3.6	2.1	477.6	5.7	
Delay (s)	95.3	50.0	23.4	573.0	15.7		697.4	31.5	25.0	511.1	35.2	
Level of Service	F	D	C	F	B		F	C	C	F	D	
Approach Delay (s)		52.0			80.4			116.3			109.3	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	86.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.31		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00		0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85		1.00		1.00	1.00	0.85		0.91	
Flt Protected	0.95	1.00	1.00		1.00		0.95	0.98	1.00		0.99	
Satd. Flow (prot)	1509	3018	1350		3008		1433	1472	1350		1442	
Flt Permitted	0.11	1.00	1.00		1.00		0.95	0.98	1.00		0.99	
Satd. Flow (perm)	168	3018	1350		3008		1433	1472	1350		1442	
Volume (vph)	139	1549	575	0	1239	26	292	99	53	20	31	87
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	145	1614	599	0	1291	27	304	103	55	21	32	91
RTOR Reduction (vph)	0	0	72	0	1	0	0	0	45	0	52	0
Lane Group Flow (vph)	145	1614	527	0	1317	0	198	209	10	0	92	0
Turn Type	pm+pt		Perm			Split		Perm		Split		
Protected Phases	1	6			2		4	4		3	3	
Permitted Phases	6		6						4			
Actuated Green, G (s)	73.8	63.6	63.6		63.6		21.0	21.0	21.0		10.2	
Effective Green, g (s)	72.8	63.6	63.6		63.6		21.0	21.0	21.0		10.2	
Actuated g/C Ratio	0.61	0.53	0.53		0.53		0.18	0.18	0.18		0.08	
Clearance Time (s)	3.0	4.0	4.0		4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	1.0	6.0	6.0		6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	205	1600	716		1594		251	258	236		123	
v/s Ratio Prot	c0.05	c0.53			0.44		0.14	c0.14			c0.06	
v/s Ratio Perm	0.38		0.39						0.01			
v/c Ratio	0.71	1.01	0.74		0.83		0.79	0.81	0.04		0.75	
Uniform Delay, d1	17.6	28.2	21.7		23.6		47.4	47.6	41.1		53.6	
Progression Factor	1.34	0.64	0.55		1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.8	9.0	0.6		5.0		15.1	17.2	0.1		21.6	
Delay (s)	24.4	27.1	12.6		28.6		62.5	64.8	41.2		75.3	
Level of Service	C	C	B		C		E	E	D		E	
Approach Delay (s)		23.2			28.6			61.0			75.3	
Approach LOS		C			C			E			E	

Intersection Summary

HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕		↘	↕		↘	↕	↘	↘	↕	↕
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.98		1.00	1.00	0.84	1.00	0.94	
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		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1509	3003		1509	2916		1509	3018	1128	1509	2729	
Flt Permitted	0.07	1.00		0.07	1.00		0.17	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	107	3003		108	2916		276	3018	1128	276	2729	
Volume (vph)	153	2489	37	215	1471	111	33	1162	126	46	685	267
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	168	2735	41	236	1616	122	36	1277	138	51	753	293
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	55	0	41	0
Lane Group Flow (vph)	168	2775	0	236	1732	0	36	1277	83	51	1005	0
Confl. Peds. (#/hr)	257		114	114		257	133		103	103		133
Confl. Bikes (#/hr)			12			3			1			2
Turn Type	pm+pt			pm+pt			Perm		Perm	Perm		
Protected Phases	5	2		1	6			8				4
Permitted Phases	2			6			8		8		4	
Actuated Green, G (s)	65.5	59.5		65.0	59.0		23.0	23.0	23.0	23.0	23.0	
Effective Green, g (s)	65.5	59.5		64.5	59.0		23.0	23.0	23.0	23.0	23.0	
Actuated g/C Ratio	0.66	0.60		0.64	0.59		0.23	0.23	0.23	0.23	0.23	
Clearance Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	1.0	5.0		1.0	5.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	154	1787		147	1720		63	694	259	63	628	
v/s Ratio Prot	0.07	0.92		c0.09	0.59			c0.42				0.37
v/s Ratio Perm	0.65			c0.95			0.13		0.07	0.18		
v/c Ratio	1.09	1.55		1.61	1.01		0.57	1.84	0.32	0.81	1.60	
Uniform Delay, d1	27.3	20.2		49.5	20.5		34.1	38.5	32.0	36.4	38.5	
Progression Factor	1.11	0.96		0.66	1.68		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	51.0	249.0		275.3	8.3		32.6	383.6	3.2	67.8	277.7	
Delay (s)	81.2	268.4		308.2	42.9		66.7	422.1	35.2	104.2	316.2	
Level of Service	F	F		F	D		E	F	D	F	F	
Approach Delay (s)		257.7			74.6			376.5			306.4	
Approach LOS		F			E			F			F	

Intersection Summary


























HCM Average Control Delay	239.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	151.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖	↖	↕		↖	↕	↖
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1509	3010		1509	1588	1350	1509	2971		1509	3018	1350
Flt Permitted	0.22	1.00		0.18	1.00	1.00	0.21	1.00		0.11	1.00	1.00
Satd. Flow (perm)	344	3010		294	1588	1350	330	2971		176	3018	1350
Volume (vph)	122	830	15	266	514	188	100	1178	135	242	868	172
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	134	912	16	292	565	207	110	1295	148	266	954	189
RTOR Reduction (vph)	0	2	0	0	0	16	0	11	0	0	0	94
Lane Group Flow (vph)	134	926	0	292	565	191	110	1432	0	266	954	95
Turn Type	Perm			Perm		Perm	Perm			Perm		Perm
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		4
Actuated Green, G (s)	31.0	31.0		31.0	31.0	31.0	36.0	36.0		36.0	36.0	36.0
Effective Green, g (s)	31.0	31.0		31.0	31.0	31.0	36.0	36.0		36.0	36.0	36.0
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41	0.48	0.48		0.48	0.48	0.48
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lane Grp Cap (vph)	142	1244		122	656	558	158	1426		84	1449	648
v/s Ratio Prot		0.31			0.36			0.48			0.32	
v/s Ratio Perm	0.39			c0.99		0.14	0.33			c1.51		0.07
v/c Ratio	0.94	0.74		2.39	0.86	0.34	0.70	1.00		3.17	0.66	0.15
Uniform Delay, d1	21.2	18.6		22.0	20.0	15.0	15.2	19.5		19.5	14.8	10.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	61.8	4.1		651.4	13.9	1.7	22.4	24.8		1005.4	2.4	0.5
Delay (s)	82.9	22.7		673.4	34.0	16.7	37.7	44.3		1024.9	17.2	11.4
Level of Service	F	C		F	C	B	D	D		F	B	B
Approach Delay (s)		30.3			206.1			43.8			206.6	
Approach LOS		C			F			D			F	

Intersection Summary

HCM Average Control Delay	120.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.80		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95		0.95	0.91	0.95	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1509	2977		1509	2992		1433	1437	1282	1509	1571	
Flt Permitted	0.19	1.00		0.05	1.00		0.95	0.99	1.00	0.95	1.00	
Satd. Flow (perm)	304	2977		85	2992		1433	1437	1282	1509	1571	
Volume (vph)	14	1600	156	430	1090	65	430	346	512	21	329	26
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	15	1684	164	453	1147	68	453	364	539	22	346	27
RTOR Reduction (vph)	0	6	0	0	4	0	0	0	154	0	3	0
Lane Group Flow (vph)	15	1842	0	453	1212	0	406	411	385	22	370	0
Turn Type	Perm			pm+pt			Split		pm+ov		Split	
Protected Phases		6		5	2		4	4	5		3	3
Permitted Phases	6			2					4			
Actuated Green, G (s)	71.0	71.0		78.0	78.0		13.0	13.0	17.0		18.0	18.0
Effective Green, g (s)	71.0	71.0		78.0	78.0		13.0	13.0	16.0		17.0	17.0
Actuated g/C Ratio	0.59	0.59		0.65	0.65		0.11	0.11	0.13		0.14	0.14
Clearance Time (s)	4.0	4.0		3.0	4.0		4.0	4.0	3.0		3.0	3.0
Vehicle Extension (s)	4.5	4.5		1.0	4.5		2.0	2.0	1.0		2.0	2.0
Lane Grp Cap (vph)	180	1761		91	1945		155	156	214		214	223
v/s Ratio Prot		0.62		c0.12	0.40		0.28	c0.29	0.04		0.01	c0.24
v/s Ratio Perm	0.05			c3.13					0.25			
v/c Ratio	0.08	1.05		4.98	0.62		2.62	2.63	1.80		0.10	1.66
Uniform Delay, d1	10.5	24.5		28.1	12.4		53.5	53.5	52.0		44.9	51.5
Progression Factor	1.00	1.00		2.52	0.78		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9	34.6		1803.4	0.8		747.0	753.7	377.1		1.0	316.6
Delay (s)	11.4	59.1		1874.4	10.4		800.5	807.2	429.1		45.8	368.1
Level of Service	B	E		F	B		F	F	F		D	F
Approach Delay (s)		58.7			516.6			654.9				350.1
Approach LOS		E			F			F				F
Intersection Summary												
HCM Average Control Delay			378.2				HCM Level of Service			F		
HCM Volume to Capacity ratio			4.12									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			151.9%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 152: Cynthia St & San Vicente Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
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	0.95		1.00	0.95	
Frt		0.94			0.97		1.00	0.99		1.00	0.98	
Flt Protected		1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1492			1490		1509	2973		1509	2953	
Flt Permitted		0.97			0.71		0.23	1.00		0.17	1.00	
Satd. Flow (perm)		1451			1087		372	2973		276	2953	
Volume (vph)	49	250	210	44	10	17	154	1146	126	10	741	123
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	260	219	46	10	18	160	1194	131	10	772	128
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	530	0	0	74	0	160	1325	0	10	900	0
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		2		6		6		4		4		8
Permitted Phases		2		6		6		4		4		8
Actuated Green, G (s)		19.4			19.4		24.0	24.0		24.0		24.0
Effective Green, g (s)		20.0			20.0		23.0	23.0		23.0		23.0
Actuated g/C Ratio		0.39			0.39		0.45	0.45		0.45		0.45
Clearance Time (s)		4.6			4.6		3.0	3.0		3.0		3.0
Vehicle Extension (s)		4.5			4.5		3.0	3.0		3.0		3.0
Lane Grp Cap (vph)		569			426		168	1341		124		1332
v/s Ratio Prot								c0.45				0.30
v/s Ratio Perm		c0.37			0.07		0.43			0.04		
v/c Ratio		0.93			0.17		0.95	0.99		0.08		0.68
Uniform Delay, d1		14.8			10.1		13.5	13.9		8.0		11.1
Progression Factor		1.00			1.00		1.00	1.00		1.00		1.00
Incremental Delay, d2		24.1			0.9		55.2	21.5		0.3		1.4
Delay (s)		39.0			11.0		68.6	35.4		8.3		12.4
Level of Service		D			B		E	D		A		B
Approach Delay (s)		39.0			11.0			38.9				12.4
Approach LOS		D			B			D				B

Intersection Summary

HCM Average Control Delay	30.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	51.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↷		↶	↶↷			↷			↷	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			0.92			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	
Frt	1.00	1.00		1.00	0.99			0.92			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.98	
Satd. Flow (prot)	1509	3000		1509	2978			1326			1527	
Flt Permitted	0.07	1.00		0.08	1.00			0.97			0.48	
Satd. Flow (perm)	114	3000		123	2978			1286			739	
Volume (vph)	16	2212	33	237	1477	57	49	214	369	38	58	8
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	17	2353	35	252	1571	61	52	228	393	40	62	9
RTOR Reduction (vph)	0	1	0	0	3	0	0	50	0	0	3	0
Lane Group Flow (vph)	17	2387	0	252	1629	0	0	623	0	0	108	0
Conf. Peds. (#/hr)	63		90	90		63	52		90	90		52
Conf. Bikes (#/hr)			4			3						1
Turn Type	pm+pt			pm+pt			Perm			Perm		
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	65.5	58.5		55.0	51.5			26.0			26.0	
Effective Green, g (s)	65.5	58.5		54.5	51.5			26.5			26.5	
Actuated g/C Ratio	0.66	0.58		0.55	0.52			0.26			0.26	
Clearance Time (s)	3.5	4.0		3.5	4.0			4.5			4.5	
Vehicle Extension (s)	1.0	5.0		1.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	214	1755		109	1534			341			196	
v/s Ratio Prot	0.01	c0.80		c0.07	0.55							
v/s Ratio Perm	0.04			c1.19				c0.48			0.15	
v/c Ratio	0.08	1.36		2.31	1.06			1.83			0.55	
Uniform Delay, d1	16.1	20.8		50.7	24.2			36.8			31.6	
Progression Factor	1.00	1.00		1.86	0.55			1.00			1.00	
Incremental Delay, d2	0.7	165.9		593.0	29.6			383.5			3.3	
Delay (s)	16.8	186.6		687.1	42.9			420.2			35.0	
Level of Service	B	F		F	D			F			C	
Approach Delay (s)		185.4			129.1			420.2			35.0	
Approach LOS		F			F			F			C	

Intersection Summary

HCM Average Control Delay	192.4	HCM Level of Service	F
HCM Volume to Capacity ratio	2.15		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	146.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 154: Beverly Blvd & Robertson Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖	↖	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3152		1583	3080		1583	1667	1417	1583	1635	
Flt Permitted	0.20	1.00		0.20	1.00		0.18	1.00	1.00	0.29	1.00	
Satd. Flow (perm)	327	3152		327	3080		294	1667	1417	481	1635	
Volume (vph)	100	1506	48	91	693	156	74	586	134	94	637	93
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	104	1569	50	95	722	162	77	610	140	98	664	97
RTOR Reduction (vph)	0	4	0	0	32	0	0	0	1	0	9	0
Lane Group Flow (vph)	104	1615	0	95	852	0	77	610	139	98	752	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1072		111	1047		155	878	746	253	861	
v/s Ratio Prot	c0.51			0.28			0.37			c0.46		
v/s Ratio Perm	0.32			0.29			0.26			0.20		
v/c Ratio	0.94	1.51		0.86	0.81		0.50	0.69	0.19	0.39	0.87	
Uniform Delay, d1	19.2	19.8		18.4	18.1		9.1	10.6	7.5	8.4	12.4	
Progression Factor	1.00	1.00		1.06	1.01		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	69.7	232.8		17.1	1.6		10.9	4.5	0.6	4.4	11.9	
Delay (s)	88.9	252.6		36.6	20.0		20.0	15.1	8.0	12.9	24.4	
Level of Service	F			D			C			B		
Approach Delay (s)	242.8			21.6			14.4			23.1		
Approach LOS	F			C			B			C		

Intersection Summary

HCM Average Control Delay	107.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↕			↕			↕	↙
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620	1620
Total Lost time (s)				4.0	4.0			4.0			4.0	4.0
Lane Util. Factor				1.00	0.95			0.95			0.95	1.00
Frt				1.00	1.00			1.00			1.00	0.85
Flt Protected				0.95	1.00			1.00			1.00	1.00
Satd. Flow (prot)				1509	3006			3004			3018	1350
Flt Permitted				0.95	1.00			0.88			1.00	1.00
Satd. Flow (perm)				1509	3006			2652			3018	1350
Volume (vph)	0	0	0	201	1363	36	40	385	0	0	400	100
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	223	1514	40	44	428	0	0	444	111
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	223	1552	0	0	472	0	0	444	111
Turn Type				custom			custom					Free
Protected Phases				2	2		3	3			1	
Permitted Phases				4	4		6	6				Free
Actuated Green, G (s)				34.9	34.9			27.5			20.0	100.0
Effective Green, g (s)				33.5	33.5			26.5			20.0	100.0
Actuated g/C Ratio				0.34	0.34			0.26			0.20	1.00
Clearance Time (s)				3.0	3.0			3.0			4.0	
Vehicle Extension (s)				1.0	1.0			1.0			4.0	
Lane Grp Cap (vph)				566	1127			717			604	1350
v/s Ratio Prot				0.05	c0.19			c0.03			c0.15	
v/s Ratio Perm				0.09	0.32			c0.15				0.08
v/c Ratio				0.39	1.38			0.66			0.74	0.08
Uniform Delay, d1				25.9	33.2			32.7			37.5	0.0
Progression Factor				1.00	1.00			0.39			1.00	1.00
Incremental Delay, d2				2.1	175.3			0.8			7.8	0.1
Delay (s)				28.0	208.6			13.7			45.3	0.1
Level of Service				C	F			B			D	A
Approach Delay (s)		0.0			185.9			13.7			36.2	
Approach LOS		A			F			B			D	

Intersection Summary			
HCM Average Control Delay	127.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖		↕			↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.94			0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1304	2595		1304	2608	1167		1276			1334	
Flt Permitted	0.10	1.00		0.08	1.00	1.00		0.80			0.84	
Satd. Flow (perm)	142	2595		105	2608	1167		1032			1128	
Volume (vph)	19	1637	55	67	1538	48	68	67	99	49	129	24
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	20	1688	57	69	1586	49	70	69	102	51	133	25
RTOR Reduction (vph)	0	2	0	0	0	16	0	21	0	0	6	0
Lane Group Flow (vph)	20	1743	0	69	1586	33	0	220	0	0	203	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	2			6			6	8			4	
Permitted Phases	2			6			6	8			4	
Actuated Green, G (s)	60.3	60.3		60.3	60.3	60.3		20.6			20.6	
Effective Green, g (s)	60.9	60.9		60.9	60.9	60.9		21.1			21.1	
Actuated g/C Ratio	0.68	0.68		0.68	0.68	0.68		0.23			0.23	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6		4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0		2.0			2.0	
Lane Grp Cap (vph)	96	1756		71	1765	790		242			264	
v/s Ratio Prot	c0.67			0.61								
v/s Ratio Perm	0.14			0.66		0.03		c0.21			0.18	
v/c Ratio	0.21	0.99		0.97	0.90	0.04		0.91			0.77	
Uniform Delay, d1	5.5	14.3		13.7	12.0	4.8		33.5			32.2	
Progression Factor	0.42	1.23		0.97	0.99	2.00		1.00			1.00	
Incremental Delay, d2	0.4	4.9		55.3	2.9	0.0		33.2			11.4	
Delay (s)	2.7	22.5		68.7	14.8	9.7		66.7			43.6	
Level of Service	A	C		E	B	A		E			D	
Approach Delay (s)	22.3			16.8				66.7			43.6	
Approach LOS	C			B				E			D	

Intersection Summary

HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.94			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.98	
Satd. Flow (prot)	1304	2602		1304	2595			1279			1320	
Flt Permitted	0.15	1.00		0.15	1.00			0.96			0.80	
Satd. Flow (perm)	211	2602		211	2595			1231			1077	
Volume (vph)	29	1523	24	160	1419	50	23	128	138	112	168	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	1655	26	174	1542	54	25	139	150	122	183	59
RTOR Reduction (vph)	0	2	0	0	4	0	0	3	0	0	5	0
Lane Group Flow (vph)	32	1679	0	174	1592	0	0	311	0	0	359	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	25.5	25.5		25.5	25.5			25.5			25.5	
Effective Green, g (s)	26.0	26.0		26.0	26.0			26.0			26.0	
Actuated g/C Ratio	0.43	0.43		0.43	0.43			0.43			0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)	91	1128		91	1125			533			467	
v/s Ratio Prot		0.65			0.61							
v/s Ratio Perm	0.15			c0.82				0.25			c0.33	
v/c Ratio	0.35	1.49		1.91	1.42			0.58			0.77	
Uniform Delay, d1	11.4	17.0		17.0	17.0			12.9			14.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	10.4	224.7		448.4	192.1			4.6			11.6	
Delay (s)	21.7	241.7		465.4	209.1			17.5			26.0	
Level of Service	C	F		F	F			B			C	
Approach Delay (s)		237.6			234.3			17.5			26.0	
Approach LOS		F			F			B			C	

Intersection Summary

HCM Average Control Delay	201.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	130.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↗	↖	↖	↗	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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)	1583	1638		1583	1667	1417	1583	1667	1417	1583	1667	1417
Flt Permitted	0.42	1.00		0.15	1.00	1.00	0.27	1.00	1.00	0.23	1.00	1.00
Satd. Flow (perm)	693	1638		256	1667	1417	445	1667	1417	382	1667	1417
Volume (vph)	100	563	72	89	359	91	84	536	96	100	499	77
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	110	619	79	98	395	100	92	589	105	110	548	85
RTOR Reduction (vph)	0	8	0	0	0	100	0	0	60	0	0	48
Lane Group Flow (vph)	110	690	0	98	395	0	92	589	46	110	548	37
Turn Type	Perm			Perm		NA	Perm		Perm	Perm		custom
Protected Phases		4			4			2				2
Permitted Phases	4			4			2		2	2		4
Actuated Green, G (s)	25.5	25.5		25.5	25.5	0.0	25.5	25.5	25.5	25.5	25.5	25.5
Effective Green, g (s)	26.0	26.0		26.0	26.0	0.0	26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.43	0.43		0.43	0.43	0.00	0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	300	710		111	722	0	193	722	614	166	722	614
v/s Ratio Prot		c0.42			0.24			c0.35				0.33
v/s Ratio Perm	0.16			0.38			0.21		0.03	0.29		0.03
v/c Ratio	0.37	0.97		0.88	0.55	0.00	0.48	0.82	0.07	0.66	0.76	0.06
Uniform Delay, d1	11.5	16.6		15.6	12.6	30.0	12.1	14.9	10.0	13.5	14.4	9.9
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	3.4	27.6		58.1	3.0	0.0	8.2	9.9	0.2	18.9	7.4	0.2
Delay (s)	14.9	44.2		73.7	15.6	30.0	20.4	24.8	10.2	32.5	21.7	10.1
Level of Service	B	D		E	B	C	C	C	B	C	C	B
Approach Delay (s)		40.2			27.6			22.3			22.0	
Approach LOS		D			C			C			C	

Intersection Summary

HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗	↖	↖	↖	↖	↖	↖	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.84	1.00	1.00	0.95	1.00	1.00	0.94
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	0.99		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)	1304	2578		1304	2608	979	1303	1373	1105	1303	1373	1098
Flt Permitted	0.13	1.00		0.12	1.00	1.00	0.13	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	175	2578		169	2608	979	177	1373	1105	174	1373	1098
Volume (vph)	87	1339	69	127	1501	69	111	592	218	169	566	95
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	89	1366	70	130	1532	70	113	604	222	172	578	97
RTOR Reduction (vph)	0	4	0	0	0	38	0	0	101	0	0	63
Lane Group Flow (vph)	89	1432	0	130	1532	32	113	604	121	172	578	34
Conf. Peds. (#/hr)	65		58	58		65	44		40	40		44
Conf. Bikes (#/hr)			7			5			3			7
Turn Type	pm+pt			pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6		6	8		8	4		4
Actuated Green, G (s)	34.8	30.8		36.8	31.8	31.8	35.5	30.5	30.5	36.5	31.0	31.0
Effective Green, g (s)	36.0	31.4		38.0	32.4	32.4	36.5	31.0	31.0	37.5	31.5	31.5
Actuated g/C Ratio	0.40	0.35		0.42	0.36	0.36	0.41	0.34	0.34	0.42	0.35	0.35
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	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	3.0	3.0	3.0
Lane Grp Cap (vph)	128	899		142	939	352	141	473	381	148	481	384
v/s Ratio Prot	0.04	0.56		c0.06	c0.59		0.05	c0.44		c0.08	0.42	
v/s Ratio Perm	0.24			0.33		0.03	0.28		0.11	0.41		0.03
v/c Ratio	0.70	1.59		0.92	1.63	0.09	0.80	1.28	0.32	1.16	1.20	0.09
Uniform Delay, d1	43.5	29.3		44.0	28.8	19.1	21.0	29.5	21.7	23.7	29.2	19.6
Progression Factor	1.33	0.70		1.65	1.25	2.19	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	268.3		30.5	286.5	0.2	26.9	140.2	0.5	124.2	109.3	0.1
Delay (s)	62.2	288.8		103.0	322.5	41.9	47.9	169.7	22.2	147.9	138.5	19.7
Level of Service	E	F		F	F	D	D	F	C	F	F	B
Approach Delay (s)		275.5			294.7			120.2			126.8	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	228.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	131.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



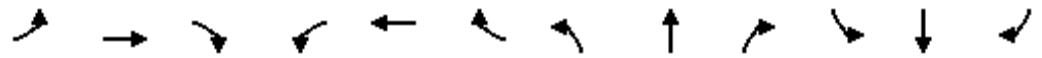
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↖		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes		1.00	0.96		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		0.99	1.00		1.00	1.00	
Frt		1.00	0.85		0.99		1.00	0.99		1.00	1.00	
Flt Protected		1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1656	1357		1627		1563	1653		1583	1657	
Flt Permitted		0.96	1.00		0.74		0.26	1.00		0.16	1.00	
Satd. Flow (perm)		1601	1357		1204		431	1653		269	1657	
Volume (vph)	35	345	110	26	153	17	59	854	30	37	705	18
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	348	111	26	155	17	60	863	30	37	712	18
RTOR Reduction (vph)	0	0	83	0	6	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	383	28	0	192	0	60	891	0	37	728	0
Conf. Peds. (#/hr)	28		18	18		28	29		34	34		29
Conf. Bikes (#/hr)			11			9			1			2
Turn Type	Perm		Perm	Perm			Perm			Perm		
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		14.8	14.8		14.8		36.2	36.2		36.2	36.2	
Effective Green, g (s)		15.3	15.3		15.3		36.7	36.7		36.7	36.7	
Actuated g/C Ratio		0.26	0.26		0.26		0.61	0.61		0.61	0.61	
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		0.2	0.2		0.2		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		408	346		307		264	1011		165	1014	
v/s Ratio Prot								c0.54				0.44
v/s Ratio Perm		c0.24	0.02		0.16		0.14			0.14		
v/c Ratio		0.94	0.08		0.63		0.23	0.88		0.22	0.72	
Uniform Delay, d1		21.9	17.0		19.8		5.3	9.8		5.2	8.1	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		28.9	0.0		2.9		2.0	11.0		3.1	4.4	
Delay (s)		50.8	17.0		22.7		7.2	20.8		8.4	12.4	
Level of Service		D	B		C		A	C		A	B	
Approach Delay (s)		43.2			22.7			19.9			12.3	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM Average Control Delay			22.5				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			96.7%				ICU Level of Service				F	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑	↘	↘	↑	↘	↘	↑	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2608	1167	1304	2608	1167	1304	1373	1167	1304	1373	1167
Flt Permitted	0.13	1.00	1.00	0.10	1.00	1.00	0.25	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	175	2608	1167	134	2608	1167	342	1373	1167	372	1373	1167
Volume (vph)	91	1285	69	54	1096	224	57	524	97	217	548	85
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	94	1325	71	56	1130	231	59	540	100	224	565	88
RTOR Reduction (vph)	0	0	39	0	0	126	0	0	11	0	0	21
Lane Group Flow (vph)	94	1325	32	56	1130	105	59	540	89	224	565	67
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5
Effective Green, g (s)	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0	41.0
Actuated g/C Ratio	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Clearance Time (s)	4.5	4.5	4.5	4.5	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	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	80	1188	532	61	1188	532	156	625	532	169	625	532
v/s Ratio Prot		0.51			0.43			0.39				0.41
v/s Ratio Perm	c0.54		0.03	0.42		0.09	0.17		0.08	c0.60		0.06
v/c Ratio	1.18	1.12	0.06	0.92	0.95	0.20	0.38	0.86	0.17	1.33	0.90	0.13
Uniform Delay, d1	24.5	24.5	13.7	22.9	23.5	14.7	16.1	22.0	14.4	24.5	22.7	14.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	155.3	63.8	0.2	93.5	16.7	0.8	1.5	11.9	0.1	181.5	16.5	0.1
Delay (s)	179.8	88.3	13.9	116.4	40.3	15.5	17.7	33.9	14.6	206.0	39.2	14.3
Level of Service	F	F	B	F	D	B	B	C	B	F	D	B
Approach Delay (s)		90.5			39.3			29.8			79.3	
Approach LOS		F			D			C			E	

Intersection Summary

HCM Average Control Delay	62.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑	↗	↘	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.80	1.00	1.00	0.86	1.00	1.00	0.96	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2608	933	1304	2608	1006	1304	1373	1116	1293	1357	1357
Flt Permitted	0.10	1.00	1.00	0.09	1.00	1.00	0.11	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	134	2608	933	119	2608	1006	153	1373	1116	256	1357	1357
Volume (vph)	54	1348	36	104	1265	59	149	541	204	81	635	36
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	1419	38	109	1332	62	157	569	215	85	668	38
RTOR Reduction (vph)	0	0	19	0	0	30	0	0	10	0	2	0
Lane Group Flow (vph)	57	1419	19	109	1332	32	157	569	205	85	704	0
Confl. Peds. (#/hr)	50		75	75		50	47		29	29		47
Confl. Bikes (#/hr)			11			2			2			4
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	45.4	45.4	45.4	45.4	45.4	45.4	35.5	35.5	35.5	35.5	35.5	35.5
Effective Green, g (s)	46.0	46.0	46.0	46.0	46.0	46.0	36.0	36.0	36.0	36.0	36.0	36.0
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.51	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6	4.6	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	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	68	1333	477	61	1333	514	61	549	446	102	543	543
v/s Ratio Prot		0.54			0.51			0.41			0.52	
v/s Ratio Perm	0.42		0.02	c0.91		0.03	c1.03		0.18	0.33		
v/c Ratio	0.84	1.06	0.04	1.79	1.00	0.06	2.57	1.04	0.46	0.83	1.30	
Uniform Delay, d1	18.8	22.0	11.0	22.0	22.0	11.1	27.0	27.0	19.9	24.3	27.0	
Progression Factor	1.21	1.01	2.50	1.20	1.13	1.54	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	25.9	33.9	0.0	360.0	7.2	0.0	753.6	48.2	0.8	41.4	146.3	
Delay (s)	48.7	56.0	27.5	386.4	32.0	17.1	780.6	75.2	20.6	65.7	173.3	
Level of Service	D	E	C	F	C	B	F	E	C	E	F	
Approach Delay (s)		55.1			57.1			180.4			161.7	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM Average Control Delay	98.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	131.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2584		1304	2565		1304	2540		1304	2563	
Flt Permitted	0.11	1.00		0.11	1.00		0.14	1.00		0.18	1.00	
Satd. Flow (perm)	144	2584		146	2565		196	2540		254	2563	
Volume (vph)	161	1265	84	121	1205	149	45	585	123	29	885	113
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	173	1360	90	130	1296	160	48	629	132	31	952	122
RTOR Reduction (vph)	0	5	0	0	10	0	0	19	0	0	11	0
Lane Group Flow (vph)	173	1445	0	130	1446	0	48	742	0	31	1063	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			8		4
Permitted Phases	2			6			8			8		4
Actuated Green, G (s)	53.5	53.5		53.5	53.5		27.5	27.5		27.5	27.5	
Effective Green, g (s)	54.0	54.0		54.0	54.0		28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.60	0.60		0.60	0.60		0.31	0.31		0.31	0.31	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	86	1550		88	1539		61	790		79	797	
v/s Ratio Prot		0.56			0.56			0.29			c0.41	
v/s Ratio Perm	c1.20			0.89			0.24			0.12		
v/c Ratio	2.01	0.93		1.48	0.94		0.79	0.94		0.39	1.33	
Uniform Delay, d1	18.0	16.3		18.0	16.5		28.3	30.2		24.3	31.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	493.6	11.6		265.9	12.4		65.0	20.2		14.0	158.7	
Delay (s)	511.6	27.9		283.9	28.9		93.2	50.4		38.3	189.7	
Level of Service	F	C		F	C		F	D		D	F	
Approach Delay (s)		79.5			49.8			52.9			185.5	
Approach LOS		E			D			D			F	

Intersection Summary

HCM Average Control Delay	89.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	118.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.97	1.00		0.98	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2579		1304	2580		1267	1301		1281	1312	
Flt Permitted	0.09	1.00		0.08	1.00		0.54	1.00		0.41	1.00	
Satd. Flow (perm)	124	2579		113	2580		722	1301		558	1312	
Volume (vph)	62	1376	80	62	1373	47	81	213	77	32	157	44
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	65	1448	84	65	1445	49	85	224	81	34	165	46
RTOR Reduction (vph)	0	4	0	0	2	0	0	13	0	0	11	0
Lane Group Flow (vph)	65	1528	0	65	1492	0	85	292	0	34	200	0
Conf. Peds. (#/hr)	65		30	30		65	31		25	25		31
Conf. Bikes (#/hr)			5			9			3			1
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	51.7	51.7		51.7	51.7		29.2	29.2		29.2	29.2	
Effective Green, g (s)	52.3	52.3		52.3	52.3		29.7	29.7		29.7	29.7	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.33	0.33		0.33	0.33	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	0.2	0.2		0.2	0.2		0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)	72	1499		66	1499		238	429		184	433	
v/s Ratio Prot		c0.59			0.58			c0.22			0.15	
v/s Ratio Perm	0.52			0.57			0.12			0.06		
v/c Ratio	0.90	1.02		0.98	1.00		0.36	0.68		0.18	0.46	
Uniform Delay, d1	16.6	18.8		18.5	18.7		22.9	26.0		21.5	23.8	
Progression Factor	0.85	0.88		1.16	1.20		1.02	0.90		1.00	1.00	
Incremental Delay, d2	74.3	26.6		29.7	6.0		0.3	3.1		0.2	0.3	
Delay (s)	88.4	43.1		51.2	28.4		23.6	26.5		21.7	24.1	
Level of Service	F	D		D	C		C	C		C	C	
Approach Delay (s)		45.0			29.3			25.8			23.8	
Approach LOS		D			C			C			C	

Intersection Summary

HCM Average Control Delay	35.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 165: Arizona Ave & 17th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕	↕	↕	↑	↕	↕	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		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	1.00	0.85	1.00	0.99	
Flt Protected		1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1664	1417		1655	1417	1583	1667	1417	1583	1649	
Flt Permitted		0.98	1.00		0.74	1.00	0.46	1.00	1.00	0.44	1.00	
Satd. Flow (perm)		1639	1417		1234	1417	765	1667	1417	726	1649	
Volume (vph)	10	299	118	50	295	35	10	371	57	15	319	25
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	12	348	137	58	343	41	12	431	66	17	371	29
RTOR Reduction (vph)	0	0	92	0	0	28	0	0	28	0	3	0
Lane Group Flow (vph)	0	360	45	0	401	13	12	431	39	17	398	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4		4	2		2	2		
Actuated Green, G (s)		29.0	29.0		29.0	29.0	52.0	52.0	52.0	52.0	52.0	
Effective Green, g (s)		29.5	29.5		29.5	29.5	52.5	52.5	52.5	52.5	52.5	
Actuated g/C Ratio		0.33	0.33		0.33	0.33	0.58	0.58	0.58	0.58	0.58	
Clearance Time (s)		4.5	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	0.2	0.2	0.2	0.2	0.2	
Lane Grp Cap (vph)		537	464		404	464	446	972	827	424	962	
v/s Ratio Prot							c0.26				0.24	
v/s Ratio Perm		0.22	0.03		c0.32	0.01	0.02		0.03	0.02		
v/c Ratio		0.67	0.10		0.99	0.03	0.03	0.44	0.05	0.04	0.41	
Uniform Delay, d1		26.1	21.0		30.1	20.5	7.9	10.5	8.0	8.0	10.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.82	0.83	
Incremental Delay, d2		3.3	0.1		42.6	0.0	0.1	1.5	0.1	0.2	1.1	
Delay (s)		29.3	21.1		72.8	20.6	8.0	12.0	8.1	6.7	9.7	
Level of Service		C	C		E	C	A	B	A	A	A	
Approach Delay (s)		27.1			67.9			11.4			9.6	
Approach LOS		C			E			B			A	

Intersection Summary

HCM Average Control Delay	28.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2585		1304	2583		1304	1253		1304	1333	
Flt Permitted	0.17	1.00		0.17	1.00		0.31	1.00		0.14	1.00	
Satd. Flow (perm)	229	2585		229	2583		431	1253		196	1333	
Volume (vph)	89	1049	65	307	892	60	10	294	403	56	387	93
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	98	1153	71	337	980	66	11	323	443	62	425	102
RTOR Reduction (vph)	0	7	0	0	8	0	0	12	0	0	14	0
Lane Group Flow (vph)	98	1217	0	337	1038	0	11	754	0	62	513	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	23.5	23.5		23.5	23.5		27.5	27.5		27.5	27.5	
Effective Green, g (s)	24.0	24.0		24.0	24.0		28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.47	0.47		0.47	0.47	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	92	1034		92	1033		201	585		91	622	
v/s Ratio Prot		0.47			0.40			c0.60				0.38
v/s Ratio Perm	0.43			c1.47			0.03			0.32		
v/c Ratio	1.07	1.18		3.66	1.00		0.05	1.29		0.68	0.82	
Uniform Delay, d1	18.0	18.0		18.0	18.0		8.8	16.0		12.5	13.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	112.6	89.8		1224.7	29.1		0.0	142.7		15.4	8.3	
Delay (s)	130.6	107.8		1242.7	47.1		8.8	158.7		27.9	22.2	
Level of Service	F	F		F	D		A	F		C	C	
Approach Delay (s)		109.5			338.4			156.6			22.8	
Approach LOS		F			F			F			C	

Intersection Summary

HCM Average Control Delay	183.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	138.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕			↕	↗		↕	↖
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Volume (veh/h)	29	1333	34	50	1313	51	15	51	108	9	76	55
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	31	1433	37	54	1412	55	16	55	116	10	82	59
Pedestrians	16		25		14		67		67		67	
Lane Width (ft)	12.0		12.0		12.0		12.0		12.0		12.0	
Walking Speed (ft/s)	4.0		4.0		4.0		4.0		4.0		4.0	
Percent Blockage	1		2		1		6		6		6	
Right turn flare (veh)												
Median type					None		None		None		None	
Median storage veh												
Upstream signal (ft)	801		400									
pX, platoon unblocked	0.49			0.78			0.60	0.60	0.78	0.60	0.60	0.49
vC, conflicting volume	1534			1484			2457	3169	774	2561	3160	816
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1052			1341			1680	2866	435	1853	2851	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			86			0	0	73	0	0	88
cM capacity (veh/h)	305			395			0	7	431	0	7	497

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2
Volume Total	31	956	514	54	941	525	71	116	91	59
Volume Left	31	0	0	54	0	0	16	0	10	0
Volume Right	0	0	37	0	0	55	0	116	0	59
cSH	305	1700	1700	395	1700	1700	0	431	0	497
Volume to Capacity	0.10	0.56	0.30	0.14	0.55	0.31	Err	0.27	Err	0.12
Queue Length 95th (ft)	8	0	0	12	0	0	Err	27	Err	10
Control Delay (s)	18.1	0.0	0.0	15.6	0.0	0.0	Err	16.4	Err	13.2
Lane LOS	C			C			F	C	F	B
Approach Delay (s)	0.4			0.5			Err		Err	
Approach LOS							F		F	

Intersection Summary	
Average Delay	Err
Intersection Capacity Utilization	83.1%
ICU Level of Service	E
Analysis Period (min)	15



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑	↘	↘	↑	↘	↘	↑	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.86	1.00	1.00	0.71	1.00	1.00	0.94	1.00	1.00	0.88
Flpb, ped/bikes	0.97	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.98	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1269	2608	1002	1280	2608	828	1231	1373	1094	1274	1373	1023
Flt Permitted	0.15	1.00	1.00	0.19	1.00	1.00	0.35	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	206	2608	1002	261	2608	828	458	1373	1094	392	1373	1023
Volume (vph)	38	1091	52	69	1228	75	96	371	105	90	327	67
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	39	1113	53	70	1253	77	98	379	107	92	334	68
RTOR Reduction (vph)	0	0	21	0	0	31	0	0	25	0	0	15
Lane Group Flow (vph)	39	1113	32	70	1253	46	98	379	82	92	334	53
Confl. Peds. (#/hr)	115		91	91		115	110		51	51		110
Confl. Bikes (#/hr)			8			8						5
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	53.8	53.8	53.8	53.8	53.8	53.8	27.2	27.2	27.2	27.2	27.2	27.2
Effective Green, g (s)	54.3	54.3	54.3	54.3	54.3	54.3	27.7	27.7	27.7	27.7	27.7	27.7
Actuated g/C Ratio	0.60	0.60	0.60	0.60	0.60	0.60	0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	124	1573	605	157	1573	500	141	423	337	121	423	315
v/s Ratio Prot		0.43			c0.48			c0.28				0.24
v/s Ratio Perm	0.19		0.03	0.27		0.06	0.21		0.08	0.23		0.05
v/c Ratio	0.31	0.71	0.05	0.45	0.80	0.09	0.70	0.90	0.24	0.76	0.79	0.17
Uniform Delay, d1	8.7	12.4	7.3	9.7	13.6	7.5	27.4	29.8	23.3	28.2	28.5	22.8
Progression Factor	1.25	1.06	2.42	0.69	0.78	0.53	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.6	1.9	0.1	3.8	1.8	0.2	11.3	20.5	0.1	22.0	8.8	0.1
Delay (s)	15.5	15.0	17.8	10.5	12.5	4.2	38.8	50.2	23.4	50.1	37.3	22.8
Level of Service	B	B	B	B	B	A	D	D	C	D	D	C
Approach Delay (s)		15.2			11.9			43.4				37.7
Approach LOS		B			B			D				D

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 169: Arizona Ave & 14th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00	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	1.00		1.00	1.00	
Flt Protected		1.00	1.00		0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1662	1417		1654	1417	1583	1661		1583	1659	
Flt Permitted		0.97	1.00		0.91	1.00	0.43	1.00		0.42	1.00	
Satd. Flow (perm)		1621	1417		1524	1417	714	1661		704	1659	
Volume (vph)	13	214	93	43	232	117	54	449	10	21	439	13
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	14	228	99	46	247	124	57	478	11	22	467	14
RTOR Reduction (vph)	0	0	74	0	0	92	0	1	0	0	2	0
Lane Group Flow (vph)	0	242	25	0	293	32	57	488	0	22	479	0
Turn Type	Perm		Perm	Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4		4	4		4	2			2		
Actuated Green, G (s)		14.9	14.9		14.9	14.9	36.1	36.1		36.1	36.1	
Effective Green, g (s)		15.4	15.4		15.4	15.4	36.6	36.6		36.6	36.6	
Actuated g/C Ratio		0.26	0.26		0.26	0.26	0.61	0.61		0.61	0.61	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	0.2	0.2		0.2	0.2	
Lane Grp Cap (vph)		416	364		391	364	436	1013		429	1012	
v/s Ratio Prot							c0.29				0.29	
v/s Ratio Perm		0.15	0.02		c0.19	0.02	0.08			0.03		
v/c Ratio		0.58	0.07		0.75	0.09	0.13	0.48		0.05	0.47	
Uniform Delay, d1		19.5	16.9		20.5	17.0	5.0	6.5		4.7	6.4	
Progression Factor		1.00	1.00		1.00	1.00	1.64	1.66		1.00	1.00	
Incremental Delay, d2		1.3	0.0		6.8	0.0	0.4	1.0		0.2	1.6	
Delay (s)		20.8	16.9		27.3	17.0	8.5	11.7		4.9	8.0	
Level of Service		C	B		C	B	A	B		A	A	
Approach Delay (s)		19.7			24.2			11.4			7.9	
Approach LOS		B			C			B			A	

Intersection Summary

HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↗	↖
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1304	2573		1304	2551		1304	1373	1167	1304	1373	1167
Flt Permitted	0.21	1.00		0.17	1.00		0.36	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)	287	2573		231	2551		498	1373	1167	463	1373	1167
Volume (vph)	30	922	91	185	775	131	51	381	184	87	361	112
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	33	1013	100	203	852	144	56	419	202	96	397	123
RTOR Reduction (vph)	0	10	0	0	19	0	0	0	23	0	0	40
Lane Group Flow (vph)	33	1103	0	203	977	0	56	419	179	96	397	83
Turn Type	Perm			Perm			Perm		Perm	Perm		Perm
Protected Phases	2			6			8		8	4		4
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	29.7	29.7		29.7	29.7		21.3	21.3	21.3	21.3	21.3	21.3
Effective Green, g (s)	30.2	30.2		30.2	30.2		21.8	21.8	21.8	21.8	21.8	21.8
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.36	0.36	0.36	0.36	0.36	0.36
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	144	1295		116	1284		181	499	424	168	499	424
v/s Ratio Prot		0.43			0.38			c0.31			0.29	
v/s Ratio Perm	0.11			c0.88			0.11		0.15	0.21		0.07
v/c Ratio	0.23	0.85		1.75	0.76		0.31	0.84	0.42	0.57	0.80	0.20
Uniform Delay, d1	8.4	12.9		14.9	12.0		13.7	17.5	14.4	15.3	17.1	13.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.63	0.71	0.47
Incremental Delay, d2	3.7	7.2		370.5	4.3		0.4	11.3	0.2	2.6	7.3	0.1
Delay (s)	12.0	20.1		385.4	16.3		14.1	28.8	14.6	12.2	19.5	6.2
Level of Service	B	C		F	B		B	C	B	B	B	A
Approach Delay (s)		19.9			78.8			23.4			15.7	
Approach LOS		B			E			C			B	

Intersection Summary




























HCM Average Control Delay	39.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗	↘	↖	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95	1.00	1.00	0.95		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	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)	1304	2608	1167	1304	2593		1304	1373	1167	1304	1373	1167
Flt Permitted	0.10	1.00	1.00	0.17	1.00		0.33	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	133	2608	1167	233	2593		457	1373	1167	407	1373	1167
Volume (vph)	58	1100	68	45	1326	52	101	359	130	59	333	36
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	62	1183	73	48	1426	56	109	386	140	63	358	39
RTOR Reduction (vph)	0	0	30	0	2	0	0	0	22	0	0	10
Lane Group Flow (vph)	62	1183	43	48	1480	0	109	386	118	63	358	29
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		Perm
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		4
Actuated Green, G (s)	52.7	52.7	52.7	52.7	52.7		28.2	28.2	28.2	28.2	28.2	28.2
Effective Green, g (s)	53.3	53.3	53.3	53.3	53.3		28.7	28.7	28.7	28.7	28.7	28.7
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.59		0.32	0.32	0.32	0.32	0.32	0.32
Clearance Time (s)	4.6	4.6	4.6	4.6	4.6		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	79	1545	691	138	1536		146	438	372	130	438	372
v/s Ratio Prot		0.45			c0.57			c0.28				0.26
v/s Ratio Perm	0.47		0.04	0.21			0.24		0.10	0.15		0.02
v/c Ratio	0.78	0.77	0.06	0.35	0.96		0.75	0.88	0.32	0.48	0.82	0.08
Uniform Delay, d1	14.0	13.7	7.8	9.4	17.4		27.4	29.0	23.2	24.7	28.2	21.4
Progression Factor	1.07	1.17	0.85	1.14	0.97		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	53.1	3.6	0.2	4.8	12.4		16.5	17.9	0.2	1.0	10.7	0.0
Delay (s)	68.1	19.7	6.7	15.5	29.3		43.9	46.9	23.4	25.7	38.9	21.4
Level of Service	E	B	A	B	C		D	D	C	C	D	C
Approach Delay (s)		21.2			28.8			41.2			35.6	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	29.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 						 		
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	
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	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1304	2608	1167	1304	2608	1167	1304	1373	1167	1304	2538	2538	
Flt Permitted	0.43	1.00	1.00	0.39	1.00	1.00	0.11	1.00	1.00	0.11	1.00	1.00	
Satd. Flow (perm)	585	2608	1167	533	2608	1167	153	1373	1167	153	2538	2538	
Volume (vph)	173	531	283	45	470	14	126	1131	61	30	887	192	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	188	577	308	49	511	15	137	1229	66	33	964	209	
RTOR Reduction (vph)	0	0	21	0	0	7	0	0	23	0	20	0	
Lane Group Flow (vph)	188	577	287	49	511	8	137	1229	43	33	1153	0	
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm			
Protected Phases		2			6			8				4	
Permitted Phases	2		2	6		6	8		8		4		
Actuated Green, G (s)	45.5	45.5	45.5	45.5	45.5	45.5	35.5	35.5	35.5	35.5	35.5	35.5	
Effective Green, g (s)	46.0	46.0	46.0	46.0	46.0	46.0	36.0	36.0	36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51	0.51	0.40	0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	299	1333	596	272	1333	596	61	549	467	61	1015	1015	
v/s Ratio Prot		0.22			0.20			0.90				0.45	
v/s Ratio Perm	c0.32		0.25	0.09		0.01	c0.90		0.04	0.22			
v/c Ratio	0.63	0.43	0.48	0.18	0.38	0.01	2.25	2.24	0.09	0.54	1.14		
Uniform Delay, d1	15.8	13.8	14.3	11.8	13.4	10.8	27.0	27.0	16.8	20.7	27.0		
Progression Factor	0.77	0.94	0.87	0.40	0.47	0.27	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	4.6	0.5	1.3	0.6	0.3	0.0	609.6	563.2	0.0	5.2	73.4		
Delay (s)	16.8	13.5	13.6	5.3	6.6	3.0	636.6	590.2	16.8	25.8	100.4		
Level of Service	B	B	B	A	A	A	F	F	B	C	F		
Approach Delay (s)		14.1			6.4			568.2			98.3		
Approach LOS		B			A			F			F		
Intersection Summary													
HCM Average Control Delay	221.9		HCM Level of Service					F					
HCM Volume to Capacity ratio	1.34												
Actuated Cycle Length (s)	90.0		Sum of lost time (s)					8.0					
Intersection Capacity Utilization	128.9%		ICU Level of Service					H					
Analysis Period (min)	15												
c Critical Lane Group													

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2530		1304	1373	1167	1304	2532		1304	2600	
Flt Permitted	0.31	1.00		0.24	1.00	1.00	0.22	1.00		0.15	1.00	
Satd. Flow (perm)	425	2530		328	1373	1167	299	2532		211	2600	
Volume (vph)	14	656	162	197	483	109	105	1013	244	117	846	17
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	15	683	169	205	503	114	109	1055	254	122	881	18
RTOR Reduction (vph)	0	36	0	0	0	23	0	35	0	0	2	0
Lane Group Flow (vph)	15	816	0	205	503	91	109	1274	0	122	897	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	2			6			8			4		
Permitted Phases	2			6			6	8		4		
Actuated Green, G (s)	25.5	25.5		25.5	25.5	25.5	25.5	25.5		25.5	25.5	
Effective Green, g (s)	26.0	26.0		26.0	26.0	26.0	26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.43	0.43		0.43	0.43	0.43	0.43	0.43		0.43	0.43	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	184	1096		142	595	506	130	1097		91	1127	
v/s Ratio Prot		0.32			0.37			0.50			0.34	
v/s Ratio Perm	0.04			c0.63		0.08	0.36			c0.58		
v/c Ratio	0.08	0.74		1.44	0.85	0.18	0.84	1.16		1.34	0.80	
Uniform Delay, d1	10.0	14.2		17.0	15.2	10.4	15.1	17.0		17.0	14.7	
Progression Factor	0.61	0.46		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	3.8		234.7	13.8	0.8	34.0	82.9		210.1	3.7	
Delay (s)	6.8	10.4		251.7	29.0	11.2	49.1	99.9		227.1	18.4	
Level of Service	A	B		F	C	B	D	F		F	B	
Approach Delay (s)		10.3			82.1			96.0			43.3	
Approach LOS		B			F			F			D	
Intersection Summary												
HCM Average Control Delay			62.2			HCM Level of Service		E				
HCM Volume to Capacity ratio			1.39									
Actuated Cycle Length (s)			60.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			117.1%			ICU Level of Service		H				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕			↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1304	2607		1304	2587		1304	1338			1352	
Flt Permitted	0.09	1.00		0.16	1.00		0.34	1.00			0.71	
Satd. Flow (perm)	130	2607		214	2587		463	1338			972	
Volume (vph)	28	1045	2	56	1185	66	43	350	70	63	399	33
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	30	1124	2	60	1274	71	46	376	75	68	429	35
RTOR Reduction (vph)	0	0	0	0	4	0	0	8	0	0	3	0
Lane Group Flow (vph)	30	1126	0	60	1341	0	46	443	0	0	529	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8			4
Permitted Phases	2		6		6		8		8			4
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5			35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0			36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40			0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5			4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	66	1332		109	1322		185	535			389	
v/s Ratio Prot		0.43			c0.52			0.33				
v/s Ratio Perm	0.23			0.28			0.10				c0.54	
v/c Ratio	0.45	0.85		0.55	1.01		0.25	0.83			1.36	
Uniform Delay, d1	14.0	18.9		15.0	22.0		18.0	24.2			27.0	
Progression Factor	1.34	1.22		0.92	0.99		1.00	1.00			1.00	
Incremental Delay, d2	19.8	6.4		16.1	26.5		0.3	9.7			177.9	
Delay (s)	38.5	29.4		29.9	48.4		18.2	34.0			204.9	
Level of Service	D	C		C	D		B	C			F	
Approach Delay (s)		29.7			47.6			32.5			204.9	
Approach LOS		C			D			C			F	

Intersection Summary

HCM Average Control Delay	63.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	134.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕	↔	↔	↕		↔	↕	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1304	2571		1304	1373	1167	1304	1363		1304	1357	
Flt Permitted	0.25	1.00		0.30	1.00	1.00	0.27	1.00		0.30	1.00	
Satd. Flow (perm)	341	2571		411	1373	1167	371	1363		418	1357	
Volume (vph)	25	656	69	50	574	55	59	451	22	97	468	39
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	26	676	71	52	592	57	61	465	23	100	482	40
RTOR Reduction (vph)	0	12	0	0	0	31	0	3	0	0	5	0
Lane Group Flow (vph)	26	735	0	52	592	26	61	485	0	100	517	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	2			6			8			4		
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	26.9	26.9		26.9	26.9	26.9	24.1	24.1		24.1	24.1	
Effective Green, g (s)	27.4	27.4		27.4	27.4	27.4	24.6	24.6		24.6	24.6	
Actuated g/C Ratio	0.46	0.46		0.46	0.46	0.46	0.41	0.41		0.41	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	156	1174		188	627	533	152	559		171	556	
v/s Ratio Prot	0.29			c0.43			0.36			c0.38		
v/s Ratio Perm	0.08			0.13			0.16			0.24		
v/c Ratio	0.17	0.63		0.28	0.94	0.05	0.40	0.87		0.58	0.93	
Uniform Delay, d1	9.6	12.4		10.1	15.6	9.1	12.5	16.2		13.7	16.9	
Progression Factor	1.00	1.00		0.97	0.79	1.29	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.3	2.5		2.3	17.9	0.1	0.6	13.0		3.3	21.7	
Delay (s)	11.9	14.9		12.1	30.3	11.8	13.1	29.2		17.0	38.5	
Level of Service	B			B		C	B	C		B	D	
Approach Delay (s)	14.8			27.4			27.4			35.1		
Approach LOS	B			C			C			D		

Intersection Summary

HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↑	↗	↘	↗	
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	0.48	1.00	0.99		1.00	1.00	0.91	1.00	0.99	
Flpb, ped/bikes	0.95	1.00	1.00	0.86	1.00		0.93	1.00	1.00	0.97	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1239	2608	557	1116	2552		1214	1373	1067	1261	1346	
Flt Permitted	0.22	1.00	1.00	0.32	1.00		0.58	1.00	1.00	0.32	1.00	
Satd. Flow (perm)	288	2608	557	373	2552		739	1373	1067	425	1346	
Volume (vph)	15	756	74	136	961	47	187	336	131	42	156	13
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	15	779	76	140	991	48	193	346	135	43	161	13
RTOR Reduction (vph)	0	0	29	0	3	0	0	0	30	0	4	0
Lane Group Flow (vph)	15	779	47	140	1036	0	193	346	105	43	170	0
Confl. Peds. (#/hr)	126		228	228		126	86		63	63		86
Confl. Bikes (#/hr)			17			8			10			5
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	55.1	55.1	55.1	55.1	55.1		25.9	25.9	25.9	25.9	25.9	
Effective Green, g (s)	55.6	55.6	55.6	55.6	55.6		26.4	26.4	26.4	26.4	26.4	
Actuated g/C Ratio	0.62	0.62	0.62	0.62	0.62		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	178	1611	344	230	1577		217	403	313	125	395	
v/s Ratio Prot		0.30			c0.41			0.25			0.13	
v/s Ratio Perm	0.05		0.08	0.38			c0.26		0.10	0.10		
v/c Ratio	0.08	0.48	0.14	0.61	0.66		0.89	0.86	0.34	0.34	0.43	
Uniform Delay, d1	6.9	9.4	7.2	10.5	11.1		30.4	30.0	24.9	25.0	25.7	
Progression Factor	0.93	0.71	1.08	1.02	1.13		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.8	0.6	2.8	0.5		31.9	15.8	0.2	0.6	0.3	
Delay (s)	7.2	7.4	8.4	13.5	13.1		62.3	45.9	25.2	25.6	26.0	
Level of Service	A	A	A	B	B		E	D	C	C	C	
Approach Delay (s)		7.5			13.1			46.4			25.9	
Approach LOS		A			B			D			C	

Intersection Summary

HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↖		↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes		1.00	0.93		0.99		1.00	0.98		1.00	1.00	0.92
Flpb, ped/bikes		0.99	1.00		0.99		0.97	1.00		0.96	1.00	1.00
Frt		1.00	0.85		0.99		1.00	0.97		1.00	1.00	0.85
Flt Protected		0.99	1.00		0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		1646	1312		1592		1537	1574		1526	1667	1298
Flt Permitted		0.92	1.00		0.90		0.41	1.00		0.38	1.00	1.00
Satd. Flow (perm)		1531	1312		1445		668	1574		618	1667	1298
Volume (vph)	22	124	53	94	304	45	31	355	101	14	424	7
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	23	129	55	98	317	47	32	370	105	15	442	7
RTOR Reduction (vph)	0	0	35	0	8	0	0	15	0	0	0	3
Lane Group Flow (vph)	0	152	20	0	454	0	32	460	0	15	442	4
Conf. Peds. (#/hr)	55		60	60		55	40		54	54		40
Conf. Bikes (#/hr)			6						2			3
Turn Type	Perm		Perm	Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		4
Actuated Green, G (s)		21.1	21.1		21.1		29.9	29.9		29.9	29.9	29.9
Effective Green, g (s)		21.6	21.6		21.6		30.4	30.4		30.4	30.4	30.4
Actuated g/C Ratio		0.36	0.36		0.36		0.51	0.51		0.51	0.51	0.51
Clearance Time (s)		4.5	4.5		4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)		2.0	2.0		2.0		2.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)		551	472		520		338	797		313	845	658
v/s Ratio Prot							c0.29				0.27	
v/s Ratio Perm		0.10	0.02		c0.31		0.05			0.02		0.00
v/c Ratio		0.28	0.04		0.87		0.09	0.58		0.05	0.52	0.01
Uniform Delay, d1		13.6	12.5		17.9		7.7	10.3		7.5	9.9	7.3
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		0.1	0.0		14.6		0.6	3.0		0.3	2.3	0.0
Delay (s)		13.7	12.5		32.5		8.2	13.4		7.8	12.2	7.3
Level of Service		B	B		C		A	B		A	B	A
Approach Delay (s)		13.4			32.5			13.0			12.0	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM Average Control Delay			18.3				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			80.1%				ICU Level of Service				D	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘	↗	↘	↘	↗	↘
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.66	1.00	1.00	0.66	1.00	1.00	0.80	1.00	1.00	0.71
Flpb, ped/bikes	0.90	1.00	1.00	0.99	1.00	1.00	0.94	1.00	1.00	0.91	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	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1175	2608	766	1287	2608	772	1222	1373	931	1181	1373	833
Flt Permitted	0.37	1.00	1.00	0.24	1.00	1.00	0.22	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	461	2608	766	324	2608	772	285	1373	931	543	1373	833
Volume (vph)	29	678	101	127	727	254	68	345	91	94	567	49
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	29	685	102	128	734	257	69	348	92	95	573	49
RTOR Reduction (vph)	0	0	63	0	0	96	0	0	52	0	0	8
Lane Group Flow (vph)	29	685	39	128	734	161	69	348	40	95	573	41
Confl. Peds. (#/hr)	193		324	193		324	205		142	142		205
Confl. Bikes (#/hr)			21			5			5			10
Turn Type	Perm		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases		2		1	6			8				4
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	32.4	32.4	32.4	42.4	42.4	42.4	38.6	38.6	38.6	38.6	38.6	38.6
Effective Green, g (s)	32.9	32.9	32.9	42.9	42.9	42.9	39.1	39.1	39.1	39.1	39.1	39.1
Actuated g/C Ratio	0.37	0.37	0.37	0.48	0.48	0.48	0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	169	953	280	219	1243	368	124	596	404	236	596	362
v/s Ratio Prot		c0.26		0.04	c0.28			0.25			c0.42	
v/s Ratio Perm	0.06		0.05	0.24		0.21	0.24		0.04	0.18		0.05
v/c Ratio	0.17	0.72	0.14	0.58	0.59	0.44	0.56	0.58	0.10	0.40	0.96	0.11
Uniform Delay, d1	19.3	24.6	19.1	15.2	17.2	15.6	19.0	19.3	15.0	17.4	24.7	15.1
Progression Factor	0.87	1.01	1.04	0.83	0.82	0.48	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	4.3	1.0	1.8	1.5	2.7	3.0	0.9	0.0	0.4	27.2	0.1
Delay (s)	18.8	29.1	20.9	14.5	15.5	10.1	22.0	20.2	15.1	17.9	51.9	15.2
Level of Service	B	C	C	B	B	B	C	C	B	B	D	B
Approach Delay (s)		27.7			14.2			19.5			44.9	
Approach LOS		C			B			B			D	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
179: Arizona Ave & 4th St



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↖	↗	↖	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95	
Frbp, ped/bikes		0.84			0.98		1.00	1.00	0.69	1.00	0.98	
Flpb, ped/bikes		0.99			0.96		0.92	1.00	1.00	0.90	1.00	
Frt		0.92			0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected		1.00			0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1274			1540		1456	1667	977	1426	3060	
Flt Permitted		0.95			0.80		0.23	1.00	1.00	0.29	1.00	
Satd. Flow (perm)		1221			1251		349	1667	977	441	3060	
Volume (vph)	27	113	205	109	230	30	57	489	56	76	770	54
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	120	218	116	245	32	61	520	60	81	819	57
RTOR Reduction (vph)	0	14	0	0	5	0	0	0	34	0	9	0
Lane Group Flow (vph)	0	353	0	0	388	0	61	520	26	81	868	0
Conf. Peds. (#/hr)	164		246	246		164	191		157	157		191
Conf. Bikes (#/hr)			11			14			3			4
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		2			6			8				4
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		25.5			25.5		25.5	25.5	25.5	25.5	25.5	
Effective Green, g (s)		26.0			26.0		26.0	26.0	26.0	26.0	26.0	
Actuated g/C Ratio		0.43			0.43		0.43	0.43	0.43	0.43	0.43	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		529			542		151	722	423	191	1326	
v/s Ratio Prot							c0.31					0.28
v/s Ratio Perm		0.29			c0.31		0.17		0.03	0.18		
v/c Ratio		0.67			0.72		0.40	0.72	0.06	0.42	0.65	
Uniform Delay, d1		13.5			14.0		11.7	14.0	9.9	11.8	13.4	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		6.5			7.9		7.8	6.1	0.3	6.8	2.5	
Delay (s)		20.1			21.8		19.5	20.1	10.2	18.6	16.0	
Level of Service		C			C		B	C	B	B	B	
Approach Delay (s)		20.1			21.8			19.1			16.2	
Approach LOS		C			C			B			B	

Intersection Summary

HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑	↑	↑	↑	↑	↑	↑↓	↑
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
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	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1373	1167		1373	1167	1304	1373	1167	1304	2535	
Flt Permitted		1.00	1.00		1.00	1.00	0.13	1.00	1.00	0.13	1.00	
Satd. Flow (perm)		1373	1167		1373	1167	177	1373	1167	184	2535	
Volume (vph)	0	327	118	0	219	77	111	505	76	99	853	194
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	376	136	0	252	89	128	580	87	114	980	223
RTOR Reduction (vph)	0	0	102	0	0	67	0	0	55	0	23	0
Lane Group Flow (vph)	0	376	34	0	252	22	128	580	32	114	1180	0
Turn Type		Perm			Perm		Perm		Perm		Perm	
Protected Phases		2			6			8			4	
Permitted Phases		2			6		8		8		4	
Actuated Green, G (s)		20.5	20.5		20.5	20.5	30.5	30.5	30.5	30.5	30.5	
Effective Green, g (s)		21.0	21.0		21.0	21.0	31.0	31.0	31.0	31.0	31.0	
Actuated g/C Ratio		0.25	0.25		0.25	0.25	0.36	0.36	0.36	0.36	0.36	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		339	288		339	288	65	501	426	67	925	
v/s Ratio Prot		c0.27			c0.18			0.42			0.47	
v/s Ratio Perm		0.03			0.02		c0.72		0.03		0.62	
v/c Ratio		1.11	0.12		0.74	0.08	1.97	1.16	0.07	1.70	1.28	
Uniform Delay, d1		32.0	24.8		29.5	24.6	27.0	27.0	17.6	27.0	27.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		81.6	0.8		13.7	0.5	486.6	91.4	0.3	371.1	132.5	
Delay (s)		113.6	25.6		43.3	25.1	513.6	118.4	18.0	398.1	159.5	
Level of Service		F	C		D	C	F	F	B	F	F	
Approach Delay (s)		90.2			38.5			171.1			180.2	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	145.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
181: Wilshire Blvd & 3rd St



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑	↑↑		↵	↵
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.92		1.00	0.79
Flpb, ped/bikes	0.93	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1213	2608	2321		1304	920
Flt Permitted	0.29	1.00	1.00		0.95	1.00
Satd. Flow (perm)	364	2608	2321		1304	920
Volume (vph)	33	649	646	213	131	77
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	35	698	695	229	141	83
RTOR Reduction (vph)	0	0	20	0	0	68
Lane Group Flow (vph)	35	698	904	0	141	15
Conf. Peds. (#/hr)	122			122	475	186
Conf. Bikes (#/hr)				7		3
Turn Type	Perm				Perm	
Protected Phases		2	6		4	
Permitted Phases	2					4
Actuated Green, G (s)	65.0	65.0	65.0		16.0	16.0
Effective Green, g (s)	65.5	65.5	65.5		16.5	16.5
Actuated g/C Ratio	0.73	0.73	0.73		0.18	0.18
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	265	1898	1689		239	169
v/s Ratio Prot		0.27	c0.39		c0.11	
v/s Ratio Perm	0.10					0.02
v/c Ratio	0.13	0.37	0.54		0.59	0.09
Uniform Delay, d1	3.7	4.6	5.5		33.7	30.5
Progression Factor	1.47	1.44	0.87		1.00	1.00
Incremental Delay, d2	1.0	0.5	1.1		2.4	0.1
Delay (s)	6.4	7.1	5.8		36.0	30.6
Level of Service	A	A	A		D	C
Approach Delay (s)		7.1	5.8		34.0	
Approach LOS		A	A		C	

Intersection Summary

HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	1667	1417		1657	1417	1583	1667	1417	1583	1667	1417
Flt Permitted	0.24	1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	397	1667	1417		1585	1417	1583	1667	1417	1583	1667	1417
Volume (vph)	62	96	166	39	290	60	395	785	48	24	679	94
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	66	102	177	41	309	64	420	835	51	26	722	100
RTOR Reduction (vph)	0	0	56	0	0	52	0	0	18	0	0	57
Lane Group Flow (vph)	66	102	121	0	350	12	420	835	33	26	722	43
Turn Type	Perm		pm+ov	Perm		Perm	Prot		Perm	Prot		Perm
Protected Phases		2	3		6		3	8		7		4
Permitted Phases	2		2	6		6			8			4
Actuated Green, G (s)	16.3	16.3	38.3		16.3	16.3	22.0	58.6	58.6	1.6	38.2	38.2
Effective Green, g (s)	16.8	16.8	39.3		16.8	16.8	22.5	59.1	59.1	2.1	38.7	38.7
Actuated g/C Ratio	0.19	0.19	0.44		0.19	0.19	0.25	0.66	0.66	0.02	0.43	0.43
Clearance Time (s)	4.5	4.5	4.5		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	1.0	3.0	3.0
Lane Grp Cap (vph)	74	311	682		296	265	396	1095	930	37	717	609
v/s Ratio Prot		0.06	0.04				c0.27	0.50		0.02	c0.43	
v/s Ratio Perm	0.17		0.04		c0.22	0.01			0.02			0.03
v/c Ratio	0.89	0.33	0.18		1.18	0.05	1.06	0.76	0.04	0.70	1.01	0.07
Uniform Delay, d1	35.7	31.7	15.5		36.6	30.0	33.8	10.6	5.4	43.6	25.6	15.1
Progression Factor	1.00	1.00	1.00		1.00	1.00	0.97	1.35	2.42	1.00	1.00	1.00
Incremental Delay, d2	77.4	2.8	0.1		111.2	0.3	56.6	2.5	0.0	39.1	35.3	0.0
Delay (s)	113.1	34.5	15.6		147.8	30.3	89.2	16.8	13.2	82.8	61.0	15.1
Level of Service	F	C	B		F	C	F	B	B	F	E	B
Approach Delay (s)		39.9			129.6			39.9			56.2	
Approach LOS		D			F			D			E	

Intersection Summary

HCM Average Control Delay	57.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
183: Wilshire Blvd & Ocean Ave



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖	↕	↗	↖	↕
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	2530	1167	2608	1167	1304	2608
Flt Permitted	0.95	1.00	1.00	1.00	0.21	1.00
Satd. Flow (perm)	2530	1167	2608	1167	291	2608
Volume (vph)	303	256	982	217	170	712
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	316	267	1023	226	177	742
RTOR Reduction (vph)	0	162	0	86	0	0
Lane Group Flow (vph)	316	105	1023	140	177	742
Turn Type		Perm		Perm	pm+pt	
Protected Phases	6		8		7	4
Permitted Phases		6		8	4	
Actuated Green, G (s)	15.7	15.7	55.3	55.3	65.3	65.3
Effective Green, g (s)	16.2	16.2	55.8	55.8	65.8	65.8
Actuated g/C Ratio	0.18	0.18	0.62	0.62	0.73	0.73
Clearance Time (s)	4.5	4.5	4.5	4.5	3.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	1.0	3.0
Lane Grp Cap (vph)	455	210	1617	724	280	1907
v/s Ratio Prot	c0.12		0.39		c0.04	0.28
v/s Ratio Perm		0.09		0.12	c0.42	
v/c Ratio	0.69	0.50	0.63	0.19	0.63	0.39
Uniform Delay, d1	34.6	33.2	10.7	7.4	6.0	4.5
Progression Factor	1.23	1.96	1.00	1.00	3.10	0.28
Incremental Delay, d2	4.0	1.6	1.9	0.6	1.3	0.2
Delay (s)	46.5	66.6	12.6	8.0	19.8	1.5
Level of Service	D	E	B	A	B	A
Approach Delay (s)	55.7		11.8			5.0
Approach LOS	E		B			A

Intersection Summary

HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 184: Santa Monica Blvd & Ocean Ave



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1400	1400	1400	1400	1400	1400
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1304	1167	2608	1167	1304	2608
Flt Permitted	0.95	1.00	1.00	1.00	0.24	1.00
Satd. Flow (perm)	1304	1167	2608	1167	327	2608
Volume (vph)	152	109	913	219	59	1036
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	157	112	941	226	61	1068
RTOR Reduction (vph)	0	72	0	86	0	0
Lane Group Flow (vph)	157	40	941	140	61	1068
Turn Type	pm+ov		Perm pm+pt			
Protected Phases	6	7	8		7	4
Permitted Phases	6		8 4			
Actuated Green, G (s)	16.8	21.1	55.4	55.4	64.2	64.2
Effective Green, g (s)	17.3	22.1	55.9	55.9	64.7	64.7
Actuated g/C Ratio	0.19	0.25	0.62	0.62	0.72	0.72
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	251	338	1620	725	287	1875
v/s Ratio Prot	c0.12	0.01	0.36		0.01	c0.41
v/s Ratio Perm	0.03		0.12 0.14			
v/c Ratio	0.63	0.12	0.58	0.19	0.21	0.57
Uniform Delay, d1	33.4	26.4	10.1	7.3	4.8	6.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5	0.1	1.5	0.6	0.1	1.3
Delay (s)	36.8	26.4	11.6	7.9	5.0	7.3
Level of Service	D	C	B	A	A	A
Approach Delay (s)	32.5		10.9		7.2	
Approach LOS	C		B		A	

Intersection Summary

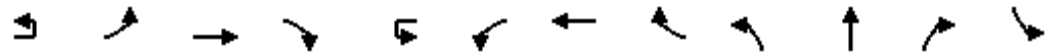
HCM Average Control Delay	11.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			1.00			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1583	1662		1583	1660			1650			1618	
Flt Permitted	0.15	1.00		0.15	1.00			0.65			0.98	
Satd. Flow (perm)	256	1662		256	1660			1087			1594	
Volume (vph)	155	660	10	110	770	10	105	565	10	17	727	144
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	161	688	10	115	802	10	109	589	10	18	757	150
RTOR Reduction (vph)	0	1	0	0	1	0	0	1	0	0	11	0
Lane Group Flow (vph)	161	697	0	115	811	0	0	707	0	0	914	0
Conf. Peds. (#/hr)	66		13	13		66	21		26	26		21
Conf. Bikes (#/hr)			27			8						6
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	26.0	26.0		26.0	26.0			26.0			26.0	
Effective Green, g (s)	26.0	26.0		26.0	26.0			26.0			26.0	
Actuated g/C Ratio	0.43	0.43		0.43	0.43			0.43			0.43	
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)	111	720		111	719			471			691	
v/s Ratio Prot		0.42			0.49							
v/s Ratio Perm	c0.63			0.45				c0.65			0.57	
v/c Ratio	1.45	0.97		1.04	1.13			1.50			1.32	
Uniform Delay, d1	17.0	16.6		17.0	17.0			17.0			17.0	
Progression Factor	1.00	1.00		1.02	1.03			2.25			1.00	
Incremental Delay, d2	245.8	26.6		61.1	65.0			233.5			155.0	
Delay (s)	262.8	43.1		78.5	82.5			271.8			172.0	
Level of Service	F	D		E	F			F			F	
Approach Delay (s)		84.3			82.0			271.8			172.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	146.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	163.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑	↗		↔	↑↑↑	↗	↖	↖		↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		1583	4550	1417		1583	4550	1417	1583	1626		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.14	1.00		0.17
Satd. Flow (perm)		1583	4550	1417		1583	4550	1417	228	1626		277
Volume (vph)	31	138	2005	45	14	84	2425	148	64	361	69	359
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	31	139	2025	45	14	85	2449	149	65	365	70	363
RTOR Reduction (vph)	0	0	0	19	0	0	0	55	0	6	0	0
Lane Group Flow (vph)	0	170	2025	26	0	99	2449	94	65	429	0	363
Turn Type	Prot	Prot		Perm	Prot	Prot		pm+ov	pm+pt			pm+pt
Protected Phases	1	1	6		5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		16.5	42.4	42.4		12.8	38.7	50.7	41.0	33.8		49.8
Effective Green, g (s)		16.5	43.4	43.4		12.8	39.7	51.7	43.0	35.8		51.8
Actuated g/C Ratio		0.14	0.36	0.36		0.11	0.33	0.43	0.36	0.30		0.43
Clearance Time (s)		4.0	5.0	5.0		4.0	5.0	4.0	4.0	6.0		4.0
Vehicle Extension (s)		3.0	4.4	4.4		3.0	4.3	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		218	1646	512		169	1505	658	163	485		250
v/s Ratio Prot		c0.11	c0.45			0.06	c0.54	0.01	0.02	0.26		c0.15
v/s Ratio Perm				0.02				0.05	0.12			c0.48
v/c Ratio		0.78	1.23	0.05		0.59	1.63	0.14	0.40	0.89		1.45
Uniform Delay, d1		50.0	38.3	24.9		51.1	40.2	20.7	28.7	40.1		28.6
Progression Factor		1.00	1.00	1.00		0.82	1.73	3.29	1.00	1.00		1.09
Incremental Delay, d2		16.1	109.2	0.2		0.5	282.5	0.0	1.6	17.3		205.5
Delay (s)		66.1	147.5	25.1		42.5	351.8	68.2	30.3	57.5		236.5
Level of Service		E	F	C		D	F	E	C	E		F
Approach Delay (s)			138.8				324.8			53.9		
Approach LOS			F				F			D		

Intersection Summary

HCM Average Control Delay	209.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	124.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



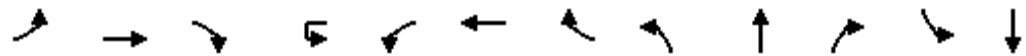
Movement	SBT	SBR
Lane Configurations	↱	
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	1643	
Flt Permitted	1.00	
Satd. Flow (perm)	1643	
Volume (vph)	484	50
Peak-hour factor, PHF	0.99	0.99
Adj. Flow (vph)	489	51
RTOR Reduction (vph)	3	0
Lane Group Flow (vph)	537	0
Turn Type		
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	38.6	
Effective Green, g (s)	40.6	
Actuated g/C Ratio	0.34	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	556	
v/s Ratio Prot	0.33	
v/s Ratio Perm		
v/c Ratio	0.97	
Uniform Delay, d1	39.0	
Progression Factor	1.06	
Incremental Delay, d2	5.6	
Delay (s)	46.9	
Level of Service	D	
Approach Delay (s)	123.1	
Approach LOS	F	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	1627		1567	1650		1583	3060		1583	3002	
Flt Permitted	0.20	1.00		0.29	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	331	1627		485	1650		196	3060		196	3002	
Volume (vph)	278	508	66	300	666	35	81	1338	252	10	1170	316
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	284	518	67	306	680	36	83	1365	257	10	1194	322
RTOR Reduction (vph)	0	5	0	0	2	0	0	17	0	0	27	0
Lane Group Flow (vph)	284	580	0	306	714	0	83	1605	0	10	1489	0
Conf. Peds. (#/hr)	29		30	30		29	48		28	28		48
Conf. Bikes (#/hr)			26			9			4			2
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	47.0	47.0		47.0	47.0		33.1	33.1		33.1	33.1	
Effective Green, g (s)	48.0	48.0		48.0	48.0		34.0	34.0		34.0	34.0	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.38	0.38		0.38	0.38	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	177	868		259	880		74	1156		74	1134	
v/s Ratio Prot		0.36			0.43			c0.52			0.50	
v/s Ratio Perm	c0.86			0.63			0.42			0.05		
v/c Ratio	1.60	0.67		1.18	0.81		1.12	1.39		0.14	1.31	
Uniform Delay, d1	21.0	15.2		21.0	17.3		28.0	28.0		18.4	28.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	296.8	4.1		114.1	8.0		141.5	180.0		3.8	147.3	
Delay (s)	317.8	19.3		135.1	25.3		169.5	208.0		22.1	175.3	
Level of Service	F	B		F	C		F	F		C	F	
Approach Delay (s)		116.8			58.2			206.1			174.3	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	152.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	131.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗		↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00
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)	1583	4550	1417		1583	4550	1417	1583	3167	1417	1583	3167
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.11	1.00
Satd. Flow (perm)	1583	4550	1417		1583	4550	1417	180	3167	1417	180	3167
Volume (vph)	231	1449	285	30	50	1831	253	173	1045	197	209	1216
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	246	1541	303	32	53	1948	269	184	1112	210	222	1294
RTOR Reduction (vph)	0	0	106	0	0	0	137	0	0	129	0	0
Lane Group Flow (vph)	246	1541	197	0	85	1948	132	184	1112	81	222	1294
Turn Type	Prot		pm+ov	Prot	Prot		Perm	pm+pt		Perm	pm+pt	
Protected Phases	1	6	3	5	5	2		3	8		7	4
Permitted Phases			6				2	8		8		4
Actuated Green, G (s)	18.8	36.3	45.3		9.4	26.9	26.9	43.8	34.8	34.8	43.8	34.8
Effective Green, g (s)	18.8	37.6	47.6		9.4	28.2	28.2	47.0	37.0	37.0	47.0	37.0
Actuated g/C Ratio	0.17	0.34	0.43		0.09	0.26	0.26	0.43	0.34	0.34	0.43	0.34
Clearance Time (s)	4.0	5.3	5.0		4.0	5.3	5.3	5.0	6.2	6.2	5.0	6.2
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	4.2	4.2	3.0	3.6
Lane Grp Cap (vph)	271	1555	665		135	1166	363	204	1065	477	204	1065
v/s Ratio Prot	0.16	c0.34	0.03		0.05	c0.43		0.08	0.35		c0.10	c0.41
v/s Ratio Perm			0.11				0.09	0.30		0.06	0.36	
v/c Ratio	0.91	0.99	0.30		0.63	1.67	0.36	0.90	1.04	0.17	1.09	1.22
Uniform Delay, d1	44.7	36.0	20.3		48.6	40.9	33.5	51.4	36.5	25.7	28.9	36.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.3	20.8	0.3		8.9	305.6	2.8	37.1	39.8	0.3	88.5	105.5
Delay (s)	76.0	56.8	20.6		57.5	346.5	36.4	88.5	76.3	25.9	117.4	142.0
Level of Service	E	E	C		E	F	D	F	E	C	F	F
Approach Delay (s)		53.8				299.6			70.8			126.5
Approach LOS		D				F			E			F

Intersection Summary

HCM Average Control Delay	148.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	115.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	152
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	162
RTOR Reduction (vph)	23
Lane Group Flow (vph)	139
Turn Type	pm+ov
Protected Phases	1
Permitted Phases	4
Actuated Green, G (s)	53.6
Effective Green, g (s)	55.8
Actuated g/C Ratio	0.51
Clearance Time (s)	4.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	719
v/s Ratio Prot	0.03
v/s Ratio Perm	0.07
v/c Ratio	0.19
Uniform Delay, d1	14.8
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	14.9
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑			↑↑↑	↔	↔	↔↔↔	↔			
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.86	0.81	0.86			
Frt	1.00	1.00			1.00	0.85	1.00	0.97	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	3072	4550			5733	1417	1362	3903	1218			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	3072	4550			5733	1417	1362	3903	1218			
Volume (vph)	865	1685	0	0	1518	596	778	958	738	0	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	930	1812	0	0	1632	641	837	1030	794	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	8	0	11	11	0	0	0
Lane Group Flow (vph)	930	1812	0	0	1632	633	537	1615	487	0	0	0
Turn Type	Prot						Perm	Split	Perm			
Protected Phases	1	6					2	4	4			
Permitted Phases							2			4		
Actuated Green, G (s)	25.0	70.0					41.0	41.0	39.2	39.2	39.2	
Effective Green, g (s)	25.0	71.0					42.0	42.0	41.0	41.0	41.0	
Actuated g/C Ratio	0.21	0.59					0.35	0.35	0.34	0.34	0.34	
Clearance Time (s)	4.0	5.0					5.0	5.0	5.8	5.8	5.8	
Vehicle Extension (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	640	2692					2007	496	465	1334	416	
v/s Ratio Prot	c0.30	0.40					0.28		0.39	c0.41		
v/s Ratio Perm								c0.45			0.40	
v/c Ratio	1.45	0.67					0.81	1.28	1.15	1.21	1.17	
Uniform Delay, d1	47.5	16.6					35.4	39.0	39.5	39.5	39.5	
Progression Factor	1.04	1.44					1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	208.9	0.8					3.7	139.4	91.6	101.9	99.5	
Delay (s)	258.3	24.8					39.2	178.4	131.1	141.4	139.0	
Level of Service	F	C					D	F	F	F	F	
Approach Delay (s)	104.0						78.4	138.9		0.0		
Approach LOS	F						E	F		A		

Intersection Summary

HCM Average Control Delay	108.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↔↔	↑↑↑					↔	↔↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81		0.97	0.91					0.91	0.86	0.91
Frt		0.98		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (prot)		6599		3072	4550					1441	2814	1289
Flt Permitted		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (perm)		6599		3072	4550					1441	2814	1289
Volume (vph)	0	1860	325	641	1824	0	0	0	0	511	365	264
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1938	339	668	1900	0	0	0	0	532	380	275
RTOR Reduction (vph)	0	25	0	0	0	0	0	0	0	0	0	13
Lane Group Flow (vph)	0	2252	0	668	1900	0	0	0	0	305	607	262
Turn Type				Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Actuated Green, G (s)		43.6		29.9	78.0					32.3	32.3	32.3
Effective Green, g (s)		44.3		30.4	78.7					33.3	33.3	33.3
Actuated g/C Ratio		0.37		0.25	0.66					0.28	0.28	0.28
Clearance Time (s)		4.7		4.5	4.7					5.0	5.0	5.0
Vehicle Extension (s)		3.0		4.0	3.0					4.0	4.0	4.0
Lane Grp Cap (vph)		2436		778	2984					400	781	358
v/s Ratio Prot		c0.34		c0.22	0.42					0.21	c0.22	
v/s Ratio Perm												0.20
v/c Ratio		0.92		0.86	0.64					0.76	0.78	0.73
Uniform Delay, d1		36.2		42.7	12.2					39.7	39.9	39.3
Progression Factor		1.00		0.53	1.48					1.00	1.00	1.00
Incremental Delay, d2		7.4		4.3	0.4					8.9	5.2	8.0
Delay (s)		43.7		26.9	18.5					48.6	45.1	47.3
Level of Service		D		C	B					D	D	D
Approach Delay (s)		43.7			20.7			0.0			46.5	
Approach LOS		D			C			A			D	

Intersection Summary

HCM Average Control Delay	34.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
191: Ohio Ave & Sawtelle Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	0.98		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99			1.00	
Frt	1.00	0.97		1.00	1.00			0.97			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1574	1574		1583	1665			1537			1632	
Flt Permitted	0.26	1.00		0.15	1.00			0.56			0.93	
Satd. Flow (perm)	438	1574		247	1665			885			1531	
Volume (vph)	13	680	203	416	531	2	458	123	196	31	301	30
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	14	723	216	443	565	2	487	131	209	33	320	32
RTOR Reduction (vph)	0	18	0	0	0	0	0	20	0	0	5	0
Lane Group Flow (vph)	14	921	0	443	567	0	0	807	0	0	380	0
Conf. Peds. (#/hr)	10		27	27		10	17		16	16		17
Conf. Bikes (#/hr)			30			16			3			10
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	27.0	27.0		27.0	27.0			25.0			25.0	
Effective Green, g (s)	27.0	27.0		27.0	27.0			25.0			25.0	
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.42			0.42	
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)	197	708		111	749			369			638	
v/s Ratio Prot		0.59			0.34							
v/s Ratio Perm	0.03			c1.79				c0.91			0.25	
v/c Ratio	0.07	1.30		3.99	0.76			2.19			0.60	
Uniform Delay, d1	9.4	16.5		16.5	13.8			17.5			13.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.7	145.5		1367.2	7.0			542.5			1.5	
Delay (s)	10.1	162.0		1383.7	20.8			560.0			15.1	
Level of Service	B	F		F	C			F			B	
Approach Delay (s)		159.8			618.6			560.0			15.1	
Approach LOS		F			F			F			B	

Intersection Summary

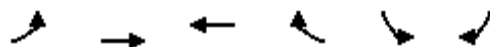
HCM Average Control Delay	392.4	HCM Level of Service	F
HCM Volume to Capacity ratio	3.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	164.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4538		1583	4505		1583	1616		1583	1591	
Flt Permitted	0.08	1.00		0.08	1.00		0.09	1.00		0.49	1.00	
Satd. Flow (perm)	127	4538		137	4505		148	1616		810	1591	
Volume (vph)	112	1616	28	40	1578	110	43	198	50	87	434	190
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	117	1683	29	42	1644	115	45	206	52	91	452	198
RTOR Reduction (vph)	0	1	0	0	7	0	0	8	0	0	13	0
Lane Group Flow (vph)	117	1711	0	42	1752	0	45	251	0	91	638	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			2			4			4		
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	66.6	66.6		66.6	66.6		44.0	44.0		44.0	44.0	
Effective Green, g (s)	67.0	67.0		67.0	67.0		45.0	45.0		45.0	45.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.38	0.38		0.38	0.38	
Clearance Time (s)	4.4	4.4		4.4	4.4		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	71	2534		76	2515		56	606		304	597	
v/s Ratio Prot		0.38			0.39			0.15			c0.40	
v/s Ratio Perm	c0.92			0.31			0.30			0.11		
v/c Ratio	1.65	0.68		0.55	0.70		0.80	0.41		0.30	1.07	
Uniform Delay, d1	26.5	18.8		16.9	19.2		33.5	27.7		26.4	37.5	
Progression Factor	1.00	0.94		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	297.2	0.1		25.9	1.6		55.1	0.5		0.6	56.3	
Delay (s)	323.8	17.7		42.8	20.8		88.6	28.2		27.0	93.8	
Level of Service	F	B		D	C		F	C		C	F	
Approach Delay (s)		37.3			21.3			37.2			85.6	
Approach LOS		D			C			D			F	

Intersection Summary

HCM Average Control Delay	38.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	105.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑↑↑	↑↑	↗	↖↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	0.95	1.00	0.97	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)	1583	4550	3167	1417	3072	1417
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1583	4550	3167	1417	3072	1417
Volume (vph)	359	1366	1316	725	831	361
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	378	1438	1385	763	875	380
RTOR Reduction (vph)	0	0	0	6	0	6
Lane Group Flow (vph)	378	1438	1385	757	875	375
Turn Type	Prot			pm+ov		pt+ov
Protected Phases	5	2	6	4	4	4 5
Permitted Phases				6		
Actuated Green, G (s)	12.5	40.6	37.1	66.5	29.4	45.5
Effective Green, g (s)	12.0	40.5	37.0	66.0	29.0	45.0
Actuated g/C Ratio	0.13	0.45	0.41	0.73	0.32	0.50
Clearance Time (s)	3.5	3.9	3.9	3.6	3.6	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	211	2048	1302	1102	990	709
v/s Ratio Prot	c0.24	c0.32	c0.44	0.22	c0.28	0.26
v/s Ratio Perm				0.31		
v/c Ratio	1.79	0.70	1.06	0.69	0.88	0.53
Uniform Delay, d1	39.0	19.9	26.5	6.4	28.9	15.3
Progression Factor	1.00	1.00	0.60	0.38	1.00	1.00
Incremental Delay, d2	374.5	2.0	30.6	0.2	9.5	0.7
Delay (s)	413.5	21.9	46.6	2.6	38.4	16.0
Level of Service	F	C	D	A	D	B
Approach Delay (s)		103.4	31.0		31.6	
Approach LOS		F	C		C	

Intersection Summary

HCM Average Control Delay	56.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	
Ideal Flow (vphpl)	1620	1620	1620	1620	1620	1620
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	1.00		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3010		1509	3018	1430	
Flt Permitted	1.00		0.13	1.00	0.98	
Satd. Flow (perm)	3010		203	3018	1430	
Volume (vph)	1533	27	48	1440	26	41
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1580	28	49	1485	27	42
RTOR Reduction (vph)	1	0	0	0	37	0
Lane Group Flow (vph)	1607	0	49	1485	32	0
Turn Type			Perm			
Protected Phases	2			6	4	
Permitted Phases			6			
Actuated Green, G (s)	80.2		80.2	80.2	11.8	
Effective Green, g (s)	79.7		79.7	79.7	12.3	
Actuated g/C Ratio	0.80		0.80	0.80	0.12	
Clearance Time (s)	3.5		3.5	3.5	4.5	
Vehicle Extension (s)	0.2		0.2	0.2	3.0	
Lane Grp Cap (vph)	2399		162	2405	176	
v/s Ratio Prot	c0.53			0.49	c0.02	
v/s Ratio Perm			0.24			
v/c Ratio	0.67		0.30	0.62	0.18	
Uniform Delay, d1	4.4		2.7	4.1	39.3	
Progression Factor	1.12		0.11	0.13	1.00	
Incremental Delay, d2	0.1		3.7	0.9	0.5	
Delay (s)	5.1		4.0	1.5	39.8	
Level of Service	A		A	A	D	
Approach Delay (s)	5.1			1.6	39.8	
Approach LOS	A			A	D	

Intersection Summary

HCM Average Control Delay	4.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	EBR2	NBT	NBR	NBR2	SBL2	SBL	SBT	NWR2
Lane Configurations											
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95					0.95	1.00
Frt	1.00	1.00	0.85	0.85	0.94					1.00	0.86
Flt Protected	0.95	1.00	1.00	1.00	1.00					0.98	1.00
Satd. Flow (prot)	1583	3167	1417	1417	2967					3098	1442
Flt Permitted	0.95	1.00	1.00	1.00	1.00					0.66	1.00
Satd. Flow (perm)	1583	3167	1417	1417	2967					2101	1442
Volume (vph)	68	1781	318	42	357	142	116	151	115	334	51
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	76	1979	353	47	397	158	129	168	128	371	57
RTOR Reduction (vph)	0	0	0	45	20	0	0	0	0	0	0
Lane Group Flow (vph)	76	1979	353	2	664	0	0	0	0	667	57
Turn Type	custom		Perm	Perm					Prot		Free
Protected Phases	3	3			6				2	1	
Permitted Phases	4	4	3	3						2	Free
Actuated Green, G (s)	25.0	25.0	5.0	5.0	22.5					34.9	100.0
Effective Green, g (s)	23.6	23.6	4.0	4.0	22.5					33.9	100.0
Actuated g/C Ratio	0.24	0.24	0.04	0.04	0.22					0.34	1.00
Clearance Time (s)	3.0	3.0	3.0	3.0	4.0					4.0	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	3.0					4.0	
Lane Grp Cap (vph)	437	874	57	57	668					912	1442
v/s Ratio Prot	0.01	c0.09			c0.22					c0.15	
v/s Ratio Perm	0.04	0.53	c0.25	0.00						c0.10	0.04
v/c Ratio	0.17	2.26	6.19	0.03	0.99					0.73	0.04
Uniform Delay, d1	30.7	38.2	48.0	46.1	38.7					29.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00					0.32	1.00
Incremental Delay, d2	0.1	572.6	2373.9	0.1	33.3					4.1	0.1
Delay (s)	30.7	610.8	2421.9	46.2	72.0					13.4	0.1
Level of Service	C	F	F	D	E					B	A
Approach Delay (s)		842.5			72.0					13.4	
Approach LOS		F			E					B	

Intersection Summary

HCM Average Control Delay	550.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Appendix C-3:

Future Year 2035 Alternative 1, MOS 1 and MOS 2 Level of Service Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑	↗		↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	1.00
Frt	1.00	0.98		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		1.00	1.00
Satd. Flow (prot)	1583	4449		1583	4536			3139	1417		3153	1417
Flt Permitted	0.12	1.00		0.95	1.00			0.54	1.00		0.67	1.00
Satd. Flow (perm)	202	4449		1583	4536			1711	1417		2137	1417
Volume (vph)	73	1536	267	62	1733	35	162	769	129	83	871	558
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	77	1617	281	65	1824	37	171	809	136	87	917	587
RTOR Reduction (vph)	0	27	0	0	2	0	0	0	74	0	0	2
Lane Group Flow (vph)	77	1871	0	65	1859	0	0	980	62	0	1004	585
Turn Type	Perm		Prot		Perm		Perm	Perm	Perm	Perm		Perm
Protected Phases	6		5		2		8		4		4	
Permitted Phases	6						8		4		4	
Actuated Green, G (s)	33.0	33.0	4.0		41.0	40.5		40.5	40.5		40.5	40.5
Effective Green, g (s)	33.0	33.0	4.0		41.0	41.0		41.0	41.0		41.0	41.0
Actuated g/C Ratio	0.37	0.37	0.04		0.46	0.46		0.46	0.46		0.46	0.46
Clearance Time (s)	4.0	4.0	4.0		4.0	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	3.0
Lane Grp Cap (vph)	74	1631	70		2066	779		646	974		646	
v/s Ratio Prot	c0.42		0.04		c0.41							
v/s Ratio Perm	0.38					c0.57		0.04			0.47	0.41
v/c Ratio	1.04	1.15	0.93		0.90	1.31dl		0.10			1.03	0.91
Uniform Delay, d1	28.5	28.5	42.9		22.6	24.5		13.9			24.5	22.7
Progression Factor	1.43	1.46	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	82.6	70.1	82.1		6.8	126.5		0.3			37.0	18.6
Delay (s)	123.3	111.9	124.9		29.4	151.0		14.2			61.5	41.3
Level of Service	F	F	F		C	F		B			E	D
Approach Delay (s)	112.3		32.6		134.3		54.0					
Approach LOS	F		C		F		D					

Intersection Summary

HCM Average Control Delay	78.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	118.6%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: 6th St & Western Ave

2/23/2010

Page 2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00
Frbp, ped/bikes		1.00			0.99			1.00			1.00	0.83
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.99			0.99			0.99			1.00	0.85
Flt Protected		1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)		3127			3092			3136			3167	1171
Flt Permitted		1.00			1.00			1.00			1.00	1.00
Satd. Flow (perm)		3127			3092			3136			3167	1171
Volume (vph)	0	1077	60	0	1107	84	0	1422	50	0	1693	119
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1088	61	0	1118	85	0	1436	51	0	1710	120
RTOR Reduction (vph)	0	2	0	0	4	0	0	3	0	0	0	14
Lane Group Flow (vph)	0	1147	0	0	1199	0	0	1484	0	0	1710	106
Conf. Peds. (#/hr)	76		47	47		76	70		83	83		70
Conf. Bikes (#/hr)			7			7			12			9
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1425			1409			1429			1443	533
v/s Ratio Prot		0.37			c0.39			0.47			c0.54	
v/s Ratio Perm												0.09
v/c Ratio		0.80			0.85			1.04			1.19	0.20
Uniform Delay, d1		21.1			21.8			24.5			24.5	14.7
Progression Factor		1.00			1.00			0.59			1.00	1.00
Incremental Delay, d2		4.9			6.6			20.1			90.6	0.8
Delay (s)		26.0			28.4			34.4			115.1	15.5
Level of Service		C			C			C			F	B
Approach Delay (s)		26.0			28.4			34.4			108.6	
Approach LOS		C			C			C			F	
Intersection Summary												
HCM Average Control Delay			55.4									E
HCM Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			90.0								8.0	
Intersection Capacity Utilization			110.9%									H
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗↖		↖	↗↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		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	
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4480		1583	4473		1583	3095		1583	3001	
Flt Permitted	0.14	1.00		0.14	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	229	4480		230	4473		230	3095		230	3001	
Volume (vph)	230	1341	60	142	1711	56	244	1095	54	168	1314	234
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	247	1442	65	153	1840	60	262	1177	58	181	1413	252
RTOR Reduction (vph)	0	5	0	0	4	0	0	4	0	0	16	0
Lane Group Flow (vph)	247	1502	0	153	1896	0	262	1231	0	181	1649	0
Conf. Peds. (#/hr)	529		124	124		529	153		349	349		153
Conf. Bikes (#/hr)			4			6			8			9
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.7	27.7		35.5	27.6		35.8	27.8		35.8	27.8	
Effective Green, g (s)	37.1	29.1		36.9	29.0		37.0	29.0		37.0	29.0	
Actuated g/C Ratio	0.41	0.32		0.41	0.32		0.41	0.32		0.41	0.32	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1449		213	1441		215	997		215	967	
v/s Ratio Prot	c0.10	0.34		0.06	c0.42		c0.11	0.40		0.07	c0.55	
v/s Ratio Perm	0.37			0.23			0.39			0.27		
v/c Ratio	1.15	1.04		0.72	1.32		1.22	1.23		0.84	1.70	
Uniform Delay, d1	43.2	30.4		20.7	30.5		43.2	30.5		42.2	30.5	
Progression Factor	1.95	0.95		0.99	0.85		1.14	1.17		1.59	1.45	
Incremental Delay, d2	88.3	26.0		4.3	144.0		111.3	108.5		2.9	317.7	
Delay (s)	172.5	54.8		24.8	169.9		160.7	144.2		70.0	361.9	
Level of Service	F	D		C	F		F	F		E	F	
Approach Delay (s)		71.4			159.1			147.1			333.3	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM Average Control Delay	180.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	131.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3125		1583	3058		1583	3158		1583	3157	
Flt Permitted	0.30	1.00		0.29	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	507	3125		479	3058		163	3158		163	3157	
Volume (vph)	57	596	57	64	481	143	42	1302	25	130	1510	33
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	64	670	64	72	540	161	47	1463	28	146	1697	37
RTOR Reduction (vph)	0	3	0	0	7	0	0	2	0	0	2	0
Lane Group Flow (vph)	64	731	0	72	694	0	47	1489	0	146	1732	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	40.4	40.4		40.4	40.4		40.3	40.3		40.3	40.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	231	1424		218	1393		74	1439		74	1438	
v/s Ratio Prot	c0.23			0.23			0.47			0.55		
v/s Ratio Perm	0.13			0.15			0.29			c0.90		
v/c Ratio	0.28	0.51		0.33	0.50		0.64	1.04		1.97	1.20	
Uniform Delay, d1	15.3	17.4		15.7	17.3		18.8	24.5		24.5	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.65	0.67	
Incremental Delay, d2	3.0	1.3		4.0	1.3		34.9	33.3		442.2	92.8	
Delay (s)	18.2	18.7		19.7	18.5		53.7	57.8		458.2	109.1	
Level of Service	B	B		B	B		D	E		F	F	
Approach Delay (s)	18.7			18.6			57.6			136.2		
Approach LOS	B			B			E			F		

Intersection Summary

HCM Average Control Delay	75.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗↗	↗	↗	↗↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Fr _t	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4512		1583	4502		1583	3167	1417	1583	3167	1417
Fl _t Permitted	0.11	1.00		0.11	1.00		0.12	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	183	4512		192	4502		196	3167	1417	188	3167	1417
Volume (vph)	75	1936	114	43	1815	138	93	1099	42	125	1330	140
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	77	1996	118	44	1871	142	96	1133	43	129	1371	144
RTOR Reduction (vph)	0	6	0	0	8	0	0	0	26	0	0	45
Lane Group Flow (vph)	77	2108	0	44	2005	0	96	1133	17	129	1371	99
Turn Type	pm+pt		pm+pt		pm+pt		pm+ov		pm+pt	pm+ov		
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	42.8	35.4		39.6	33.8		39.3	33.0	38.8	42.3	34.5	41.9
Effective Green, g (s)	43.8	36.4		40.6	34.8		40.3	34.0	39.8	43.3	35.5	42.9
Actuated g/C Ratio	0.44	0.36		0.41	0.35		0.40	0.34	0.40	0.43	0.36	0.43
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	184	1642		159	1567		166	1077	621	190	1124	665
v/s Ratio Prot	c0.03	c0.47		0.02	0.45		0.04	0.36	0.00	c0.05	c0.43	0.01
v/s Ratio Perm	0.15			0.10			0.20		0.01	0.24		0.06
v/c Ratio	0.42	1.28		0.28	1.28		0.58	1.05	0.03	0.68	1.22	0.15
Uniform Delay, d ₁	23.2	31.8		24.2	32.6		24.8	33.0	18.3	22.6	32.2	17.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	1.5	132.4		1.0	130.7		4.8	42.2	0.0	9.3	107.1	0.1
Delay (s)	24.8	164.2		25.2	163.3		29.6	75.2	18.3	31.8	139.3	17.5
Level of Service	C	F		C	F		C	E	B	C	F	B
Approach Delay (s)		159.3			160.3			69.8			120.2	
Approach LOS		F			F			E			F	

Intersection Summary

HCM Average Control Delay	134.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Fr't	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4513		1583	4510		1583	3142		1583	3065	
Flt Permitted	0.09	1.00		0.09	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	145	4513		145	4510		185	3142		185	3065	
Volume (vph)	137	1818	104	155	2054	126	103	1086	59	82	1193	327
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	144	1914	109	163	2162	133	108	1143	62	86	1256	344
RTOR Reduction (vph)	0	7	0	0	7	0	0	4	0	0	2	0
Lane Group Flow (vph)	144	2016	0	163	2288	0	108	1201	0	86	1598	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
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)	74	2307		74	2305		74	1257		74	1226	
v/s Ratio Prot		0.45			0.51			0.38			0.52	
v/s Ratio Perm	0.99			c1.12			c0.58			0.46		
v/c Ratio	1.95	0.87		2.20	0.99		1.46	0.96		1.16	1.30	
Uniform Delay, d1	22.0	19.4		22.0	21.8		27.0	26.2		27.0	27.0	
Progression Factor	1.45	1.47		1.24	1.24		1.00	1.00		1.00	1.00	
Incremental Delay, d2	454.0	3.1		545.2	4.2		266.7	16.8		155.0	142.7	
Delay (s)	485.9	31.6		572.5	31.2		293.7	43.0		182.0	169.7	
Level of Service	F	C		F	C		F	D		F	F	
Approach Delay (s)		61.8			67.1			63.6			170.3	
Approach LOS		E			E			E			F	
Intersection Summary												
HCM Average Control Delay			87.8			HCM Level of Service		F				
HCM Volume to Capacity ratio			1.87									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)		8.0				
Intersection Capacity Utilization			126.2%			ICU Level of Service		H				
Analysis Period (min)			15									
c Critical Lane Group												
























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1583	4535		1583	4528			1638	1417		1575	
Flt Permitted	0.07	1.00		0.07	1.00			0.65	1.00		0.97	
Satd. Flow (perm)	111	4535		111	4528			1082	1417		1538	
Volume (vph)	32	1873	42	90	2413	82	66	123	146	13	112	78
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	41	2371	53	114	3054	104	84	156	185	16	142	99
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	4	0	1	0
Lane Group Flow (vph)	41	2422	0	114	3155	0	0	240	181	0	256	0
Turn Type	Perm		Perm		Perm		Perm		Perm	Perm		
Protected Phases	6		2		2		8		8	4		
Permitted Phases	6		2		8		8		8	4		
Actuated Green, G (s)	60.3	60.3		60.3	60.3			21.2	21.2		21.2	
Effective Green, g (s)	60.3	60.3		60.3	60.3			21.7	21.7		21.7	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24	0.24		0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	74	3038		74	3034			261	342		371	
v/s Ratio Prot	0.53		0.70									
v/s Ratio Perm	0.37		c1.03				c0.22		0.13	0.17		
v/c Ratio	0.55		0.80		1.54		1.04		0.92	0.53		0.69
Uniform Delay, d1	7.8		10.5		14.9		14.9		33.3	29.7		31.1
Progression Factor	1.00		1.00		1.21		1.25		1.00	1.00		1.00
Incremental Delay, d2	26.7		2.3		274.7		23.9		34.5	1.5		5.5
Delay (s)	34.5		12.8		292.6		42.4		67.8	31.2		36.6
Level of Service	C		B		F		D		E	C		D
Approach Delay (s)			13.2		51.1		51.9			36.6		
Approach LOS			B		D		D			D		

Intersection Summary			
HCM Average Control Delay	36.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.98		1.00	1.00	0.97	0.89
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	0.97	0.85
Flt Protected	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	4352		1583	4550	2917	1148
Flt Permitted	1.00		0.09	1.00	0.96	1.00
Satd. Flow (perm)	4352		148	4550	2917	1148
Volume (vph)	1429	236	602	1812	680	556
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1489	246	627	1888	708	579
RTOR Reduction (vph)	24	0	0	0	24	2
Lane Group Flow (vph)	1711	0	627	1888	854	407
Conf. Peds. (#/hr)		152	152			99
Conf. Bikes (#/hr)						2
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	40.1		52.1	52.1	28.2	36.2
Effective Green, g (s)	41.1		53.1	53.1	28.9	36.9
Actuated g/C Ratio	0.46		0.59	0.59	0.32	0.41
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	1987		215	2685	937	522
v/s Ratio Prot	0.39		c0.26	0.41	c0.29	0.07
v/s Ratio Perm			c1.46			0.28
v/c Ratio	0.86		2.92	0.70	0.91	0.78
Uniform Delay, d1	21.9		23.7	12.9	29.3	23.0
Progression Factor	1.00		1.00	1.00	0.42	0.27
Incremental Delay, d2	5.2		874.9	1.6	10.4	5.3
Delay (s)	27.1		898.6	14.5	22.7	11.6
Level of Service	C		F	B	C	B
Approach Delay (s)	27.1			234.9	19.2	
Approach LOS	C			F	B	

Intersection Summary			
HCM Average Control Delay	119.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3080		1583	1667	1417	1583	3109		1583	3163	
Flt Permitted	0.39	1.00		0.46	1.00	1.00	0.30	1.00		0.15	1.00	
Satd. Flow (perm)	655	3080		768	1667	1417	501	3109		246	3163	
Volume (vph)	7	290	64	210	288	105	109	1088	151	26	776	7
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	7	302	67	219	300	109	114	1133	157	27	808	7
RTOR Reduction (vph)	0	0	0	0	0	65	0	12	0	0	1	0
Lane Group Flow (vph)	7	369	0	219	300	44	114	1278	0	27	814	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	197	924		230	500	425	306	1900		150	1933	
v/s Ratio Prot		0.12			0.18			c0.41			0.26	
v/s Ratio Perm	0.01			c0.29		0.03	0.23			0.11		
v/c Ratio	0.04	0.40		0.95	0.60	0.10	0.37	0.67		0.18	0.42	
Uniform Delay, d1	22.3	25.1		30.9	26.9	22.8	8.8	11.6		7.6	9.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.57	1.87		0.22	0.32	
Incremental Delay, d2	0.3	1.3		48.1	5.2	0.5	0.3	0.2		0.2	0.1	
Delay (s)	22.6	26.3		79.0	32.1	23.2	14.1	21.8		1.9	3.0	
Level of Service	C	C		E	C	C	B	C		A	A	
Approach Delay (s)		26.3			46.9			21.2			3.0	
Approach LOS		C			D			C			A	
Intersection Summary												
HCM Average Control Delay			22.0	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			90.0	Sum of lost time (s)				8.0				
Intersection Capacity Utilization			85.9%	ICU Level of Service				E				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕↕↕		↗	↕↕↕		↗	↕↕		↗	↕↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4496		1583	4535		1583	3152		1583	3167	1417
Flt Permitted	0.15	1.00		0.95	1.00		0.14	1.00		0.16	1.00	1.00
Satd. Flow (perm)	248	4496		1583	4535		226	3152		261	3167	1417
Volume (vph)	68	1721	148	140	2650	60	213	1234	39	59	1105	149
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	75	1891	163	154	2912	66	234	1356	43	65	1214	164
RTOR Reduction (vph)	0	11	0	0	3	0	0	2	0	0	0	114
Lane Group Flow (vph)	75	2043	0	154	2975	0	234	1397	0	65	1214	50
Turn Type	pm+pt		Prot		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2					4				8		8
Actuated Green, G (s)	31.3	26.0		11.1	30.9		39.5	29.5		30.5	24.5	24.5
Effective Green, g (s)	32.6	26.9		10.6	31.8		40.5	30.5		31.5	25.5	25.5
Actuated g/C Ratio	0.36	0.30		0.12	0.35		0.45	0.34		0.35	0.28	0.28
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1344		186	1602		268	1068		179	897	401
v/s Ratio Prot	0.03	0.45		c0.10	c0.66		c0.11	c0.44		0.02	0.38	
v/s Ratio Perm	0.13					0.29				0.10		0.04
v/c Ratio	0.43	1.52		0.83	1.86		0.87	1.31		0.36	1.35	0.12
Uniform Delay, d1	23.2	31.6		38.8	29.1		40.7	29.8		40.9	32.2	24.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.81	0.77	0.45
Incremental Delay, d2	1.7	237.8		25.1	388.2		25.4	145.5		1.2	165.9	0.6
Delay (s)	24.9	269.4		63.9	417.3		66.0	175.2		34.3	190.9	11.5
Level of Service	C	F		E	F		E	F		C	F	B
Approach Delay (s)	260.8			399.9			159.6			163.4		
Approach LOS	F			F			F			F		

Intersection Summary

HCM Average Control Delay	276.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↖	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			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			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1583	4523		1583	4538			1624	1417		1654	1417
Flt Permitted	0.08	1.00		0.08	1.00			0.97	1.00		0.99	1.00
Satd. Flow (perm)	139	4523		140	4538			1624	1417		1654	1417
Volume (vph)	23	1565	64	20	2286	40	142	125	20	34	181	10
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	24	1613	66	21	2357	41	146	129	21	35	187	10
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	16	0	0	9
Lane Group Flow (vph)	24	1679	0	21	2396	0	0	275	5	0	222	1
Turn Type	Perm		Perm		Split		Perm		Split		Perm	
Protected Phases	6		2		4		4		3		3	
Permitted Phases	6		2				4				3	
Actuated Green, G (s)	46.1	46.1		46.1	46.1			19.0	19.0		8.0	8.0
Effective Green, g (s)	48.0	48.0		48.0	48.0			20.5	20.5		9.5	9.5
Actuated g/C Ratio	0.53	0.53		0.53	0.53			0.23	0.23		0.11	0.11
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	2412		75	2420			370	323		175	150
v/s Ratio Prot		0.37			c0.53			c0.17			c0.13	
v/s Ratio Perm	0.17			0.15				0.00				0.00
v/c Ratio	0.32	0.70		0.28	0.99			0.74	0.01		1.27	0.01
Uniform Delay, d1	11.8	15.6		11.5	20.8			32.3	26.9		40.2	36.0
Progression Factor	0.55	0.49		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	8.2	1.2		9.1	16.1			7.9	0.0		158.0	0.0
Delay (s)	14.8	8.8		20.6	36.9			40.2	26.9		198.3	36.0
Level of Service	B	A		C	D			D	C		F	D
Approach Delay (s)		8.9			36.7			39.2			191.3	
Approach LOS		A			D			D			F	

Intersection Summary

HCM Average Control Delay	34.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.0	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			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.97	1.00
Satd. Flow (prot)	1583	4539		1583	4477			1615			1608	1417
Flt Permitted	0.09	1.00		0.12	1.00			0.98			0.97	1.00
Satd. Flow (perm)	157	4539		198	4477			1615			1608	1417
Volume (vph)	91	1342	22	19	2048	247	62	99	19	276	105	331
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	93	1369	22	19	2090	252	63	101	19	282	107	338
RTOR Reduction (vph)	0	2	0	0	16	0	0	4	0	0	0	81
Lane Group Flow (vph)	93	1389	0	19	2326	0	0	179	0	0	389	257
Turn Type	Perm		Perm		Split		Split		Split		Perm	
Protected Phases	6		2		3		3		4		4	
Permitted Phases	6		2								4	
Actuated Green, G (s)	40.9	40.9		40.9	40.9			9.6			23.6	23.6
Effective Green, g (s)	42.4	42.4		42.4	42.4			11.0			24.6	24.6
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.12			0.27	0.27
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	74	2138		93	2109			197			440	387
v/s Ratio Prot		0.31			0.52			c0.11			c0.24	
v/s Ratio Perm	c0.59			0.10								0.18
v/c Ratio	1.26	0.65		0.20	1.10			0.91			0.88	0.66
Uniform Delay, d1	23.8	18.1		13.9	23.8			39.0			31.3	29.0
Progression Factor	1.00	1.00		1.41	1.21			1.00			1.00	1.00
Incremental Delay, d2	188.5	1.5		1.4	48.6			38.8			18.6	4.3
Delay (s)	212.3	19.7		21.1	77.3			77.8			49.9	33.3
Level of Service	F	B		C	E			E			D	C
Approach Delay (s)		31.8			76.9			77.8			42.2	
Approach LOS		C			E			E			D	

Intersection Summary

HCM Average Control Delay	57.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑		
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00		
Frbp, ped/bikes		1.00		1.00	1.00			0.99			0.99		
Flpb, ped/bikes		1.00		0.99	1.00			1.00			1.00		
Frt		0.99		1.00	1.00			0.95			0.96		
Flt Protected		1.00		0.95	1.00			0.98			1.00		
Satd. Flow (prot)		4234		1476	4265			1435			1485		
Flt Permitted		1.00		0.15	1.00			0.69			0.98		
Satd. Flow (perm)		4234		229	4265			1012			1461		
Volume (vph)	0	1343	61	42	2061	37	56	21	47	9	95	50	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	0	1429	65	45	2193	39	60	22	50	10	101	53	
RTOR Reduction (vph)	0	3	0	0	1	0	0	27	0	0	4	0	
Lane Group Flow (vph)	0	1491	0	45	2231	0	0	105	0	0	160	0	
Conf. Peds. (#/hr)	25		36	36		25	8		5	5		8	
Conf. Bikes (#/hr)			5			4							
Turn Type				Perm		Perm		Perm		Perm			
Protected Phases		6			2			8			4		
Permitted Phases				2			8			4			
Actuated Green, G (s)		66.5		66.5	66.5			16.0			16.0		
Effective Green, g (s)		66.0		66.0	66.0			16.0			16.0		
Actuated g/C Ratio		0.73		0.73	0.73			0.18			0.18		
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		3105		168	3128			180			260		
v/s Ratio Prot		0.35			c0.52								
v/s Ratio Perm				0.20				0.10			c0.11		
v/c Ratio		0.48		0.27	0.71			0.58			0.61		
Uniform Delay, d1		4.9		4.0	6.7			33.9			34.2		
Progression Factor		0.31		1.00	1.00			1.00			1.00		
Incremental Delay, d2		0.0		3.9	1.4			4.7			4.3		
Delay (s)		1.6		7.9	8.1			38.7			38.4		
Level of Service		A		A	A			D			D		
Approach Delay (s)		1.6			8.1			38.7			38.4		
Approach LOS		A			A			D			D		
Intersection Summary													
HCM Average Control Delay			7.9									HCM Level of Service	A
HCM Volume to Capacity ratio			0.69										
Actuated Cycle Length (s)			90.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			80.7%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑	↔	↔	↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00		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)	1490	2980	1333	1490	2978		1490	4260		1490	4215	
Flt Permitted	0.13	1.00	1.00	0.13	1.00		0.13	1.00		0.13	1.00	
Satd. Flow (perm)	208	2980	1333	199	2978		211	4260		200	4215	
Volume (vph)	76	1021	65	171	1671	10	90	1660	61	126	2232	260
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	80	1075	68	180	1759	11	95	1747	64	133	2349	274
RTOR Reduction (vph)	0	0	19	0	1	0	0	4	0	0	16	0
Lane Group Flow (vph)	80	1075	49	180	1769	0	95	1807	0	133	2607	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	34.8	29.2	34.6	37.6	30.6		34.2	28.8		37.4	30.4	
Effective Green, g (s)	35.8	30.2	35.6	38.6	31.6		35.2	29.8		38.4	31.4	
Actuated g/C Ratio	0.40	0.34	0.40	0.43	0.35		0.39	0.33		0.43	0.35	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	163	1000	587	186	1046		159	1411		186	1471	
v/s Ratio Prot	0.03	0.36	0.00	c0.08	c0.59		0.04	0.42		c0.06	c0.62	
v/s Ratio Perm	0.17		0.03	0.34			0.20			0.25		
v/c Ratio	0.49	1.07	0.08	0.97	1.69		0.60	1.28		0.72	1.77	
Uniform Delay, d1	22.3	29.9	17.0	21.1	29.2		22.8	30.1		42.0	29.3	
Progression Factor	0.66	0.74	0.57	1.00	1.00		1.55	0.36		1.73	1.50	
Incremental Delay, d2	1.5	46.0	0.0	56.0	315.3		0.5	126.8		1.2	347.9	
Delay (s)	16.3	68.0	9.8	77.1	344.5		35.8	137.7		74.1	391.9	
Level of Service	B	E	A	E	F		D	F		E	F	
Approach Delay (s)		61.4			319.9			132.6			376.5	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	253.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	↘
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2980	1333	1490	2970		1490	4255		1490	4280	
Flt Permitted	0.11	1.00	1.00	0.10	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	179	2980	1333	161	2970		161	4255		161	4280	
Volume (vph)	22	1068	170	145	1507	35	74	1951	88	71	2257	7
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	1090	173	148	1538	36	76	1991	90	72	2303	7
RTOR Reduction (vph)	0	0	9	0	1	0	0	5	0	0	1	0
Lane Group Flow (vph)	22	1090	164	148	1573	0	76	2076	0	72	2309	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm		Perm		
Protected Phases		8		7	4			6			2	
Permitted Phases	8		8	4		6				2		
Actuated Green, G (s)	34.0	34.0	34.0	42.0	42.0	38.0	38.0			38.0	38.0	
Effective Green, g (s)	35.0	35.0	35.0	43.0	43.0	39.0	39.0			39.0	39.0	
Actuated g/C Ratio	0.39	0.39	0.39	0.48	0.48	0.43	0.43			0.43	0.43	
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0			5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	70	1159	518	136	1419	70	1844			70	1855	
v/s Ratio Prot		0.37		0.05	c0.53		0.49				c0.54	
v/s Ratio Perm	0.12		0.12	0.47		0.47				0.45		
v/c Ratio	0.31	0.94	0.32	1.09	1.11	1.09	1.13			1.03	1.24	
Uniform Delay, d1	19.1	26.5	19.2	21.6	23.5	25.5	25.5			25.5	25.5	
Progression Factor	0.82	0.89	0.78	1.00	1.00	1.00	1.00			2.03	1.90	
Incremental Delay, d2	7.3	11.0	1.0	102.8	59.5	133.0	64.3			39.8	110.7	
Delay (s)	23.0	34.7	15.9	124.4	83.0	158.5	89.8			91.6	159.2	
Level of Service	C	C	B	F	F	F	F			F	F	
Approach Delay (s)		31.9			86.5		92.2				157.2	
Approach LOS		C			F		F				F	

Intersection Summary

HCM Average Control Delay	101.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	132.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.99			0.99		1.00	1.00		1.00	0.99	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2941			2943		1490	4276		1490	4237	
Flt Permitted		1.00			1.00		0.19	1.00		0.19	1.00	
Satd. Flow (perm)		2941			2943		300	4276		300	4237	
Volume (vph)	0	731	70	0	1221	111	59	1968	20	184	2171	165
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	738	71	0	1233	112	60	1988	20	186	2193	167
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	14	0
Lane Group Flow (vph)	0	809	0	0	1345	0	60	2006	0	186	2346	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		8		4		4		6		6		2
Permitted Phases		8		4		4		6		6		2
Actuated Green, G (s)		30.2			30.2		20.2	20.2		20.2	20.2	
Effective Green, g (s)		31.1			31.1		20.9	20.9		20.9	20.9	
Actuated g/C Ratio		0.52			0.52		0.35	0.35		0.35	0.35	
Clearance Time (s)		4.9			4.9		4.7	4.7		4.7	4.7	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1524			1525		105	1489		105	1476	
v/s Ratio Prot		0.28			c0.46			0.47			0.55	
v/s Ratio Perm							0.20			c0.62		
v/c Ratio		0.53			0.88		0.57	1.35		1.77	1.59	
Uniform Delay, d1		9.6			12.8		15.9	19.6		19.6	19.6	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4			6.4		20.6	160.8		382.8	268.6	
Delay (s)		10.0			19.2		36.6	180.4		402.4	288.1	
Level of Service		A			B		D	F		F	F	
Approach Delay (s)		10.0			19.2			176.2			296.5	
Approach LOS		A			B			F			F	

Intersection Summary

HCM Average Control Delay	170.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		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	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4119		1489	4242		1490	4226		1490	4156	
Flt Permitted	0.14	1.00		0.13	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	216	4119		206	4242		202	4226		1490	4156	
Volume (vph)	97	1208	179	168	1883	67	147	1805	111	204	1743	223
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	98	1220	181	170	1902	68	148	1823	112	206	1761	225
RTOR Reduction (vph)	0	22	0	0	4	0	0	7	0	0	18	0
Lane Group Flow (vph)	98	1379	0	170	1966	0	148	1928	0	206	1968	0
Conf. Peds. (#/hr)	96		120	120		96	89		58	58		89
Conf. Bikes (#/hr)			8			5			3			4
Turn Type	pm+pt			pm+pt			pm+pt			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					
Actuated Green, G (s)	35.0	29.0		38.0	30.5		38.5	31.0		7.5	31.0	
Effective Green, g (s)	34.5	29.0		37.5	30.5		38.0	31.0		7.0	31.0	
Actuated g/C Ratio	0.38	0.32		0.42	0.34		0.42	0.34		0.08	0.34	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	161	1327		186	1438		185	1456		116	1432	
v/s Ratio Prot	0.04	0.33		c0.07	c0.46		0.06	0.46		c0.14	c0.47	
v/s Ratio Perm	0.20			0.31			0.27					
v/c Ratio	0.61	1.04		0.91	1.37		0.80	1.32		1.78	1.37	
Uniform Delay, d1	42.5	30.5		20.7	29.8		42.5	29.5		41.5	29.5	
Progression Factor	1.39	0.70		1.40	0.83		1.74	0.83		1.00	1.00	
Incremental Delay, d2	6.0	34.9		33.0	168.4		13.6	148.7		381.6	173.0	
Delay (s)	64.9	56.2		62.0	193.0		87.7	173.4		423.1	202.5	
Level of Service	E	E		E	F		F	F		F	F	
Approach Delay (s)		56.8			182.6			167.3			223.3	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	166.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			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		0.94			0.98		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1452			1504		1490	4271		1490	4257	
Flt Permitted		0.92			0.88		0.07	1.00		0.07	1.00	
Satd. Flow (perm)		1354			1341		114	4271		114	4257	
Volume (vph)	24	58	58	81	165	49	79	1977	27	9	2040	67
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	25	60	60	84	170	51	81	2038	28	9	2103	69
RTOR Reduction (vph)	0	1	0	0	1	0	0	1	0	0	3	0
Lane Group Flow (vph)	0	144	0	0	304	0	81	2065	0	9	2169	0
Conf. Peds. (#/hr)	6		10	10		6	21		10	10		5
Conf. Bikes (#/hr)			2			2			2			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		26.2			26.2		54.3	54.3		54.3	54.3	
Effective Green, g (s)		27.2			27.2		54.8	54.8		54.8	54.8	
Actuated g/C Ratio		0.30			0.30		0.61	0.61		0.61	0.61	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		409			405		69	2601		69	2592	
v/s Ratio Prot								0.48			0.51	
v/s Ratio Perm		0.11			c0.23		c0.71			0.08		
v/c Ratio		0.35			0.75		1.17	0.79		0.13	0.84	
Uniform Delay, d1		24.5			28.3		17.6	13.3		7.5	14.0	
Progression Factor		1.00			1.00		1.00	1.00		0.47	0.85	
Incremental Delay, d2		0.5			7.4		162.9	2.6		0.4	0.3	
Delay (s)		25.0			35.8		180.5	15.9		3.9	12.3	
Level of Service		C			D		F	B		A	B	
Approach Delay (s)		25.0			35.8			22.1			12.2	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM Average Control Delay			18.6				HCM Level of Service			B		
HCM Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			92.9%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4257		1490	4253		1490	4265		1490	4224	
Flt Permitted	0.12	1.00		0.11	1.00		0.95	1.00		0.12	1.00	
Satd. Flow (perm)	191	4257		170	4253		1490	4265		189	4224	
Volume (vph)	132	1400	58	96	1767	85	96	1890	54	158	1988	197
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	140	1489	62	102	1880	90	102	2011	57	168	2115	210
RTOR Reduction (vph)	0	4	0	0	5	0	0	3	0	0	11	0
Lane Group Flow (vph)	140	1547	0	102	1965	0	102	2065	0	168	2314	0
Turn Type	Perm		pm+pt			Prot		pm+pt				
Protected Phases	8		7		4		5		1			6
Permitted Phases	8		4					2		6		
Actuated Green, G (s)	31.5	31.5	43.4		43.4		10.0	29.4	44.2		31.8	
Effective Green, g (s)	32.9	32.9	44.8		44.8		10.0	30.8	45.6		33.2	
Actuated g/C Ratio	0.33	0.33	0.45		0.45		0.10	0.31	0.46		0.33	
Clearance Time (s)	5.4	5.4	4.0		5.4		4.0	5.4	4.0		5.4	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	4.0		3.0	
Lane Grp Cap (vph)	63	1401	180		1905		149	1314	248		1402	
v/s Ratio Prot	c0.73		0.04		c0.46		0.07		c0.08		c0.55	
v/s Ratio Perm	c0.73		0.21					0.48		0.23		
v/c Ratio	2.22	1.10	0.57		1.03		0.68	1.57	0.68		1.65	
Uniform Delay, d1	33.5	33.5	21.7		27.6		43.5	34.6	22.2		33.4	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	597.8	57.9	4.0		29.2		12.3	261.0	7.8		295.8	
Delay (s)	631.3	91.5	25.7		56.8		55.7	295.6	30.0		329.2	
Level of Service	F		C			E		E		F		C
Approach Delay (s)	136.2		55.3			284.3		309.1				
Approach LOS	F		E			F		F			F	

Intersection Summary

HCM Average Control Delay	205.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	121.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑			↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	1.00			0.99			1.00	0.97		0.98	
Flpb, ped/bikes	0.99	1.00			1.00			1.00	1.00		0.99	
Frt	1.00	1.00			1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00			1.00			0.99	1.00		0.98	
Satd. Flow (prot)	1478	4246			4207			1555	1287		1425	
Flt Permitted	0.06	1.00			1.00			0.96	1.00		0.86	
Satd. Flow (perm)	98	4246			4207			1500	1287		1251	
Volume (vph)	86	1193	35	0	2095	71	11	73	35	64	46	74
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	89	1230	36	0	2160	73	11	75	36	66	47	76
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	29	0	2	0
Lane Group Flow (vph)	89	1264	0	0	2230	0	0	86	7	0	187	0
Conf. Peds. (#/hr)	151		56	56		151	25		19	19		25
Conf. Bikes (#/hr)			4			7			1			1
Turn Type	Perm			Perm			Perm		Perm		Perm	
Protected Phases	6			2			8		8		4	
Permitted Phases	6						8		8		4	
Actuated Green, G (s)	64.1	64.1			64.1			18.4	18.4		18.4	
Effective Green, g (s)	63.6	63.6			63.6			18.4	18.4		18.4	
Actuated g/C Ratio	0.71	0.71			0.71			0.20	0.20		0.20	
Clearance Time (s)	3.5	3.5			3.5			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	3001			2973			307	263		256	
v/s Ratio Prot		0.30			0.53							
v/s Ratio Perm	c0.91						0.06		0.01		c0.15	
v/c Ratio	1.29	0.42			0.75			0.28	0.03		0.73	
Uniform Delay, d1	13.2	5.5			8.2			30.2	28.6		33.5	
Progression Factor	1.48	1.15			1.00			1.00	1.00		1.00	
Incremental Delay, d2	188.9	0.3			0.2			0.5	0.0		9.9	
Delay (s)	208.5	6.6			8.4			30.7	28.7		43.4	
Level of Service	F	A			A			C	C		D	
Approach Delay (s)		19.9			8.4			30.1			43.4	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 21: Wilshire Blvd & Curson Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.94			0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1583	4543		1583	4300	1218		1561			1562	
Flt Permitted	0.08	1.00		0.13	1.00	1.00		0.91			0.72	
Satd. Flow (perm)	133	4543		221	4300	1218		1422			1134	
Volume (vph)	44	1227	12	65	1809	133	26	174	160	114	251	242
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	51	1410	14	75	2079	153	30	200	184	131	289	278
RTOR Reduction (vph)	0	1	0	0	0	68	0	23	0	0	4	0
Lane Group Flow (vph)	51	1423	0	75	2079	85	0	391	0	0	694	0
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases	6			2		2	8			4		
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	50.0	50.0		50.0	50.0	50.0		32.0			32.0	
Effective Green, g (s)	50.0	50.0		50.0	50.0	50.0		32.0			32.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56		0.36			0.36	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	74	2524		123	2389	677		506			403	
v/s Ratio Prot		0.31		c0.48								
v/s Ratio Perm	0.38			0.34	0.07			0.27			c0.61	
v/c Ratio	0.69	0.56		0.61	0.87	0.13		0.77			1.72	
Uniform Delay, d1	14.4	12.9		13.4	17.2	9.6		25.8			29.0	
Progression Factor	1.85	1.97		0.93	1.01	1.24		1.00			1.00	
Incremental Delay, d2	39.3	0.9		14.2	3.2	0.3		7.2			335.4	
Delay (s)	65.9	26.4		26.7	20.5	12.1		33.0			364.4	
Level of Service	E	C		C	C	B		C			F	
Approach Delay (s)		27.8			20.2			33.0			364.4	
Approach LOS		C			C			C			F	

Intersection Summary

HCM Average Control Delay	72.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.90	
Flt Protected	1.00		0.95	1.00	0.99	
Satd. Flow (prot)	4536		1583	4550	1483	
Flt Permitted	1.00		0.17	1.00	0.99	
Satd. Flow (perm)	4536		287	4550	1483	
Volume (vph)	1201	25	106	2176	10	28
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1264	26	112	2291	11	29
RTOR Reduction (vph)	2	0	0	0	20	0
Lane Group Flow (vph)	1288	0	112	2291	20	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2787		176	2796	440	
v/s Ratio Prot	0.28			c0.50	c0.01	
v/s Ratio Perm			0.39			
v/c Ratio	0.46		0.64	0.82	0.04	
Uniform Delay, d1	9.3		11.0	13.5	22.6	
Progression Factor	1.00		1.22	1.32	1.00	
Incremental Delay, d2	0.6		5.2	0.9	0.0	
Delay (s)	9.9		18.6	18.7	22.6	
Level of Service	A		B	B	C	
Approach Delay (s)	9.9			18.7	22.6	
Approach LOS	A			B	C	

Intersection Summary

HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	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			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↘	↘	↑↑	↘	↘	↑↑	↘	↘	↑↑	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3112	3112
Flt Permitted	0.12	1.00	1.00	0.11	1.00	1.00	0.14	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	208	3167	1417	189	3167	1417	238	3167	1417	208	3112	3112
Volume (vph)	60	934	103	237	1539	147	88	959	116	117	1404	182
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	953	105	242	1570	150	90	979	118	119	1433	186
RTOR Reduction (vph)	0	0	19	0	0	7	0	0	81	0	8	0
Lane Group Flow (vph)	61	953	86	242	1570	143	90	979	37	119	1611	0
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt		
Protected Phases		6		5		2	7		8		7	4
Permitted Phases	6		6	2		2	8		8		4	
Actuated Green, G (s)	31.0	31.0	31.0	43.0	43.0	48.7	28.1	28.1	28.1	37.0	37.0	37.0
Effective Green, g (s)	32.0	32.0	32.0	44.0	44.0	50.0	28.0	28.0	28.0	38.0	38.0	38.0
Actuated g/C Ratio	0.36	0.36	0.36	0.49	0.49	0.56	0.31	0.31	0.31	0.42	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	5.0
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	4.5
Lane Grp Cap (vph)	74	1126	504	216	1548	850	74	985	441	179	1314	1314
v/s Ratio Prot		0.30		0.10	c0.50	0.01		0.31		0.04	c0.52	
v/s Ratio Perm	0.29		0.06	c0.45		0.09	0.38		0.03	0.24		
v/c Ratio	0.82	0.85	0.17	1.12	1.01	0.17	1.22	0.99	0.08	0.66	1.23	1.23
Uniform Delay, d1	26.4	26.7	19.9	21.1	23.0	9.8	31.0	30.9	21.9	20.2	26.0	26.0
Progression Factor	1.00	1.00	1.00	2.10	0.31	0.36	0.49	0.48	0.13	0.70	0.43	0.43
Incremental Delay, d2	63.4	7.9	0.7	60.4	10.8	0.0	108.4	7.3	0.0	0.8	102.5	102.5
Delay (s)	89.8	34.6	20.6	104.8	17.8	3.5	123.4	22.0	2.9	14.9	113.9	113.9
Level of Service	F	C	C	F	B	A	F	C	A	B	F	F
Approach Delay (s)		36.3			27.5			27.8			107.1	
Approach LOS		D			C			C			F	

Intersection Summary

HCM Average Control Delay	52.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	127.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3143		1583	3167	1417	1583	3119		1583	3143	
Flt Permitted	0.11	1.00		0.23	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	190	3143		388	3167	1417	230	3119		202	3143	
Volume (vph)	103	665	35	149	1622	173	75	1053	118	211	1434	74
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	114	739	39	166	1802	192	83	1170	131	234	1593	82
RTOR Reduction (vph)	0	4	0	0	0	28	0	9	0	0	4	0
Lane Group Flow (vph)	114	774	0	166	1802	164	83	1292	0	234	1671	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	38.9	33.1		38.9	33.1	38.9	27.1	27.1		36.1	36.1	
Effective Green, g (s)	40.0	35.0		40.0	35.0	40.0	29.0	29.0		38.0	38.0	
Actuated g/C Ratio	0.44	0.39		0.44	0.39	0.44	0.32	0.32		0.42	0.42	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	162	1222		239	1232	693	74	1005		162	1327	
v/s Ratio Prot	c0.04	0.25		0.04	c0.57	0.01		0.41		0.08	c0.53	
v/s Ratio Perm	0.27			0.27		0.10	0.36			c0.53		
v/c Ratio	0.70	0.63		0.69	1.46	0.24	1.12	1.29		1.44	1.26	
Uniform Delay, d1	43.3	22.3		18.1	27.5	15.5	30.5	30.5		44.7	26.0	
Progression Factor	1.00	1.00		0.62	0.81	0.73	1.46	1.46		0.92	0.55	
Incremental Delay, d2	13.0	2.5		4.6	210.6	0.1	138.8	135.6		203.2	117.2	
Delay (s)	56.2	24.8		15.9	233.0	11.4	183.4	180.2		244.5	131.5	
Level of Service	E	C		B	F	B	F	F		F	F	
Approach Delay (s)		28.8			196.6			180.4			145.3	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	154.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.94	1.00	1.00	0.91	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1551	1614		3072	1667	1337	1583	3167	1287	1554	3108	
Flt Permitted	0.41	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	666	1614		3072	1667	1337	142	3167	1287	404	3108	
Volume (vph)	20	267	60	356	480	103	10	847	96	57	1387	92
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	278	62	371	500	107	10	882	100	59	1445	96
RTOR Reduction (vph)	0	9	0	0	0	59	0	0	0	0	5	0
Lane Group Flow (vph)	21	331	0	371	500	48	10	882	100	59	1536	0
Conf. Peds. (#/hr)	28		6	6		28	43		36	36		43
Conf. Bikes (#/hr)			4			1			5			7
Turn Type	Perm			Prot		Perm	Perm	pm+ov		Perm		
Protected Phases		8		7	4			6	7		2	
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	20.2	20.2		10.0	34.2	34.2	46.2	46.2	56.2	46.2	46.2	
Effective Green, g (s)	21.0	21.0		10.0	35.0	35.0	47.0	47.0	57.0	47.0	47.0	
Actuated g/C Ratio	0.23	0.23		0.11	0.39	0.39	0.52	0.52	0.63	0.52	0.52	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	155	377		341	648	520	74	1654	872	211	1623	
v/s Ratio Prot		c0.20		c0.12	0.30			0.28	0.01		c0.49	
v/s Ratio Perm	0.03					0.04	0.07		0.06	0.15		
v/c Ratio	0.14	0.88		1.09	0.77	0.09	0.14	0.53	0.11	0.28	0.95	
Uniform Delay, d1	27.3	33.3		40.0	24.0	17.4	11.1	14.2	6.5	12.0	20.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.28	0.24	0.21	0.21	0.42	
Incremental Delay, d2	1.8	23.9		74.3	8.7	0.4	0.3	0.1	0.0	0.3	1.6	
Delay (s)	29.1	57.1		114.3	32.7	17.8	3.4	3.5	1.4	2.9	10.1	
Level of Service	C	E		F	C	B	A	A	A	A	B	
Approach Delay (s)		55.5			62.0			3.3			9.9	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.83
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		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4503		1579	4500		1583	3070		1583	3167	1179
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	227	4503		237	4500		222	3070		1583	3167	1179
Volume (vph)	134	1017	32	102	1907	46	220	1160	76	160	1649	285
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	143	1082	34	109	2029	49	234	1234	81	170	1754	303
RTOR Reduction (vph)	0	3	0	0	3	0	0	5	0	0	0	121
Lane Group Flow (vph)	143	1113	0	109	2075	0	234	1310	0	170	1754	182
Conf. Peds. (#/hr)	227		147	147		227	145		184	184		145
Conf. Bikes (#/hr)			2			6			8			6
Turn Type	pm+pt			pm+pt			pm+pt			Prot		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					4
Actuated Green, G (s)	35.2	28.4		32.4	27.0		35.8	29.0		10.8	33.0	33.0
Effective Green, g (s)	35.4	29.4		32.6	28.0		36.0	30.0		10.0	34.0	34.0
Actuated g/C Ratio	0.39	0.33		0.36	0.31		0.40	0.33		0.11	0.38	0.38
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	180	1471		154	1400		180	1023		176	1196	445
v/s Ratio Prot	c0.05	0.25		0.04	c0.46		c0.09	0.43		0.11	c0.55	
v/s Ratio Perm	0.26			0.22			0.43					0.15
v/c Ratio	0.79	0.76		0.71	1.48		1.30	1.28		0.97	1.47	0.41
Uniform Delay, d1	43.1	27.1		20.8	31.0		44.2	30.0		39.8	28.0	20.6
Progression Factor	1.17	1.15		1.00	1.00		1.52	0.87		0.83	1.29	1.92
Incremental Delay, d2	16.1	2.7		13.8	220.9		162.8	132.0		40.5	212.5	1.5
Delay (s)	66.5	34.0		34.6	251.9		230.2	158.1		73.5	248.6	41.0
Level of Service	E	C		C	F		F	F		E	F	D
Approach Delay (s)		37.7			241.1			169.0			207.0	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	179.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.98	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Frt			0.86	1.00	0.93	0.85		0.98		1.00	1.00	
Flt Protected			1.00	0.95	0.98	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1412	1502	1348	1303		3074		1583	3167	
Flt Permitted			1.00	0.95	0.98	1.00		1.00		0.12	1.00	
Satd. Flow (perm)			1412	1502	1348	1303		3074		194	3167	
Volume (vph)	0	0	23	187	0	215	0	1181	176	117	1258	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	24	197	0	226	0	1243	185	123	1324	0
RTOR Reduction (vph)	0	0	23	0	39	124	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	1	126	100	34	0	1417	0	123	1324	0
Conf. Peds. (#/hr)	11		1	1		11	8		23	23		8
Conf. Bikes (#/hr)						5			5			1
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			2.2	18.7	18.7	18.7		54.7		54.7	54.7	
Effective Green, g (s)			3.1	19.6	19.6	19.6		55.3		55.3	55.3	
Actuated g/C Ratio			0.03	0.22	0.22	0.22		0.61		0.61	0.61	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			49	327	294	284		1889		119	1946	
v/s Ratio Prot								0.46			0.42	
v/s Ratio Perm			c0.00	c0.08	0.07	0.03				c0.64		
v/c Ratio			0.02	0.39	0.34	0.12		0.75		1.03	0.68	
Uniform Delay, d1			42.0	30.1	29.7	28.3		12.4		17.4	11.5	
Progression Factor			1.00	1.00	1.00	1.00		1.00		1.54	0.95	
Incremental Delay, d2			0.1	0.8	0.7	0.2		2.8		33.8	0.2	
Delay (s)			42.1	30.8	30.4	28.5		15.2		60.5	11.1	
Level of Service			D	C	C	C		B		E	B	
Approach Delay (s)		42.1			29.8			15.2			15.3	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM Average Control Delay			17.3									HCM Level of Service B
HCM Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			76.6%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↔	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.99			0.96		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4492			4358		1583	5733			5733	
Flt Permitted		1.00			1.00		0.17	1.00			1.00	
Satd. Flow (perm)		4492			4358		284	5733			5733	
Volume (vph)	0	1442	134	0	1792	699	185	1435	0	0	1426	0
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1457	135	0	1810	706	187	1449	0	0	1440	0
RTOR Reduction (vph)	0	11	0	0	70	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1581	0	0	2446	0	187	1449	0	0	1440	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1033			1002		67	1347			1347	
v/s Ratio Prot		0.35			c0.56			0.25			0.25	
v/s Ratio Perm							c0.66					
v/c Ratio		1.53			2.44		2.79	1.08			1.07	
Uniform Delay, d1		38.5			38.5		38.2	38.2			38.2	
Progression Factor		0.69			1.00		1.00	1.00			0.61	
Incremental Delay, d2		239.3			651.5		845.9	47.7			32.8	
Delay (s)		265.9			690.0		884.1	85.9			56.1	
Level of Service		F			F		F	F			E	
Approach Delay (s)		265.9			690.0			177.1			56.1	
Approach LOS		F			F			F			E	
Intersection Summary												
HCM Average Control Delay			352.2				HCM Level of Service				F	
HCM Volume to Capacity ratio			2.62									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			53.5		
Intersection Capacity Utilization			100.7%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↗		↘	↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3166		1583	3138	
Flt Permitted	0.17	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	284	5733	1417		4550	1417		3166		1583	3138	
Volume (vph)	113	1133	40	0	1802	366	0	897	2	248	1242	80
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	116	1168	41	0	1858	377	0	925	2	256	1280	82
RTOR Reduction (vph)	0	0	31	0	0	220	0	0	0	0	5	0
Lane Group Flow (vph)	116	1168	10	0	1858	157	0	927	0	256	1357	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	67	1347	333		1069	333		1029		79	1020	
v/s Ratio Prot		0.20			0.41			0.29		c0.16	c0.43	
v/s Ratio Perm	c0.41		0.01			0.11						
v/c Ratio	1.73	0.87	0.03		1.74	0.47		0.90		3.24	1.33	
Uniform Delay, d1	38.2	36.7	29.5		38.2	32.9		32.2		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.97	1.34		0.20		1.00	1.00	
Incremental Delay, d2	383.7	7.7	0.2		332.5	0.4		6.5		1040.2	155.6	
Delay (s)	421.9	44.5	29.6		369.7	44.5		12.9		1087.7	189.3	
Level of Service	F	D	C		F	D		B		F	F	
Approach Delay (s)		77.1			314.8			12.9			331.5	
Approach LOS		E			F			B			F	

Intersection Summary

HCM Average Control Delay	221.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.64		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4541		1583	4549		1583	3157			3030	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4541		290	4549		1583	3157			3030	
Volume (vph)	32	1542	21	42	1760	2	55	870	18	0	878	355
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	1573	21	43	1796	2	56	888	18	0	896	362
RTOR Reduction (vph)	0	2	0	0	0	0	0	1	0	0	43	0
Lane Group Flow (vph)	33	1592	0	43	1798	0	56	905	0	0	1215	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1044		67	1046		79	1026			985	
v/s Ratio Prot		0.35			c0.40		c0.04	0.29			c0.40	
v/s Ratio Perm	0.11			0.15								
v/c Ratio	0.49	1.53		0.64	1.72		0.71	0.88			1.23	
Uniform Delay, d1	33.4	38.5		34.8	38.5		46.8	31.9			33.8	
Progression Factor	1.00	1.00		0.71	0.69		1.00	1.00			0.29	
Incremental Delay, d2	23.6	241.3		4.2	323.9		25.1	10.9			105.8	
Delay (s)	57.1	279.8		28.8	350.6		71.9	42.8			115.7	
Level of Service	E	F		C	F		E	D			F	
Approach Delay (s)		275.3			343.1			44.5			115.7	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	222.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↕		↖	↕		↖	↕	↖	↖	↕	↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1583	3123		1583	3151		1583	3167	1417	1583	3167	1417	
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	222	3123		222	3151		1583	3167	1417	1583	3167	1417	
Volume (vph)	70	914	92	124	1526	51	148	932	145	43	868	155	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	72	942	95	128	1573	53	153	961	149	44	895	160	
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	78	0	0	27	
Lane Group Flow (vph)	72	1028	0	128	1623	0	153	961	71	44	895	133	
Turn Type	Perm			Perm			Prot			Perm	Prot		Perm
Protected Phases	6			2			3		8		7		4
Permitted Phases	6			2					8				4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		10.0	41.6	41.6	5.4	37.0	37.0	
Effective Green, g (s)	30.0	30.0		30.0	30.0		10.0	42.6	42.6	5.4	38.0	38.0	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.11	0.47	0.47	0.06	0.42	0.42	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	74	1041		74	1050		176	1499	671	95	1337	598	
v/s Ratio Prot		0.33			0.52		c0.10	c0.30		0.03	0.28		
v/s Ratio Perm	0.32			c0.58					0.05			0.09	
v/c Ratio	0.97	0.99		1.73	1.55		0.87	0.64	0.11	0.46	0.67	0.22	
Uniform Delay, d1	29.6	29.8		30.0	30.0		39.4	17.9	13.1	40.9	20.9	16.6	
Progression Factor	0.53	0.53		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	25.5	6.0		378.4	250.5		33.6	2.1	0.3	3.5	2.7	0.9	
Delay (s)	41.1	21.8		408.4	280.5		73.0	20.0	13.5	44.4	23.6	17.4	
Level of Service	D	C		F	F		E	C	B	D	C	B	
Approach Delay (s)		23.0			289.8			25.7			23.6		
Approach LOS		C			F			C			C		

Intersection Summary

HCM Average Control Delay	113.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑			↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	1.00			0.96			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	4504		1583	4544			3046			3082	
Flt Permitted	0.09	1.00		0.15	1.00			1.00			0.66	
Satd. Flow (perm)	152	4504		246	4544			3046			2047	
Volume (vph)	62	1110	81	266	2042	17	0	515	175	129	957	183
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	67	1194	87	286	2196	18	0	554	188	139	1029	197
RTOR Reduction (vph)	0	9	0	0	1	0	0	24	0	0	1	0
Lane Group Flow (vph)	67	1272	0	286	2213	0	0	718	0	0	1364	0
Turn Type	Perm		Perm				Perm					
Protected Phases	6		2				8					
Permitted Phases	6		2				4					
Actuated Green, G (s)	42.3	42.3		42.3	42.3			36.0			36.0	
Effective Green, g (s)	44.0	44.0		44.0	44.0			38.0			38.0	
Actuated g/C Ratio	0.49	0.49		0.49	0.49			0.42			0.42	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	74	2202		120	2222			1286			864	
v/s Ratio Prot	0.28		0.49				0.24					
v/s Ratio Perm	0.44		c1.16				c0.67					
v/c Ratio	0.91	0.58		2.38	1.00			0.56			1.58	
Uniform Delay, d1	21.1	16.4		23.0	22.9			19.7			26.0	
Progression Factor	0.42	0.48		0.61	0.52			1.00			1.00	
Incremental Delay, d2	39.2	0.4		624.8	4.9			0.5			265.9	
Delay (s)	48.0	8.3		639.0	16.9			20.2			291.9	
Level of Service	D	A		F	B			C			F	
Approach Delay (s)	10.3		88.1				20.2					
Approach LOS	B		F				C					

Intersection Summary

HCM Average Control Delay	108.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	128.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕↕		↖	↕↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4479		1583	4473		1583	4479		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	215	4479		215	4473		1583	4479		1583	4550	1417
Volume (vph)	53	1177	138	114	1654	211	479	1275	147	277	1122	186
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	57	1266	148	123	1778	227	515	1371	158	298	1206	200
RTOR Reduction (vph)	0	16	0	0	18	0	0	15	0	0	0	4
Lane Group Flow (vph)	57	1398	0	123	1987	0	515	1514	0	298	1206	196
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	29.0	29.0		29.0	29.0		14.0	31.0		15.0	31.0	31.0
Effective Green, g (s)	31.0	31.0		31.0	31.0		15.0	32.0		15.0	32.0	32.0
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.17	0.36		0.17	0.36	0.36
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1543		74	1541		264	1593		264	1618	504
v/s Ratio Prot		0.31			0.44		c0.33			0.19	0.27	
v/s Ratio Perm	0.27			c0.57			c0.34					0.14
v/c Ratio	0.77	0.91		1.66	1.29		1.95	0.95		1.13	0.75	0.39
Uniform Delay, d1	26.3	28.1		29.5	29.5		37.5	28.2		37.5	25.4	21.7
Progression Factor	1.00	1.00		0.43	0.41		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	53.7	9.2		303.4	130.8		441.4	13.5		94.6	3.2	2.3
Delay (s)	80.0	37.4		316.0	142.8		478.9	41.7		132.1	28.6	23.9
Level of Service	F	D		F	F		F	D		F	C	C
Approach Delay (s)		39.0			152.8			151.8			46.1	
Approach LOS		D			F			F			D	

Intersection Summary

HCM Average Control Delay	105.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1583	4530		1565	4520			1595			1658	1364
Flt Permitted	0.06	1.00		0.16	1.00			0.94			0.97	1.00
Satd. Flow (perm)	98	4530		257	4520			1511			1607	1364
Volume (vph)	84	1245	21	26	1937	47	27	175	48	17	200	101
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	93	1383	23	29	2152	52	30	194	53	19	222	112
RTOR Reduction (vph)	0	2	0	0	3	0	0	8	0	0	0	9
Lane Group Flow (vph)	93	1404	0	29	2201	0	0	269	0	0	241	103
Confl. Peds. (#/hr)	47		44	44		47	18		31	31		18
Confl. Bikes (#/hr)			3			2			4			1
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	67	3080		175	3074			363			386	327
v/s Ratio Prot		0.31			0.49							
v/s Ratio Perm	c0.95			0.11				c0.18			0.15	0.08
v/c Ratio	1.39	0.46		0.17	0.72			0.74			0.62	0.31
Uniform Delay, d1	16.0	7.4		5.8	10.0			35.1			34.0	31.2
Progression Factor	0.80	0.37		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	205.3	0.2		2.0	1.5			12.7			7.4	2.5
Delay (s)	218.1	3.0		7.8	11.4			47.8			41.4	33.7
Level of Service	F	A		A	B			D			D	C
Approach Delay (s)		16.3			11.4			47.8			39.0	
Approach LOS		B			B			D			D	

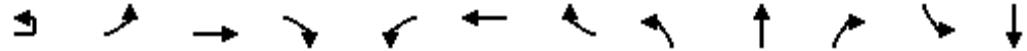
Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑↑↗		↘↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.91	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	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	0.99		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)	1583	3167	1295	1571	3113		3072	4453		3072	4449	
Flt Permitted	0.11	1.00	1.00	0.31	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	187	3167	1295	519	3113		3072	4453		3072	4449	
Volume (vph)	188	477	44	297	1322	94	178	1362	88	35	2204	216
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	204	518	48	323	1437	102	193	1480	96	38	2396	235
RTOR Reduction (vph)	0	0	34	0	4	0	0	5	0	0	10	0
Lane Group Flow (vph)	204	518	14	323	1535	0	193	1571	0	38	2621	0
Conf. Peds. (#/hr)	63		49	49		63	51		51	51		51
Conf. Bikes (#/hr)			3			3			6			3
Turn Type	pm+pt		Perm	pm+pt		Prot		Prot				
Protected Phases	1	6		5	2	3	8		7	4		
Permitted Phases	6		6	2								
Actuated Green, G (s)	48.8	34.2	34.2	49.6	34.6	13.6	48.9		4.5	39.8		
Effective Green, g (s)	49.2	35.6	35.6	50.0	36.0	13.6	49.9		4.5	40.8		
Actuated g/C Ratio	0.41	0.30	0.30	0.42	0.30	0.11	0.42		0.04	0.34		
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4	4.0	5.0		4.0	5.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	235	940	384	339	934	348	1852		115	1513		
v/s Ratio Prot	0.10	0.16		c0.11	c0.49	0.06	c0.35		0.01	c0.59		
v/s Ratio Perm	0.26		0.01	0.29								
v/c Ratio	0.87	0.55	0.04	0.95	1.64	0.55	0.85		0.33	1.73		
Uniform Delay, d1	31.2	35.5	30.0	29.8	42.0	50.3	31.6		56.3	39.6		
Progression Factor	1.60	0.73	0.62	1.00	1.00	0.76	0.64		1.25	0.40		
Incremental Delay, d2	23.0	0.6	0.0	36.4	294.3	1.7	4.4		0.2	329.8		
Delay (s)	72.9	26.5	18.5	66.2	336.3	40.0	24.5		70.3	345.5		
Level of Service	E	C	B	E	F	D	C		E	F		
Approach Delay (s)		38.3			289.4		26.2			341.6		
Approach LOS		D			F		C			F		

Intersection Summary

HCM Average Control Delay	215.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	128.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97	
Frt	1.00		0.99		1.00	1.00	0.85	1.00		0.85	1.00	
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1583		4523		1583	4300	1218	1583		1417	3072	
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (perm)	1583		4523		1583	4300	1218	1583		1417	3072	
Volume (vph)	2	0	599	25	6	1586	822	13	0	13	803	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	0	644	27	6	1705	884	14	0	14	863	0
RTOR Reduction (vph)	0	0	2	0	0	0	304	0	0	13	0	0
Lane Group Flow (vph)	2	0	669	0	6	1705	580	14	0	1	863	0
Turn Type	Prot				Prot		Perm	Prot			custom	custom
Protected Phases	5		2		1		6			7		
Permitted Phases							6				7	8
Actuated Green, G (s)	2.6		69.3		1.4	67.2	67.2	4.4		4.4	23.1	
Effective Green, g (s)	4.5		70.3		3.3	69.1	69.1	5.4		5.4	25.0	
Actuated g/C Ratio	0.04		0.59		0.03	0.58	0.58	0.05		0.05	0.21	
Clearance Time (s)	5.9		5.0		5.9	5.9	5.9	5.0		5.0	5.9	
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	59		2650		44	2476	701	71		64	640	
v/s Ratio Prot	0.00		c0.15		0.00	0.40		c0.01				
v/s Ratio Perm							c0.48			0.00	c0.28	
v/c Ratio	0.03		0.25		0.14	0.69	0.83	0.20		0.01	1.35	
Uniform Delay, d1	55.7		12.1		57.0	17.9	20.6	55.2		54.7	47.5	
Progression Factor	1.11		1.41		1.08	0.77	3.75	1.00		1.00	1.09	
Incremental Delay, d2	0.2		0.2		0.4	0.4	3.2	1.4		0.1	161.6	
Delay (s)	61.7		17.2		61.6	14.2	80.6	56.6		54.8	213.5	
Level of Service	E		B		E	B	F	E		D	F	
Approach Delay (s)			17.3			36.9			55.7			198.3
Approach LOS			B			D			E			F
Intersection Summary												
HCM Average Control Delay			73.9									HCM Level of Service E
HCM Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			120.0							12.0		
Intersection Capacity Utilization			73.3%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Lane Configurations	8
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	202
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	217
RTOR Reduction (vph)	161
Lane Group Flow (vph)	56
Turn Type	custom
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	23.1
Effective Green, g (s)	25.0
Actuated g/C Ratio	0.21
Clearance Time (s)	5.9
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	295
v/s Ratio Prot	
v/s Ratio Perm	0.04
v/c Ratio	0.19
Uniform Delay, d1	39.2
Progression Factor	3.51
Incremental Delay, d2	0.7
Delay (s)	138.2
Level of Service	F
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4548			4387	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4548			4387	
Volume (vph)	0	1084	304	0	1508	308	288	1377	4	0	1897	595
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1106	310	0	1539	314	294	1405	4	0	1936	607
RTOR Reduction (vph)	0	0	2	0	0	30	0	0	0	0	3	0
Lane Group Flow (vph)	0	1106	308	0	1539	284	294	1409	0	0	2540	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		39.0	49.0		39.0	39.0	10.0	69.0			53.5	
Effective Green, g (s)		41.0	52.5		41.0	41.0	11.5	71.0			55.5	
Actuated g/C Ratio		0.34	0.44		0.34	0.34	0.10	0.59			0.46	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1959	667		1959	484	152	2691			2029	
v/s Ratio Prot		0.19	0.04		c0.27		c0.19	0.31			c0.58	
v/s Ratio Perm			0.17			0.20						
v/c Ratio		0.56	0.46		0.79	0.59	1.93	0.52			1.25	
Uniform Delay, d1		32.2	23.8		35.5	32.5	54.2	14.5			32.2	
Progression Factor		1.31	1.87		1.00	1.00	1.23	0.76			0.34	
Incremental Delay, d2		0.6	0.2		3.3	5.2	440.3	0.6			113.8	
Delay (s)		42.9	44.7		38.8	37.7	507.2	11.7			124.8	
Level of Service		D	D		D	D	F	B			F	
Approach Delay (s)		43.3			38.6			97.2			124.8	
Approach LOS		D			D			F			F	

Intersection Summary

HCM Average Control Delay	81.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↗↗↗		↗	↗↗↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.95			0.99		1.00	1.00		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1563			1627		1583	4532		1583	4472	
Flt Permitted		0.84			0.85		0.06	1.00		0.11	1.00	
Satd. Flow (perm)		1333			1399		98	4532		179	4472	
Volume (vph)	50	59	61	51	113	12	82	1564	43	72	1785	229
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	62	64	54	119	13	86	1646	45	76	1879	241
RTOR Reduction (vph)	0	17	0	0	2	0	0	2	0	0	14	0
Lane Group Flow (vph)	0	162	0	0	184	0	86	1689	0	76	2106	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		4		8		8		2		6		
Permitted Phases		4		8		2		6		6		
Actuated Green, G (s)		30.0		30.0		83.4	83.4	83.4		83.4	83.4	
Effective Green, g (s)		29.0		29.0		83.0	83.0	83.0		83.0	83.0	
Actuated g/C Ratio		0.24		0.24		0.69	0.69	0.69		0.69	0.69	
Clearance Time (s)		3.0		3.0		3.6	3.6	3.6		3.6	3.6	
Vehicle Extension (s)		3.0		3.0		5.0	5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		322		338		68	3135	124		3093		
v/s Ratio Prot							0.37				0.47	
v/s Ratio Perm		0.12		c0.13		c0.87		0.42				
v/c Ratio		0.50		0.54		1.26	0.54	0.61		0.68		
Uniform Delay, d1		39.3		39.7		18.5	9.1	9.9		10.8		
Progression Factor		1.00		1.00		1.00	1.00	0.77		0.39		
Incremental Delay, d2		5.5		6.2		196.0	0.7	2.0		0.1		
Delay (s)		44.8		45.9		214.5	9.8	9.7		4.3		
Level of Service		D		D		F	A	A		A		
Approach Delay (s)		44.8		45.9		19.7		4.5				
Approach LOS		D		D		B		A				

Intersection Summary

HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.97		1.00	0.99		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	1.00		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4293		1583	4506		1583	4427		1583	4420	
Flt Permitted	0.11	1.00		0.11	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	190	4293		192	4506		183	4427		193	4420	
Volume (vph)	128	1131	199	117	2048	54	545	1615	216	86	1691	188
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	135	1191	209	123	2156	57	574	1700	227	91	1780	198
RTOR Reduction (vph)	0	25	0	0	3	0	0	17	0	0	13	0
Lane Group Flow (vph)	135	1375	0	123	2210	0	574	1910	0	91	1965	0
Conf. Peds. (#/hr)	154		157	157		154	90		48	48		90
Conf. Bikes (#/hr)			4			7			3			1
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.1	35.5		43.7	35.3		44.5	36.5		40.7	34.6	
Effective Green, g (s)	42.6	35.0		42.2	34.8		43.5	36.5		39.7	34.6	
Actuated g/C Ratio	0.43	0.35		0.42	0.35		0.44	0.36		0.40	0.35	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	187	1503		184	1568		178	1616		148	1529	
v/s Ratio Prot	c0.05	0.32		0.05	c0.49		c0.23	0.43		0.03	0.44	
v/s Ratio Perm	0.25			0.23			c1.18			0.21		
v/c Ratio	0.72	0.92		0.67	1.41		3.22	1.18		0.61	1.29	
Uniform Delay, d1	24.1	31.1		21.2	32.6		48.7	31.8		25.3	32.7	
Progression Factor	1.02	1.17		1.65	1.26		1.84	0.92		1.00	1.00	
Incremental Delay, d2	10.2	9.5		5.0	187.2		1007.2	84.9		5.2	133.4	
Delay (s)	34.7	45.9		39.9	228.1		1096.7	114.1		30.5	166.1	
Level of Service	C	D		D	F		F	F		C	F	
Approach Delay (s)		44.9			218.2			339.6			160.1	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	208.4	HCM Level of Service	F
HCM Volume to Capacity ratio	2.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	142.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.96			0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.95			0.99		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1504			1587		1583	4460		1583	4346	
Flt Permitted		0.80			0.58		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1219			937		104	4460		104	4346	
Volume (vph)	58	150	128	181	298	50	125	2220	194	20	1745	220
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	158	135	191	314	53	132	2337	204	21	1837	232
RTOR Reduction (vph)	0	10	0	0	4	0	0	10	0	0	16	0
Lane Group Flow (vph)	0	344	0	0	554	0	132	2531	0	21	2053	0
Conf. Peds. (#/hr)	39		76	76		39	104		34	34		104
Conf. Bikes (#/hr)			2			2			6			4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		341			262		67	2854		67	2781	
v/s Ratio Prot								0.57			0.47	
v/s Ratio Perm		0.28			c0.59		c1.27			0.20		
v/c Ratio		1.01			2.12		1.97	0.89		0.31	0.74	
Uniform Delay, d1		36.0			36.0		18.0	15.0		8.1	12.3	
Progression Factor		1.00			1.00		1.00	1.00		1.54	1.56	
Incremental Delay, d2		50.9			514.9		485.6	4.5		1.1	0.2	
Delay (s)		86.9			550.9		503.6	19.5		13.5	19.3	
Level of Service		F			F		F	B		B	B	
Approach Delay (s)		86.9			550.9			43.4			19.3	
Approach LOS		F			F			D			B	

Intersection Summary			
HCM Average Control Delay	87.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4484		1583	4533		1583	4532		1583	4457	
Flt Permitted	0.15	1.00		0.13	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	256	4484		222	4533		188	4532		196	4457	
Volume (vph)	240	1527	163	210	2436	62	179	2154	58	103	1672	263
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	247	1574	168	216	2511	64	185	2221	60	106	1724	271
RTOR Reduction (vph)	0	14	0	0	3	0	0	3	0	0	17	0
Lane Group Flow (vph)	247	1728	0	216	2572	0	185	2278	0	106	1978	0
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	6		5		2		3		8		7	
Permitted Phases	6		2				8				4	
Actuated Green, G (s)	25.0	25.0		36.0	36.0		41.4	34.4		38.6	33.0	
Effective Green, g (s)	26.0	26.0		37.0	37.0		42.4	35.4		39.6	34.0	
Actuated g/C Ratio	0.29	0.29		0.41	0.41		0.47	0.39		0.44	0.38	
Clearance Time (s)	5.0	5.0		3.5	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1295		197	1864		197	1783		173	1684	
v/s Ratio Prot		0.39		0.09	c0.57		c0.07	c0.50		0.04	0.44	
v/s Ratio Perm	c0.96			0.36			0.37			0.23		
v/c Ratio	3.34	1.33		1.10	1.38		0.94	1.28		0.61	1.17	
Uniform Delay, d1	32.0	32.0		43.7	26.5		43.3	27.3		21.5	28.0	
Progression Factor	0.70	0.69		1.00	1.00		1.67	0.32		1.00	1.00	
Incremental Delay, d2	1065.8	152.6		92.3	174.4		8.6	125.3		6.3	85.1	
Delay (s)	1088.1	174.7		136.0	200.9		80.8	134.0		27.8	113.1	
Level of Service	F	F		F	F		F	F		C	F	
Approach Delay (s)		288.1			195.9			130.0			108.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	178.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	136.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3090		1583	3124		1583	4511		1583	4474	
Flt Permitted	0.15	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	255	3090		221	3124		202	4511		230	4474	
Volume (vph)	119	897	172	175	1498	146	389	2163	132	86	1708	213
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	123	925	177	180	1544	151	401	2230	136	89	1761	220
RTOR Reduction (vph)	0	18	0	0	1	0	0	7	0	0	9	0
Lane Group Flow (vph)	123	1084	0	180	1694	0	401	2359	0	89	1972	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4		6		2					
Actuated Green, G (s)	25.1	25.1		38.0	38.0		42.0	42.0		28.0	28.0	
Effective Green, g (s)	26.1	26.1		39.0	39.0		43.0	43.0		29.0	29.0	
Actuated g/C Ratio	0.29	0.29		0.43	0.43		0.48	0.48		0.32	0.32	
Clearance Time (s)	5.0	5.0		3.0	5.0		4.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	896		230	1354		250	2155		74	1442	
v/s Ratio Prot		0.35		0.08	c0.54		c0.18	0.52			0.44	
v/s Ratio Perm	c0.48			0.26			c0.59			0.39		
v/c Ratio	1.66	1.21		0.78	1.25		1.60	1.09		1.20	1.37	
Uniform Delay, d1	31.9	31.9		21.3	25.5		42.2	23.5		30.5	30.5	
Progression Factor	1.00	1.00		0.76	0.95		1.00	1.00		1.00	0.98	
Incremental Delay, d2	350.0	105.0		1.6	113.5		289.7	50.7		102.7	165.7	
Delay (s)	381.9	136.9		17.8	137.8		332.0	74.2		133.2	195.7	
Level of Service	F	F		B	F		F	E		F	F	
Approach Delay (s)		161.5			126.3			111.5			193.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	144.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	139.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3089		1558	3099		1583	3138		1569	3033	
Flt Permitted	0.06	1.00		0.30	1.00		0.09	1.00		0.13	1.00	
Satd. Flow (perm)	100	3089		494	3099		147	3138		216	3033	
Volume (vph)	80	600	77	71	1470	133	119	826	35	100	839	154
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	90	674	87	80	1652	149	134	928	39	112	943	173
RTOR Reduction (vph)	0	8	0	0	6	0	0	2	0	0	9	0
Lane Group Flow (vph)	90	753	0	80	1795	0	134	965	0	112	1107	0
Conf. Peds. (#/hr)	50		50	50		50	50		50	50		50
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	64.6	64.6		64.6	64.6		44.1	44.1		44.1	44.1	
Effective Green, g (s)	66.5	66.5		66.5	66.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.38	0.38		0.38	0.38	
Clearance Time (s)	5.9	5.9		5.9	5.9		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	55	1712		274	1717		56	1190		82	1150	
v/s Ratio Prot		0.24			0.58			0.31			0.37	
v/s Ratio Perm	c0.90			0.16			c0.91			0.52		
v/c Ratio	1.64	0.44		0.29	1.05		2.39	0.81		1.37	0.96	
Uniform Delay, d1	26.8	15.8		14.2	26.8		37.2	33.4		37.2	36.4	
Progression Factor	1.00	1.00		0.40	0.75		1.16	1.15		1.00	1.00	
Incremental Delay, d2	354.4	0.8		0.2	22.5		664.1	4.4		224.7	19.0	
Delay (s)	381.1	16.6		5.9	42.5		707.5	42.8		261.9	55.4	
Level of Service	F	B		A	D		F	D		F	E	
Approach Delay (s)		55.1			41.0			123.7			74.3	
Approach LOS		E			D			F			E	

Intersection Summary

HCM Average Control Delay	69.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		

























c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.97			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1583	4531		1583	4542			1611			1589	
Flt Permitted	0.06	1.00		0.16	1.00			0.95			0.95	
Satd. Flow (perm)	100	4531		263	4542			1548			1514	
Volume (vph)	21	1296	37	44	2624	32	29	173	52	22	99	52
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	1350	39	46	2733	33	30	180	54	23	103	54
RTOR Reduction (vph)	0	3	0	0	1	0	0	9	0	0	3	0
Lane Group Flow (vph)	22	1386	0	46	2765	0	0	255	0	0	177	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	68.0	68.0		68.0	68.0			26.0			26.0	
Effective Green, g (s)	67.0	67.0		67.0	67.0			25.0			25.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	67	3036		176	3043			387			379	
v/s Ratio Prot		0.31			c0.61							
v/s Ratio Perm	0.22			0.17				c0.16			0.12	
v/c Ratio	0.33	0.46		0.26	0.91			0.66			0.47	
Uniform Delay, d1	7.0	7.8		6.6	13.9			33.7			31.8	
Progression Factor	0.56	0.31		0.26	0.75			1.00			1.00	
Incremental Delay, d2	8.9	0.3		0.3	0.5			8.5			4.1	
Delay (s)	12.9	2.8		2.0	10.9			42.2			35.9	
Level of Service	B	A		A	B			D			D	
Approach Delay (s)		2.9			10.8			42.2			35.9	
Approach LOS		A			B			D			D	

Intersection Summary

HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	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)	1583	3167	1417	1583	4550	1417	1583	1667	1417	1583	1643	
Flt Permitted	0.22	1.00	1.00	0.27	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	370	3167	1417	458	4550	1417	1583	1667	1417	1583	1643	
Volume (vph)	92	603	77	108	1446	93	70	586	35	40	749	77
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	99	648	83	116	1555	100	75	630	38	43	805	83
RTOR Reduction (vph)	0	0	58	0	0	70	0	0	21	0	6	0
Lane Group Flow (vph)	99	648	25	116	1555	30	75	630	17	43	882	0
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			4		1	2		1	6	
Permitted Phases	4		4	4		4			2			
Actuated Green, G (s)	17.0	17.0	17.0	17.0	17.0	17.0	3.2	26.0	26.0	3.2	26.0	
Effective Green, g (s)	18.0	18.0	18.0	18.0	18.0	18.0	3.2	26.8	26.8	3.2	26.8	
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.05	0.45	0.45	0.05	0.45	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.8	4.8	4.0	4.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	950	425	137	1365	425	84	745	633	84	734	
v/s Ratio Prot		0.20			c0.34		c0.05	0.38		0.03	c0.54	
v/s Ratio Perm	0.27		0.02	0.25		0.02			0.01			
v/c Ratio	0.89	0.68	0.06	0.85	1.14	0.07	0.89	0.85	0.03	0.51	1.20	
Uniform Delay, d1	20.1	18.5	15.0	19.7	21.0	15.0	28.2	14.8	9.3	27.6	16.6	
Progression Factor	1.00	1.00	1.00	1.32	1.39	1.80	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	59.9	4.0	0.3	37.5	70.3	0.3	63.5	11.4	0.1	5.2	103.5	
Delay (s)	80.0	22.4	15.2	63.5	99.5	27.4	91.7	26.1	9.4	32.8	120.1	
Level of Service	F	C	B	E	F	C	F	C	A	C	F	
Approach Delay (s)		28.6			93.1			31.9			116.1	
Approach LOS		C			F			C			F	
Intersection Summary												
HCM Average Control Delay			74.9				HCM Level of Service			E		
HCM Volume to Capacity ratio			1.16									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			106.5%				ICU Level of Service		G			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Fr _t	1.00	0.98		1.00	1.00		1.00	0.98		1.00	0.98	
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4479		1583	4529		1583	3108		1583	3104	
Fl _t Permitted	0.09	1.00		0.10	1.00		0.13	1.00		0.15	1.00	
Satd. Flow (perm)	153	4479		169	4529		215	3108		249	3104	
Volume (vph)	91	1183	137	51	2425	78	171	681	97	53	817	125
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	98	1272	147	55	2608	84	184	732	104	57	878	134
RTOR Reduction (vph)	0	14	0	0	3	0	0	10	0	0	12	0
Lane Group Flow (vph)	98	1405	0	55	2689	0	184	826	0	57	1000	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	51.0	44.6		49.8	44.0		40.0	32.0		35.2	29.6	
Effective Green, g (s)	49.0	43.6		47.8	43.0		38.0	31.0		33.2	28.6	
Actuated g/C Ratio	0.49	0.44		0.48	0.43		0.38	0.31		0.33	0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	152	1953		149	1947		177	963		144	888	
v/s Ratio Prot	c0.03	0.31		0.02	c0.59		c0.07	0.27		0.02	c0.32	
v/s Ratio Perm	0.28			0.16			0.32			0.11		
v/c Ratio	0.64	0.72		0.37	1.38		1.04	0.86		0.40	1.13	
Uniform Delay, d ₁	23.4	23.2		16.2	28.5		27.9	32.4		24.6	35.7	
Progression Factor	2.14	2.00		1.31	1.51		1.00	1.00		1.00	1.00	
Incremental Delay, d ₂	5.5	1.9		0.2	172.8		78.4	9.8		0.7	71.1	
Delay (s)	55.4	48.1		21.5	215.8		106.4	42.2		25.2	106.8	
Level of Service	E	D		C	F		F	D		C	F	
Approach Delay (s)		48.6			211.9			53.8			102.5	
Approach LOS		D			F			D			F	

Intersection Summary

HCM Average Control Delay	129.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Fr _t	1.00	0.98		1.00	1.00		1.00	0.97		1.00	0.98	
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4481		1583	4542		1583	3080		1583	3091	
Fl _t Permitted	0.11	1.00		0.10	1.00		0.15	1.00		0.17	1.00	
Satd. Flow (perm)	183	4481		172	4542		255	3080		282	3091	
Volume (vph)	77	1491	167	219	2573	29	152	908	202	54	819	155
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	82	1586	178	233	2737	31	162	966	215	57	871	165
RTOR Reduction (vph)	0	15	0	0	1	0	0	20	0	0	17	0
Lane Group Flow (vph)	82	1749	0	233	2767	0	162	1161	0	57	1019	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.0	37.4		47.8	39.8		35.1	27.1		30.1	24.6	
Effective Green, g (s)	41.0	36.4		45.8	38.8		33.1	26.1		28.1	23.6	
Actuated g/C Ratio	0.46	0.40		0.51	0.43		0.37	0.29		0.31	0.26	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	155	1812		197	1958		197	893		153	811	
v/s Ratio Prot	0.03	0.39		c0.09	c0.61		c0.06	c0.38		0.02	0.33	
v/s Ratio Perm	0.21			0.51			0.24			0.10		
v/c Ratio	0.53	0.96		1.18	1.41		0.82	1.30		0.37	1.26	
Uniform Delay, d ₁	21.4	26.2		21.6	25.6		42.6	31.9		42.1	33.2	
Progression Factor	1.00	1.00		1.93	0.41		1.00	1.00		1.00	1.00	
Incremental Delay, d ₂	1.5	14.3		87.2	186.2		22.3	143.3		0.6	125.4	
Delay (s)	22.9	40.5		128.9	196.7		65.0	175.3		42.7	158.6	
Level of Service	C	D		F	F		E	F		D	F	
Approach Delay (s)		39.7			191.4			162.0			152.6	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	141.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↗		↖	↕↕↗		↖	↕	↗	↖	↕↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4471		1583	4521		1583	1667	1417	1583	3000	
Flt Permitted	0.09	1.00		0.10	1.00		0.12	1.00	1.00	0.13	1.00	
Satd. Flow (perm)	156	4471		167	4521		206	1667	1417	223	3000	
Volume (vph)	88	1179	155	69	2577	113	145	497	96	51	611	330
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	1241	163	73	2713	119	153	523	101	54	643	347
RTOR Reduction (vph)	0	17	0	0	5	0	0	0	68	0	71	0
Lane Group Flow (vph)	93	1387	0	73	2827	0	153	523	33	54	919	0
Turn Type	pm+pt			pm+pt			pm+pt			Perm	pm+pt	
Protected Phases	5	2		1	6		3	8		8	7	4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	49.4	43.8		49.4	43.8		40.4	33.4	33.4	36.8	31.6	
Effective Green, g (s)	47.4	42.8		47.4	42.8		38.4	32.4	32.4	34.8	30.6	
Actuated g/C Ratio	0.47	0.43		0.47	0.43		0.38	0.32	0.32	0.35	0.31	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	140	1914		144	1935		162	540	459	135	918	
v/s Ratio Prot	c0.03	0.31		0.02	c0.63		c0.06	c0.31		0.02	0.31	
v/s Ratio Perm	0.29			0.22			0.31		0.02	0.12		
v/c Ratio	0.66	0.72		0.51	1.46		0.94	0.97	0.07	0.40	1.00	
Uniform Delay, d1	23.9	23.7		16.9	28.6		26.7	33.3	23.4	24.6	34.7	
Progression Factor	0.71	1.00		2.11	1.73		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.6	2.1		0.1	207.8		53.6	31.7	0.3	0.7	29.8	
Delay (s)	24.5	25.8		35.7	257.4		80.3	65.0	23.7	25.3	64.5	
Level of Service	C	C		D	F		F	E	C	C	E	
Approach Delay (s)		25.8			251.8			62.6			62.5	
Approach LOS		C			F			E			E	

Intersection Summary

HCM Average Control Delay	142.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	116.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2222		1118	2232		1118	2177		1118	2231	
Flt Permitted	0.07	1.00		0.09	1.00		0.27	1.00		0.66	1.00	
Satd. Flow (perm)	77	2222		108	2232		319	2177		781	2231	
Volume (vph)	27	1538	65	53	2149	22	11	112	23	114	503	7
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	28	1586	67	55	2215	23	11	115	24	118	519	7
RTOR Reduction (vph)	0	3	0	0	1	0	0	18	0	0	1	0
Lane Group Flow (vph)	28	1650	0	55	2237	0	11	121	0	118	525	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	60.5	60.5		60.5	60.5		20.8	20.8		20.8	20.8	
Effective Green, g (s)	61.0	61.0		61.0	61.0		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1506		73	1513		74	508		182	521	
v/s Ratio Prot		0.74			c1.00			0.06			c0.24	
v/s Ratio Perm	0.36			0.51			0.03			0.15		
v/c Ratio	0.54	1.10		0.75	1.48		0.15	0.24		0.65	1.01	
Uniform Delay, d1	7.4	14.5		9.5	14.5		27.4	28.0		31.2	34.5	
Progression Factor	0.35	0.37		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.6	44.2		51.5	219.1		4.2	1.1		16.5	41.5	
Delay (s)	6.1	49.6		61.0	233.6		31.6	29.1		47.7	76.0	
Level of Service	A	D		E	F		C	C		D	E	
Approach Delay (s)		48.9			229.4			29.3			70.8	
Approach LOS		D			F			C			E	

Intersection Summary

HCM Average Control Delay	138.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	131.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕↕						↕↕			↕↕		
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)		4.0						4.0			4.0		
Lane Util. Factor		0.95						0.95			0.95		
Frbp, ped/bikes		1.00						1.00			1.00		
Flpb, ped/bikes		0.99						1.00			1.00		
Frt		0.99						0.97			1.00		
Flt Protected		0.98						1.00			0.99		
Satd. Flow (prot)		3045						3072			3146		
Flt Permitted		0.98						1.00			0.90		
Satd. Flow (perm)		3045						3072			2850		
Volume (vph)	145	227	17	0	0	0	0	123	26	38	286	0	
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	
Adj. Flow (vph)	188	295	22	0	0	0	0	160	34	49	371	0	
RTOR Reduction (vph)	0	3	0	0	0	0	0	25	0	0	0	0	
Lane Group Flow (vph)	0	502	0	0	0	0	0	169	0	0	420	0	
Conf. Peds. (#/hr)	28		18	18			28	6		7	7	6	
Conf. Bikes (#/hr)			1							1		1	
Turn Type	Perm						Perm						
Protected Phases		2						8			4		
Permitted Phases	2									4			
Actuated Green, G (s)		37.0						17.0			17.0		
Effective Green, g (s)		36.0						16.0			16.0		
Actuated g/C Ratio		0.60						0.27			0.27		
Clearance Time (s)		3.0						3.0			3.0		
Vehicle Extension (s)		5.0						3.0			3.0		
Lane Grp Cap (vph)		1827						819			760		
v/s Ratio Prot								0.06					
v/s Ratio Perm		0.16									c0.15		
v/c Ratio		0.27						0.21			0.55		
Uniform Delay, d1		5.7						17.1			18.9		
Progression Factor		1.11						1.00			1.00		
Incremental Delay, d2		0.3						0.6			2.9		
Delay (s)		6.7						17.6			21.8		
Level of Service		A						B			C		
Approach Delay (s)		6.7			0.0			17.6			21.8		
Approach LOS		A			A			B			C		
Intersection Summary													
HCM Average Control Delay			14.3									HCM Level of Service	B
HCM Volume to Capacity ratio			0.36										
Actuated Cycle Length (s)			60.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			52.4%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑				↗		↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99				0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		0.98	1.00
Frt	1.00	1.00		1.00	0.98				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.96	1.00
Satd. Flow (prot)	1583	4527		1583	4400				1396		1571	1371
Flt Permitted	0.95	1.00		0.95	1.00				1.00		0.96	1.00
Satd. Flow (perm)	1583	4527		1583	4400				1396		1571	1371
Volume (vph)	73	1340	26	107	2465	462	0	0	47	128	19	166
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	76	1396	27	111	2568	481	0	0	49	133	20	173
RTOR Reduction (vph)	0	2	0	0	26	0	0	0	38	0	0	126
Lane Group Flow (vph)	76	1421	0	111	3023	0	0	0	11	0	153	47
Conf. Peds. (#/hr)	18		42	42		18	15		14	14		15
Conf. Bikes (#/hr)			2			1			1			
Turn Type	Prot			Prot				custom	Perm		Perm	
Protected Phases	5	2		1	6						4	
Permitted Phases								8	4			4
Actuated Green, G (s)	7.3	57.5		9.5	59.7			24.0			24.0	24.0
Effective Green, g (s)	6.3	56.5		8.5	58.7			23.0			23.0	23.0
Actuated g/C Ratio	0.06	0.56		0.08	0.59			0.23			0.23	0.23
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	2.0	5.0		2.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	100	2558		135	2583			321			361	315
v/s Ratio Prot	0.05	0.31		c0.07	c0.69							
v/s Ratio Perm								0.01			0.10	0.03
v/c Ratio	0.76	0.56		0.82	1.17			0.04			0.42	0.15
Uniform Delay, d1	46.1	13.8		45.0	20.6			29.9			32.8	30.7
Progression Factor	1.00	1.00		0.74	1.53			1.00			1.00	1.00
Incremental Delay, d2	25.8	0.9		3.6	77.2			0.2			3.6	1.0
Delay (s)	71.9	14.7		37.1	108.7			30.1			36.5	31.7
Level of Service	E	B		D	F			C			D	C
Approach Delay (s)		17.6			106.2			30.1			33.9	
Approach LOS		B			F			C			C	
Intersection Summary												
HCM Average Control Delay			74.4			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			97.9%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2230		1118	2233		1118	2216		1118	2204	
Flt Permitted	0.07	1.00		0.07	1.00		0.15	1.00		0.29	1.00	
Satd. Flow (perm)	84	2230		84	2233		181	2216		336	2204	
Volume (vph)	32	1637	25	279	1965	15	26	531	33	26	777	81
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	1670	26	285	2005	15	27	542	34	27	793	83
RTOR Reduction (vph)	0	1	0	0	1	0	0	5	0	0	9	0
Lane Group Flow (vph)	33	1695	0	285	2019	0	27	571	0	27	867	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8		25.8	25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1388		52	1389		52	640		97	637	
v/s Ratio Prot		0.76			0.90			0.26			c0.39	
v/s Ratio Perm	0.39			c3.39			0.15			0.08		
v/c Ratio	0.63	1.22		5.48	1.45		0.52	0.89		0.28	1.36	
Uniform Delay, d1	10.6	17.0		17.0	17.0		26.8	30.7		24.7	32.0	
Progression Factor	1.00	1.00		0.58	0.59		0.44	0.37		1.00	1.00	
Incremental Delay, d2	46.8	106.2		2020.1	204.6		12.4	7.1		7.0	172.8	
Delay (s)	57.4	123.2		2030.1	214.6		24.1	18.4		31.8	204.8	
Level of Service	E	F		F	F		C	B		C	F	
Approach Delay (s)		121.9			439.1			18.6			199.7	
Approach LOS		F			F			B			F	

Intersection Summary

HCM Average Control Delay	255.3	HCM Level of Service	F
HCM Volume to Capacity ratio	4.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	145.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↕		↰	↕		↰	↕	↰		↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00		0.95	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1118	2205		1118	2231		1118	2235	1000		2216	
Flt Permitted	0.07	1.00		0.24	1.00		0.15	1.00	1.00		1.00	
Satd. Flow (perm)	84	2205		277	2231		181	2235	1000		2216	
Volume (vph)	60	820	80	123	1764	24	65	506	96	0	1000	59
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	67	911	89	137	1960	27	72	562	107	0	1111	66
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	76	0	5	0
Lane Group Flow (vph)	67	998	0	137	1986	0	72	562	31	0	1172	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	2			6			8			8		4
Permitted Phases	2			6			8			8		
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8	25.8		25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0	26.0		26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29	0.29		0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2	4.2		4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	52	1372		172	1388		52	646	289		640	
v/s Ratio Prot		0.45			c0.89			0.25			c0.53	
v/s Ratio Perm	0.80			0.50			0.40		0.03			
v/c Ratio	1.29	0.73		0.80	1.43		1.38	0.87	0.11		1.83	
Uniform Delay, d1	17.0	11.7		12.7	17.0		32.0	30.4	23.5		32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.64	
Incremental Delay, d2	220.7	3.4		30.7	198.0		257.0	14.9	0.7		374.6	
Delay (s)	237.7	15.1		43.4	215.0		289.0	45.3	24.2		395.2	
Level of Service	F	B		D	F		F	D	C		F	
Approach Delay (s)		29.1			204.0			65.9			395.2	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	191.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	152.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		0.99						0.98			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.94						0.97			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		2898						3000			3145	
Flt Permitted		0.99						1.00			0.66	
Satd. Flow (perm)		2898						3000			2095	
Volume (vph)	35	132	116	0	0	0	0	770	205	86	727	0
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	38	145	127	0	0	0	0	846	225	95	799	0
RTOR Reduction (vph)	0	53	0	0	0	0	0	40	0	0	0	0
Lane Group Flow (vph)	0	257		0	0	0	0	1031	0	0	894	
Confl. Peds. (#/hr)	123		3	3			123	1		108	108	1
Confl. Bikes (#/hr)							6			4		2
Turn Type	Perm						Perm					
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		27.0						27.0			27.0	
Effective Green, g (s)		26.0						26.0			26.0	
Actuated g/C Ratio		0.43						0.43			0.43	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1256						1300			908	
v/s Ratio Prot								0.34				
v/s Ratio Perm		0.09									c0.43	
v/c Ratio		0.20						0.79			0.98	
Uniform Delay, d1		10.6						14.7			16.8	
Progression Factor		0.56						1.00			1.00	
Incremental Delay, d2		0.4						5.0			26.4	
Delay (s)		6.3						19.7			43.2	
Level of Service		A						B			D	
Approach Delay (s)		6.3			0.0			19.7			43.2	
Approach LOS		A			A			B			D	
Intersection Summary												
HCM Average Control Delay		27.1			HCM Level of Service				C			
HCM Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)				8.0			
Intersection Capacity Utilization		85.2%			ICU Level of Service				E			
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕	↖		↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00		0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00	0.86		1.00	0.86
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1583	4312		1583	4472		1583	3167	1219		3167	1220
Flt Permitted	0.09	1.00		0.08	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	152	4312		140	4472		1583	3167	1219		3167	1220
Volume (vph)	61	1214	223	331	2159	91	280	878	137	0	788	192
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	1265	232	345	2249	95	292	915	143	0	821	200
RTOR Reduction (vph)	0	27	0	0	4	0	0	0	93	0	0	122
Lane Group Flow (vph)	64	1470	0	345	2340	0	292	915	50	0	821	78
Conf. Peds. (#/hr)	200		137	137		200	96		97	97		96
Conf. Bikes (#/hr)						3			1			1
Turn Type	pm+pt			pm+pt			Prot		Perm			Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6				8				4
Actuated Green, G (s)	50.4	45.0		57.0	48.6		8.9	34.9	34.9		22.9	22.9
Effective Green, g (s)	48.4	44.0		55.6	47.6		8.0	34.0	34.0		22.0	22.0
Actuated g/C Ratio	0.49	0.45		0.57	0.49		0.08	0.35	0.35		0.22	0.22
Clearance Time (s)	3.0	3.0		3.0	3.0		3.1	3.1	3.1		3.1	3.1
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	139	1936		197	2172		129	1099	423		711	274
v/s Ratio Prot	0.02	0.34		c0.14	0.52		c0.18	0.29			c0.26	
v/s Ratio Perm	0.21			c0.85					0.04			0.06
v/c Ratio	0.46	0.76		1.75	1.08		2.26	0.83	0.12		1.15	0.29
Uniform Delay, d1	21.0	22.6		24.8	25.2		45.0	29.4	21.8		38.0	31.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9	2.9		358.2	43.9		592.6	7.4	0.6		85.1	2.6
Delay (s)	21.9	25.4		382.9	69.1		637.6	36.8	22.3		123.1	34.1
Level of Service	C	C		F	E		F	D	C		F	C
Approach Delay (s)		25.3			109.4			165.2			105.7	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	100.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.69		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.95			0.99		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2986			3062		1583	3153		1583	3133	
Flt Permitted		0.85			0.75		0.13	1.00		0.12	1.00	
Satd. Flow (perm)		2543			2353		212	3153		194	3133	
Volume (vph)	29	107	69	217	298	55	115	1246	36	44	1030	78
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	110	71	224	307	57	119	1285	37	45	1062	80
RTOR Reduction (vph)	0	49	0	0	9	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	162	0	0	579	0	119	1320	0	45	1136	0
Turn Type	Perm		Perm			pm+pt		pm+pt				
Protected Phases	4		8			5		2		1		6
Permitted Phases	4		8			2		6				
Actuated Green, G (s)	29.0		29.0			55.0		48.3		48.2		44.5
Effective Green, g (s)	28.0		28.0			53.8		47.3		46.2		43.5
Actuated g/C Ratio	0.31		0.31			0.60		0.53		0.51		0.48
Clearance Time (s)	3.0		3.0			3.0		3.0		3.0		3.0
Vehicle Extension (s)	3.0		3.0			2.0		5.0		2.0		5.0
Lane Grp Cap (vph)	791		732			226		1657		141		1514
v/s Ratio Prot						c0.04		c0.42		0.01		0.36
v/s Ratio Perm	0.06		c0.25			0.28		0.15				
v/c Ratio	0.20		0.79			0.53		0.80		0.32		0.75
Uniform Delay, d1	22.8		28.3			12.0		17.4		13.3		18.9
Progression Factor	1.00		1.00			1.00		1.00		1.00		1.00
Incremental Delay, d2	0.6		5.8			1.0		4.1		0.5		3.5
Delay (s)	23.4		34.2			13.1		21.5		13.8		22.3
Level of Service	C		C			B		C		B		C
Approach Delay (s)	23.4		34.2			20.8		22.0				
Approach LOS	C		C			C		C				

Intersection Summary

HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.99			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4524		1583	4550		1583	3135			3057	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1583	4524		1583	4550		1583	3135			3057	
Volume (vph)	35	1834	73	10	3183	0	40	724	51	0	391	117
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	1853	74	10	3215	0	40	731	52	0	395	118
RTOR Reduction (vph)	0	4	0	0	0	0	0	6	0	0	31	0
Lane Group Flow (vph)	35	1923	0	10	3215	0	40	777	0	0	482	0
Turn Type	Prot		Prot		Split							
Protected Phases	1!	2!		5!	6!		8	8			7	
Permitted Phases												
Actuated Green, G (s)	5.2	33.8		4.8	33.2		14.0	14.0			22.0	
Effective Green, g (s)	4.7	33.3		4.8	33.2		14.0	14.0			22.0	
Actuated g/C Ratio	0.05	0.37		0.05	0.37		0.16	0.16			0.24	
Clearance Time (s)	3.5	3.5		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			3.0	
Lane Grp Cap (vph)	83	1674		84	1678		246	488			747	
v/s Ratio Prot	c0.02	0.42		0.01	c0.71		0.03	c0.25			c0.16	
v/s Ratio Perm												
v/c Ratio	0.42	1.15		0.12	1.92		0.16	1.59			0.65	
Uniform Delay, d1	41.3	28.4		40.6	28.4		32.9	38.0			30.5	
Progression Factor	1.23	0.99		1.51	0.38		1.00	1.00			1.00	
Incremental Delay, d2	0.3	67.6		0.1	412.4		0.3	276.1			4.3	
Delay (s)	51.2	95.5		61.2	423.2		33.2	314.1			34.8	
Level of Service	D	F		E	F		C	F			C	
Approach Delay (s)		94.7			422.0			300.5			34.8	
Approach LOS		F			F			F			C	

Intersection Summary

HCM Average Control Delay	277.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		

- ! Phase conflict between lane groups.
- c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑		↑	↑↑		↑	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt		0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4522		1583	4516		1583	3142		1583	3167	
Flt Permitted		1.00		0.95	1.00		0.29	1.00		0.18	1.00	
Satd. Flow (perm)		4522		1583	4516		489	3142		303	3167	
Volume (vph)	0	1794	78	26	2894	154	261	907	50	76	488	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1888	82	27	3046	162	275	955	53	80	514	0
RTOR Reduction (vph)	0	4	0	0	6	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	1966	0	27	3202	0	275	1003	0	80	514	0
Turn Type				Prot			Perm			Perm		
Protected Phases		2!		5!	6			7			7	
Permitted Phases							7			7		
Actuated Green, G (s)		33.8		4.8	33.2		22.0	22.0		22.0	22.0	
Effective Green, g (s)		33.3		4.8	33.2		22.0	22.0		22.0	22.0	
Actuated g/C Ratio		0.37		0.05	0.37		0.24	0.24		0.24	0.24	
Clearance Time (s)		3.5		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	3.0	
Lane Grp Cap (vph)		1673		84	1666		120	768		74	774	
v/s Ratio Prot		0.43		c0.02	c0.71			0.32			0.16	
v/s Ratio Perm							c0.56			0.26		
v/c Ratio		1.17		0.32	1.92		2.29	1.31		1.08	0.66	
Uniform Delay, d1		28.4		41.0	28.4		34.0	34.0		34.0	30.7	
Progression Factor		0.29		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		79.3		2.2	417.2		606.7	147.3		128.5	4.5	
Delay (s)		87.5		43.2	445.6		640.7	181.3		162.5	35.1	
Level of Service		F		D	F		F	F		F	D	
Approach Delay (s)		87.5			442.3			279.8			52.3	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	281.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frbp, ped/bikes		1.00						0.97		1.00	1.00	
Flpb, ped/bikes		0.99						1.00		0.95	1.00	
Frt		1.00						0.94		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3124						2890		1507	3167	
Flt Permitted		1.00						1.00		0.64	1.00	
Satd. Flow (perm)		3124						2890		1013	3167	
Volume (vph)	16	237	5	0	0	0	0	93	62	59	431	0
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	19	276	6	0	0	0	0	108	72	69	501	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	53	0	0	0	0
Lane Group Flow (vph)	0	299	0	0	0	0	0	127	0	69	501	0
Confl. Peds. (#/hr)	51		52	52			51	5		55	55	
Confl. Bikes (#/hr)							3					5
Turn Type		Perm									Perm	
Protected Phases		2						4			4	
Permitted Phases		2									4	
Actuated Green, G (s)		17.0						17.0		17.0	17.0	
Effective Green, g (s)		16.0						16.0		16.0	16.0	
Actuated g/C Ratio		0.27						0.27		0.27	0.27	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Vehicle Extension (s)		5.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		833						771		270	845	
v/s Ratio Prot								0.04			c0.16	
v/s Ratio Perm		0.10								0.07		
v/c Ratio		0.36						0.16		0.26	0.59	
Uniform Delay, d1		17.8						16.9		17.3	19.2	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		1.2						0.5		2.3	3.1	
Delay (s)		19.0						17.3		19.6	22.2	
Level of Service		B						B		B	C	
Approach Delay (s)		19.0			0.0			17.3			21.9	
Approach LOS		B			A			B			C	
Intersection Summary												
HCM Average Control Delay			20.3					HCM Level of Service			C	
HCM Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		28.0		
Intersection Capacity Utilization			83.0%					ICU Level of Service		E		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖			↖↖↖		↖	↖		↖	↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00			0.99		1.00	0.90		1.00	1.00	0.78
Flpb, ped/bikes	1.00	1.00			1.00		0.84	1.00		1.00	1.00	1.00
Frt	1.00	1.00			1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4525			4511		1334	1420		1583	1667	1102
Flt Permitted	0.08	1.00			1.00		0.62	1.00		0.95	1.00	1.00
Satd. Flow (perm)	129	4525			4511		873	1420		1583	1667	1102
Volume (vph)	39	1271	14	0	2495	47	105	76	42	95	210	110
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	1324	15	0	2599	49	109	79	44	99	219	115
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	41	1338	0	0	2646	0	109	123	0	99	219	115
Conf. Peds. (#/hr)	244		131	131		244	166		211	211		166
Conf. Bikes (#/hr)			3			5			2			3
Turn Type	Perm			Perm			Prot			custom		
Protected Phases	2			6			8			7		
Permitted Phases	2						8			4 4		
Actuated Green, G (s)	52.8	52.8			52.8		21.0	21.0		7.2	31.2	31.2
Effective Green, g (s)	51.8	51.8			51.8		20.0	20.0		6.2	30.2	30.2
Actuated g/C Ratio	0.58	0.58			0.58		0.22	0.22		0.07	0.34	0.34
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	2604			2596		194	316		109	559	370
v/s Ratio Prot		0.30			c0.59			0.09		c0.06		
v/s Ratio Perm	0.32						c0.12				0.13	0.10
v/c Ratio	0.55	0.51			1.02		0.56	0.39		0.91	0.39	0.31
Uniform Delay, d1	11.9	11.5			19.1		31.1	29.8		41.6	22.9	22.2
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	26.7	0.7			22.7		11.3	3.6		57.4	2.1	2.2
Delay (s)	38.6	12.2			41.8		42.4	33.4		99.0	24.9	24.4
Level of Service	D	B			D		D	C		F	C	C
Approach Delay (s)		13.0			41.8			37.6			41.7	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	33.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	90.0	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			





























Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBR2	
Lane Configurations		↔	↔↔↔		↔	↔↔↔			↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00	0.91		1.00	0.91			1.00	
Frbp, ped/bikes		1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	
Frt		1.00	1.00		1.00	0.99			0.86	
Flt Protected		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)		1583	4521		1583	4483			1442	
Flt Permitted		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)		1583	4521		1583	4483			1442	
Volume (vph)	343	245	1323	36	568	1938	42	41	32	
Peak-hour factor, PHF	0.92	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92	
Adj. Flow (vph)	373	255	1378	38	592	2019	44	43	35	
RTOR Reduction (vph)	0	0	3	0	0	2	0	0	31	
Lane Group Flow (vph)	0	628	1413	0	592	2104	0	0	4	
Conf. Peds. (#/hr)	63	81		28	28		63	81	35	
Conf. Bikes (#/hr)				5			9	10	1	
Turn Type	Prot	Prot			Prot				custom	
Protected Phases	1	1	2		8	6			1	
Permitted Phases										
Actuated Green, G (s)		13.0	52.0		26.0	81.0			13.0	
Effective Green, g (s)		12.0	51.0		25.0	80.0			12.0	
Actuated g/C Ratio		0.12	0.51		0.25	0.80			0.12	
Clearance Time (s)		3.0	3.0		3.0	3.0			3.0	
Vehicle Extension (s)		2.5	5.0		3.0	5.0			2.5	
Lane Grp Cap (vph)		190	2306		396	3586			173	
v/s Ratio Prot		c0.40	0.31		c0.37	c0.47			0.00	
v/s Ratio Perm										
v/c Ratio		3.31	0.61		1.49	0.59			0.02	
Uniform Delay, d1		44.0	17.5		37.5	3.8			38.8	
Progression Factor		1.25	1.96		1.00	1.00			1.00	
Incremental Delay, d2		1038.6	0.1		235.7	0.7			0.0	
Delay (s)		1093.5	34.3		273.2	4.5			38.9	
Level of Service		F	C		F	A			D	
Approach Delay (s)			359.8			63.4				
Approach LOS			F			E				
Intersection Summary										
HCM Average Control Delay			190.1						HCM Level of Service	F
HCM Volume to Capacity ratio			1.18							
Actuated Cycle Length (s)			100.0						Sum of lost time (s)	8.0
Intersection Capacity Utilization			102.7%						ICU Level of Service	G
Analysis Period (min)			15							
c Critical Lane Group										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↖↗↘		↗	↖↗↘			↕	↗		↖↗↘	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	0.86	0.86		1.00	0.91			0.95	1.00		0.86	0.86
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	961	3014		1118	3193			2235	1000		3035	860
Flt Permitted	0.95	0.69		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)	961	2090		1118	3193			2235	1000		3035	860
Volume (vph)	744	1804	16	287	1859	76	0	985	184	0	1732	794
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	775	1879	17	299	1936	79	0	1026	192	0	1804	827
RTOR Reduction (vph)	0	1	0	0	4	0	0	0	136	0	0	319
Lane Group Flow (vph)	530	2140	0	299	2011	0	0	1026	56	0	1804	508
Turn Type	Prot		Prot				Perm			Over		
Protected Phases	7	4		3	8			2			6	7
Permitted Phases							2					
Actuated Green, G (s)	20.9	36.4		20.9	36.4			28.4	28.4		28.4	20.9
Effective Green, g (s)	22.0	37.0		22.0	37.0			29.0	29.0		29.0	22.0
Actuated g/C Ratio	0.22	0.37		0.22	0.37			0.29	0.29		0.29	0.22
Clearance Time (s)	5.1	4.6		5.1	4.6			4.6	4.6		4.6	5.1
Vehicle Extension (s)	3.0	3.0		5.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	211	977		246	1181			648	290		880	189
v/s Ratio Prot	0.55	0.48		0.27	c0.63			0.46			c0.59	c0.59
v/s Ratio Perm	c0.33						0.06					
v/c Ratio	2.51	2.19		1.22	1.70			1.58	0.19		2.05	2.69
Uniform Delay, d1	39.0	31.5		39.0	31.5			35.5	26.7		35.5	39.0
Progression Factor	1.00	1.00		1.04	0.58			1.00	1.00		1.00	1.00
Incremental Delay, d2	694.2	539.2		100.5	316.4			269.8	1.5		476.5	774.4
Delay (s)	733.2	570.7		141.1	334.7			305.3	28.2		512.0	813.4
Level of Service	F	F		F	F			F	C		F	F
Approach Delay (s)	603.0		309.7				261.6			606.7		
Approach LOS	F		F				F			F		

Intersection Summary

HCM Average Control Delay	480.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.21		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	191.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt		0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3154		1118	3208		1118	2235	1000	1118	2127	
Flt Permitted		0.72		0.95	1.00		0.14	1.00	1.00	0.32	1.00	
Satd. Flow (perm)		2302		1118	3208		162	2235	1000	372	2127	
Volume (vph)	486	1323	65	247	1533	13	70	501	278	27	927	444
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	512	1393	68	260	1614	14	74	527	293	28	976	467
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	208	0	58	0
Lane Group Flow (vph)	0	1969	0	260	1627	0	74	527	85	28	1385	0
Turn Type	Prot		Prot		Perm		Perm		Perm			
Protected Phases	7	4		3	8			2				6
Permitted Phases							2		2		6	
Actuated Green, G (s)		36.4		20.9	36.4		28.4	28.4	28.4	28.4	28.4	
Effective Green, g (s)		37.0		22.0	37.0		29.0	29.0	29.0	29.0	29.0	
Actuated g/C Ratio		0.37		0.22	0.37		0.29	0.29	0.29	0.29	0.29	
Clearance Time (s)		4.6		5.1	4.6		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		5.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1039		246	1187		47	648	290	108	617	
v/s Ratio Prot		c0.42		0.23	c0.51			0.24			c0.65	
v/s Ratio Perm		c0.28					0.46		0.08	0.08		
v/c Ratio		1.90		1.06	1.37		1.57	0.81	0.29	0.26	2.25	
Uniform Delay, d1		31.5		39.0	31.5		35.5	33.0	27.5	27.3	35.5	
Progression Factor		0.62		0.92	1.38		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		403.2		67.5	171.4		338.6	10.7	2.6	5.7	565.7	
Delay (s)		422.6		103.6	215.0		374.1	43.7	30.1	33.0	601.2	
Level of Service		F		F	F		F	D	C	C	F	
Approach Delay (s)		422.6			199.7			66.6			590.4	
Approach LOS		F			F			E			F	
Intersection Summary												
HCM Average Control Delay			343.5			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.89									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			194.6%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.86	1.00	0.97	0.86	0.97	0.88
Frbp, ped/bikes		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
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)		4047	968	2168	4047	2168	1760
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		4047	968	2168	4047	2168	1760
Volume (vph)	0	1609	581	1218	2267	204	459
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1659	599	1256	2337	210	473
RTOR Reduction (vph)	0	0	49	0	0	0	339
Lane Group Flow (vph)	0	1659	550	1256	2337	210	134
Conf. Peds. (#/hr)			33	33			38
Conf. Bikes (#/hr)			14				1
Turn Type	Prot		pm+ov	Prot			Over
Protected Phases	1	6	4	3	2 3	4	3
Permitted Phases			6				
Actuated Green, G (s)		39.0	69.1	35.0	80.0	30.1	35.0
Effective Green, g (s)		41.0	74.0	34.0	79.0	33.0	34.0
Actuated g/C Ratio		0.34	0.62	0.28	0.66	0.28	0.28
Clearance Time (s)		6.0	6.9	3.0		6.9	3.0
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1383	629	614	2664	596	499
v/s Ratio Prot		c0.41	c0.24	c0.58	0.58	0.10	0.08
v/s Ratio Perm			0.33				
v/c Ratio		1.20	0.87	2.05	0.88	0.35	0.27
Uniform Delay, d1		39.5	19.1	43.0	16.6	34.9	33.4
Progression Factor		0.42	1.54	1.00	1.00	1.00	1.00
Incremental Delay, d2		92.8	5.6	476.2	3.6	0.4	0.3
Delay (s)		109.3	35.1	519.2	20.2	35.3	33.6
Level of Service		F	D	F	C	D	C
Approach Delay (s)		89.6			194.6	34.1	
Approach LOS		F			F	C	

Intersection Summary			
HCM Average Control Delay	141.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↖		↖	↑↑↑		↖	↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88				1.00	0.91			0.95	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1504	1504	2493				1583	4550			3167	1417
Flt Permitted	0.95	0.95	1.00				0.51	1.00			1.00	1.00
Satd. Flow (perm)	1504	1504	2493				851	4550			3167	1417
Volume (vph)	149	0	100	0	0	0	452	1210	0	0	326	579
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	169	0	114	0	0	0	514	1375	0	0	370	658
RTOR Reduction (vph)	0	0	96	0	0	0	0	0	0	0	0	473
Lane Group Flow (vph)	85	84	18	0	0	0	514	1375	0	0	370	185
Turn Type	Split	custom					pm+pt			Perm		Over
Protected Phases	4	4	7 1		3		5	2			6	4
Permitted Phases							2			6		
Actuated Green, G (s)	16.5	16.5	13.3				46.8	41.8			41.8	16.5
Effective Green, g (s)	17.1	17.1	13.9				48.0	43.0			43.0	17.1
Actuated g/C Ratio	0.19	0.19	0.15				0.53	0.48			0.48	0.19
Clearance Time (s)	4.6	4.6					4.0	5.2			5.2	4.6
Vehicle Extension (s)	3.0	3.0					3.0	3.2			3.4	3.0
Lane Grp Cap (vph)	286	286	385				495	2174			1513	269
v/s Ratio Prot	0.06	0.06	c0.01				c0.06	0.30			0.12	c0.13
v/s Ratio Perm							c0.50					
v/c Ratio	0.30	0.29	0.05				1.04	0.63			0.24	0.69
Uniform Delay, d1	31.3	31.3	32.4				20.0	17.6			13.9	34.0
Progression Factor	0.93	0.93	1.20				1.19	1.12			1.00	1.00
Incremental Delay, d2	0.8	0.8	0.0				46.3	1.1			0.4	13.4
Delay (s)	29.8	29.8	38.9				69.9	20.8			14.3	47.4
Level of Service	C	C	D				E	C			B	D
Approach Delay (s)		33.5			0.0			34.2			35.5	
Approach LOS		C			A			C			D	

Intersection Summary

HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	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			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑	↑↑↑		↑↑	↑↑	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		0.91	1.00		0.86		0.97	0.91		0.97	0.95	0.88
Frt		1.00	0.85		0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		4550	1417		5594		3072	4452		3072	3167	2493
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		4550	1417		5594		3072	4452		3072	3167	2493
Volume (vph)	0	2041	108	0	2938	568	444	569	95	471	492	381
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2083	110	0	2998	580	453	581	97	481	502	389
RTOR Reduction (vph)	0	0	50	0	39	0	0	2	0	0	0	3
Lane Group Flow (vph)	0	2083	60	0	3539	0	453	676	0	481	502	386
Turn Type		pm+ov					Prot			Prot		Perm
Protected Phases		6	3		2		3	8		7	4	
Permitted Phases		6										4
Actuated Green, G (s)		35.5	47.5		35.5		12.0	27.7		12.0	27.7	27.7
Effective Green, g (s)		37.0	49.0		37.0		12.0	29.0		12.0	29.0	29.0
Actuated g/C Ratio		0.41	0.54		0.41		0.13	0.32		0.13	0.32	0.32
Clearance Time (s)		5.5	4.0		5.5		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)		4.9	3.0		5.2		3.0	5.1		3.0	5.1	5.1
Lane Grp Cap (vph)		1871	834		2300		410	1435		410	1020	803
v/s Ratio Prot		0.46	0.01		c0.63		0.15	0.15		c0.16	c0.16	
v/s Ratio Perm			0.03									0.15
v/c Ratio		1.11	0.07		1.54		1.10	0.47		1.17	0.49	0.48
Uniform Delay, d1		26.5	9.7		26.5		39.0	24.4		39.0	24.6	24.5
Progression Factor		1.00	1.00		0.33		1.00	1.00		0.98	0.84	0.84
Incremental Delay, d2		59.1	0.0		242.6		75.9	1.1		100.9	0.8	1.0
Delay (s)		85.6	9.8		251.4		114.9	25.5		138.9	21.5	21.5
Level of Service		F	A		F		F	C		F	C	C
Approach Delay (s)		81.8			251.4			61.3			62.7	
Approach LOS		F			F			E			E	

Intersection Summary

HCM Average Control Delay	149.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⬇	↑↑↑	↗	↘↘	↑↑↑	↘↘↘	↗↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	0.97	0.91	0.94	0.88
Frbp, 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	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1118	4047	1000	2168	3212	3152	1760
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1118	4047	1000	2168	3212	3152	1760
Volume (vph)	8	1718	790	355	2059	269	475
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	8	1735	798	359	2080	272	480
RTOR Reduction (vph)	0	0	482	0	0	0	368
Lane Group Flow (vph)	8	1735	316	359	2080	272	112
Conf. Peds. (#/hr)			55	55		1	200
Conf. Bikes (#/hr)			15				7
Turn Type	Prot		Over	Prot		Over	
Protected Phases	1	6	8	5	2	8	5
Permitted Phases							
Actuated Green, G (s)	1.0	44.3	30.1	28.0	70.3	30.1	28.0
Effective Green, g (s)	2.0	47.0	33.0	28.0	73.0	33.0	28.0
Actuated g/C Ratio	0.02	0.39	0.28	0.23	0.61	0.28	0.23
Clearance Time (s)	5.0	6.7	6.9	4.0	6.7	6.9	4.0
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	19	1585	275	506	1954	867	411
v/s Ratio Prot	0.01	c0.43	c0.32	0.17	c0.65	0.09	0.06
v/s Ratio Perm							
v/c Ratio	0.42	1.09	1.15	0.71	1.06	0.31	0.27
Uniform Delay, d1	58.4	36.5	43.5	42.3	23.5	34.5	37.7
Progression Factor	0.48	1.35	5.67	1.10	1.30	1.00	1.00
Incremental Delay, d2	1.4	43.7	71.2	2.4	35.5	0.2	0.4
Delay (s)	29.6	93.1	317.7	48.8	66.0	34.7	38.0
Level of Service	C	F	F	D	E	C	D
Approach Delay (s)		163.4			63.5	36.8	
Approach LOS		F			E	D	

Intersection Summary			
HCM Average Control Delay	104.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙↗	↑↑↑	↗	↙↗	↑↑↑	↙↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Frbp, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.90	1.00	1.00	0.90	1.00	0.94	0.94
Flpb, ped/bikes	0.99	1.00	1.00	0.99	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	0.92	0.92
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1573	3167	1349	1560	3167	1278	3072	4550	1274	3072	3911	3911
Flt Permitted	0.26	1.00	1.00	0.32	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	437	3167	1349	519	3167	1278	3072	4550	1274	3072	3911	3911
Volume (vph)	102	746	161	229	537	74	258	1270	588	244	175	212
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	115	838	181	257	603	83	290	1427	661	274	197	238
RTOR Reduction (vph)	0	0	73	0	0	55	0	0	51	0	162	0
Lane Group Flow (vph)	115	838	108	257	603	28	290	1427	610	274	273	0
Confl. Peds. (#/hr)	91		51	51		91	88		76	76		88
Confl. Bikes (#/hr)			2						2			5
Turn Type	pm+pt		pm+ov	Perm		Perm	Prot		Perm	Prot		
Protected Phases	1	6	3		2		3	8		7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	38.8	38.8	49.9	28.5	28.5	28.5	11.1	26.2	26.2	11.0	26.1	26.1
Effective Green, g (s)	40.3	40.3	51.4	30.0	30.0	30.0	11.1	26.7	26.7	11.0	26.6	26.6
Actuated g/C Ratio	0.45	0.45	0.57	0.33	0.33	0.33	0.12	0.30	0.30	0.12	0.30	0.30
Clearance Time (s)	3.5	5.5	4.0	5.5	5.5	5.5	4.0	4.5	4.5	4.0	4.5	4.5
Vehicle Extension (s)	3.0	4.0	2.0	4.0	4.0	4.0	2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	275	1418	830	173	1056	426	379	1350	378	375	1156	1156
v/s Ratio Prot	0.03	c0.26	0.02		0.19		0.09	0.31		c0.09	0.07	
v/s Ratio Perm	0.16		0.06	c0.50		0.02			c0.48			
v/c Ratio	0.42	0.59	0.13	1.49	0.57	0.06	0.77	1.06	1.61	0.73	0.24	0.24
Uniform Delay, d1	15.9	18.7	8.9	30.0	24.7	20.4	38.2	31.6	31.6	38.1	24.0	24.0
Progression Factor	1.50	1.46	3.95	1.06	1.06	1.21	1.02	0.74	0.69	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.4	0.0	221.3	0.1	0.0	5.6	37.3	284.1	6.2	0.5	0.5
Delay (s)	24.3	27.6	35.3	253.2	26.3	24.8	44.6	60.7	305.9	44.3	24.5	24.5
Level of Service	C	C	D	F	C	C	D	E	F	D	C	C
Approach Delay (s)		28.5			88.0			126.9			32.1	
Approach LOS		C			F			F			C	

Intersection Summary			
HCM Average Control Delay	85.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↘	↕↕↕	↗	↘	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor					1.00	1.00	1.00	0.91	1.00	1.00	0.91	
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1583	1417	1583	4550	1417	1583	4550	
Flt Permitted					0.76	1.00	0.38	1.00	1.00	0.07	1.00	
Satd. Flow (perm)					1262	1417	628	4550	1417	111	4550	
Volume (vph)	0	0	0	152	0	249	2	1907	43	16	604	0
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	171	0	280	2	2143	48	18	679	0
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	16	0	0	0
Lane Group Flow (vph)	0	0	0	0	171	274	2	2143	32	18	679	0
Turn Type	Perm			Perm			Perm	Perm	Perm		Perm	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)					21.1	21.1	58.9	58.9	58.9	58.9	58.9	
Effective Green, g (s)					22.1	22.1	59.9	59.9	59.9	59.9	59.9	
Actuated g/C Ratio					0.25	0.25	0.67	0.67	0.67	0.67	0.67	
Clearance Time (s)					5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)					310	348	418	3028	943	74	3028	
v/s Ratio Prot								c0.47			0.15	
v/s Ratio Perm					0.14	c0.19	0.00		0.02	0.16		
v/c Ratio					0.55	0.79	0.00	0.71	0.03	0.24	0.22	
Uniform Delay, d1					29.6	31.8	5.0	9.5	5.1	6.0	5.9	
Progression Factor					1.00	1.00	0.45	0.69	0.36	1.01	1.02	
Incremental Delay, d2					2.1	11.2	0.0	0.9	0.0	5.7	0.1	
Delay (s)					31.7	42.9	2.3	7.5	1.9	11.8	6.2	
Level of Service					C	D	A	A	A	B	A	
Approach Delay (s)		0.0			38.7			7.3			6.3	
Approach LOS		A			D			A			A	

Intersection Summary

HCM Average Control Delay	11.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕	↗	↖	↕↕↕		↖↖	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	0.95	1.00	0.91		0.97	0.91	
Frt		0.92			0.93	0.85	1.00	0.99		1.00	0.97	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2855			1450	1346	1583	4483		3072	4411	
Flt Permitted		0.88			0.87	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2541			1280	1346	1583	4483		3072	4411	
Volume (vph)	5	2	9	84	36	419	57	1490	163	39	587	150
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	6	2	10	95	41	476	65	1693	185	44	667	170
RTOR Reduction (vph)	0	8	0	0	37	1	0	11	0	0	36	0
Lane Group Flow (vph)	0	10	0	0	207	367	65	1867	0	44	801	0
Turn Type	Perm		Perm		pm+ov		Prot		Prot			
Protected Phases	8		4		4	5	1	6	5		2	
Permitted Phases	8		4		4							
Actuated Green, G (s)	18.8				18.8	26.9	7.9	48.9	8.1		49.1	
Effective Green, g (s)	20.3				20.3	28.4	7.9	49.6	8.1		49.8	
Actuated g/C Ratio	0.23				0.23	0.32	0.09	0.55	0.09		0.55	
Clearance Time (s)	5.5				5.5	4.0	4.0	4.7	4.0		4.7	
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	573				289	485	139	2471	276		2441	
v/s Ratio Prot					c0.07		0.04	c0.42	0.01		0.18	
v/s Ratio Perm	0.00				0.16	0.20						
v/c Ratio	0.02				0.72	0.76	0.47	0.76	0.16		0.33	
Uniform Delay, d1	27.1				32.2	27.7	39.0	15.5	37.8		11.0	
Progression Factor	1.00				1.00	1.00	1.37	0.26	0.82		1.60	
Incremental Delay, d2	0.0				8.2	6.6	1.2	1.1	0.3		0.4	
Delay (s)	27.1				40.3	34.3	54.9	5.2	31.2		17.9	
Level of Service	C				D	C	D	A	C		B	
Approach Delay (s)	27.1				36.7		6.8				18.6	
Approach LOS	C				D		A				B	

Intersection Summary

HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔	↔		↔	↔↔	↔↔↔		↔	↔↔↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	1.00		1.00	0.95	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3072		1417	1583		1417	3072	4534		1583	4310	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3072		1417	1583		1417	3072	4534		1583	4310	
Volume (vph)	14	0	12	26	0	104	210	1616	38	14	436	236
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	17	0	15	32	0	128	259	1995	47	17	538	291
RTOR Reduction (vph)	0	0	13	0	0	84	0	2	0	0	97	0
Lane Group Flow (vph)	17	0	2	32	0	44	259	2040	0	17	732	0
Turn Type	Prot		custom	Prot		custom	Prot			Prot		
Protected Phases	3		3 5	4		1 4	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.8		13.8	20.3		31.8	10.0	41.4		6.6	38.0	
Effective Green, g (s)	4.7		13.9	21.2		31.0	9.2	42.3		5.8	38.9	
Actuated g/C Ratio	0.05		0.15	0.24		0.34	0.10	0.47		0.06	0.43	
Clearance Time (s)	4.9			4.9			3.2	4.9		3.2	4.9	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	160		219	373		488	314	2131		102	1863	
v/s Ratio Prot	c0.01		0.00	0.02		c0.03	c0.08	c0.45		0.01	0.17	
v/s Ratio Perm												
v/c Ratio	0.11		0.01	0.09		0.09	0.82	0.96		0.17	0.39	
Uniform Delay, d1	40.6		32.2	26.8		20.0	39.6	23.0		39.8	17.5	
Progression Factor	1.00		1.00	1.00		1.00	1.47	0.57		1.26	0.54	
Incremental Delay, d2	0.3		0.0	0.1		0.1	1.7	1.6		0.7	0.6	
Delay (s)	40.9		32.2	26.9		20.0	59.8	14.6		51.1	10.0	
Level of Service	D		C	C		C	E	B		D	B	
Approach Delay (s)		36.9			21.4			19.6			10.9	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑↑	↑↑↑↗		↖↗	↘↙
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.91	0.91		0.97	0.88
Frt	1.00	1.00	0.96		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3072	4550	4378		3072	2493
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3072	4550	4378		3072	2493
Volume (vph)	1335	1745	1602	541	118	229
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1483	1939	1780	601	131	254
RTOR Reduction (vph)	0	0	61	0	0	183
Lane Group Flow (vph)	1483	1939	2320	0	131	71
Turn Type	Prot					Prot
Protected Phases	5	2 5	6		4	4
Permitted Phases						
Actuated Green, G (s)	12.0	55.5	38.5		24.0	24.0
Effective Green, g (s)	13.0	57.0	40.0		25.0	25.0
Actuated g/C Ratio	0.14	0.63	0.44		0.28	0.28
Clearance Time (s)	5.0		5.5		5.0	5.0
Vehicle Extension (s)	2.0		3.0		3.0	3.0
Lane Grp Cap (vph)	444	2882	1946		853	693
v/s Ratio Prot	c0.48	0.43	c0.53		c0.04	0.03
v/s Ratio Perm						
v/c Ratio	3.34	0.67	1.19		0.15	0.10
Uniform Delay, d1	38.5	10.5	25.0		24.5	24.2
Progression Factor	1.00	1.00	1.00		1.39	3.96
Incremental Delay, d2	1058.8	1.3	92.0		0.1	0.1
Delay (s)	1097.3	11.8	117.0		34.2	95.6
Level of Service	F	B	F		C	F
Approach Delay (s)		482.2	117.0		74.7	
Approach LOS		F	F		E	

Intersection Summary

HCM Average Control Delay	316.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↑	↑↑↑	↑↑↑	↑
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	0.91
Frbp, 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	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3212	1000	2168	3212	2168	910
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3212	1000	2168	3212	2168	910
Volume (vph)	2502	895	242	2029	399	114
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2553	913	247	2070	407	116
RTOR Reduction (vph)	0	323	0	0	0	87
Lane Group Flow (vph)	2553	591	247	2070	407	29
Confl. Peds. (#/hr)		59	59		11	
Confl. Bikes (#/hr)		14				
Turn Type		Over	Prot			Perm
Protected Phases	6	4	5	2	4	
Permitted Phases						4
Actuated Green, G (s)	59.9	28.1	16.9	80.8	28.1	28.1
Effective Green, g (s)	61.1	30.0	16.9	82.0	30.0	30.0
Actuated g/C Ratio	0.51	0.25	0.14	0.68	0.25	0.25
Clearance Time (s)	5.2	5.9	4.0	5.2	5.9	5.9
Vehicle Extension (s)	3.7	3.8	1.0	3.5	3.8	3.8
Lane Grp Cap (vph)	1635	250	305	2195	542	228
v/s Ratio Prot	c0.79	c0.59	0.11	c0.64	0.19	
v/s Ratio Perm						0.03
v/c Ratio	1.56	2.36	0.81	0.94	0.75	0.13
Uniform Delay, d1	29.4	45.0	50.0	16.9	41.6	34.9
Progression Factor	1.61	1.59	1.29	0.51	1.00	1.00
Incremental Delay, d2	252.9	614.0	5.6	4.3	9.2	1.1
Delay (s)	300.3	685.8	70.0	12.9	50.8	36.0
Level of Service	F	F	E	B	D	D
Approach Delay (s)	401.8			19.0	47.5	
Approach LOS	F			B	D	

Intersection Summary

HCM Average Control Delay	231.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	117.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕	↖	↗	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	0.95	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3072	2493	3167	1417	1583	4550
Flt Permitted	0.95	1.00	1.00	1.00	0.52	1.00
Satd. Flow (perm)	3072	2493	3167	1417	872	4550
Volume (vph)	67	348	284	439	707	306
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	74	387	316	488	786	340
RTOR Reduction (vph)	0	335	0	11	0	0
Lane Group Flow (vph)	74	52	316	477	786	340
Turn Type		Perm		pm+ov	pm+pt	
Protected Phases	4		2	4	1	6
Permitted Phases		4		2	6	
Actuated Green, G (s)	11.6	11.6	55.4	67.0	68.4	68.4
Effective Green, g (s)	12.1	12.1	56.9	69.0	69.9	69.9
Actuated g/C Ratio	0.13	0.13	0.63	0.77	0.78	0.78
Clearance Time (s)	4.5	4.5	5.5	4.5	3.0	5.5
Vehicle Extension (s)	3.0	3.0	5.0	3.0	3.0	5.0
Lane Grp Cap (vph)	413	335	2002	1149	748	3534
v/s Ratio Prot	0.02		0.10	c0.06	c0.11	0.07
v/s Ratio Perm		0.02		0.28	c0.71	
v/c Ratio	0.18	0.16	0.16	0.42	1.05	0.10
Uniform Delay, d1	34.5	34.4	6.8	3.6	8.7	2.4
Progression Factor	0.72	2.16	0.11	2.83	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.0	0.0	47.0	0.1
Delay (s)	25.2	74.7	0.8	10.2	55.8	2.5
Level of Service	C	E	A	B	E	A
Approach Delay (s)	66.8		6.5			39.7
Approach LOS	E		A			D

Intersection Summary

HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
75: Olympic Blvd & Century Park West



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑↑	↑↑↑	↗	↖↗	↖↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
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)	3072	4550	4550	1417	3072	2493
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3072	4550	4550	1417	3072	2493
Volume (vph)	1152	3074	2107	202	16	125
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1188	3169	2172	208	16	129
RTOR Reduction (vph)	0	0	0	108	0	0
Lane Group Flow (vph)	1188	3169	2172	100	16	129
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	15.0	55.1	36.1	36.1	25.0	25.0
Effective Green, g (s)	15.0	56.3	37.3	37.3	25.7	25.7
Actuated g/C Ratio	0.17	0.63	0.41	0.41	0.29	0.29
Clearance Time (s)	4.0	5.2	5.2	5.2	4.7	4.7
Vehicle Extension (s)	3.0	4.8	4.6	4.6	3.0	3.0
Lane Grp Cap (vph)	512	2846	1886	587	877	712
v/s Ratio Prot	c0.39	c0.70	0.48		0.01	
v/s Ratio Perm				0.07		c0.05
v/c Ratio	2.32	1.11	1.15	0.17	0.02	0.18
Uniform Delay, d1	37.5	16.9	26.4	16.6	23.1	24.2
Progression Factor	1.55	0.77	1.00	1.00	0.88	0.93
Incremental Delay, d2	594.7	51.6	74.8	0.6	0.0	0.1
Delay (s)	652.9	64.6	101.2	17.2	20.4	22.5
Level of Service	F	E	F	B	C	C
Approach Delay (s)		225.0	93.9		22.3	
Approach LOS		F	F		C	

Intersection Summary

HCM Average Control Delay	175.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑		↘	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4550	1417	1583	4527		1583	3109		1583	3084	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.13	1.00		0.15	1.00	
Satd. Flow (perm)	1583	4550	1417	1583	4527		215	3109		247	3084	
Volume (vph)	137	2242	417	115	2741	94	154	976	136	115	978	206
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	138	2265	421	116	2769	95	156	986	137	116	988	208
RTOR Reduction (vph)	0	0	160	0	3	0	0	9	0	0	15	0
Lane Group Flow (vph)	138	2265	261	116	2861	0	156	1114	0	116	1181	0
Turn Type	Prot		Perm	Prot		pm+pt				Perm		
Protected Phases	1	6		5	2		3	8				4
Permitted Phases			6				8			4		
Actuated Green, G (s)	13.3	53.8	53.8	12.2	52.7		40.0	40.0		26.0	26.0	
Effective Green, g (s)	13.3	54.8	54.8	12.2	53.7		41.0	41.0		27.0	27.0	
Actuated g/C Ratio	0.11	0.46	0.46	0.10	0.45		0.34	0.34		0.22	0.22	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		3.5	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	175	2078	647	161	2026		187	1062		56	694	
v/s Ratio Prot	c0.09	0.50		0.07	c0.63		0.07	c0.36			0.38	
v/s Ratio Perm			0.18				0.21			c0.47		
v/c Ratio	0.79	1.09	0.40	0.72	1.41		0.83	1.05		2.07	1.70	
Uniform Delay, d1	52.0	32.6	21.7	52.2	33.1		55.9	39.5		46.5	46.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.51	1.44		1.00	1.00	
Incremental Delay, d2	19.2	49.1	1.9	12.6	188.5		3.0	24.8		537.8	322.1	
Delay (s)	71.1	81.7	23.6	64.8	221.7		87.6	81.6		584.3	368.6	
Level of Service	E	F	C	E	F		F	F		F	F	
Approach Delay (s)		72.6			215.6			82.3			387.7	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	174.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	130.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕↕↕	↖	↖↗	↕↕↕	↖	↖↗	↕↕	↖	↖↗	↕↕	↖
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Volume (vph)	72	2416	173	43	2105	220	99	1046	162	743	1249	76
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	73	2465	177	44	2148	224	101	1067	165	758	1274	78
RTOR Reduction (vph)	0	0	63	0	0	33	0	0	97	0	0	37
Lane Group Flow (vph)	73	2465	114	44	2148	191	101	1067	68	758	1274	41
Turn Type	Prot		Perm	Prot		pm+ov	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2	7	3	8		7		4
Permitted Phases			6			2			8			4
Actuated Green, G (s)	6.2	30.5	30.5	8.0	32.3	54.3	9.5	39.6	39.6	22.0	52.1	52.1
Effective Green, g (s)	6.2	32.0	32.0	8.0	33.8	55.8	9.5	42.0	42.0	22.0	54.5	54.5
Actuated g/C Ratio	0.05	0.27	0.27	0.07	0.28	0.46	0.08	0.35	0.35	0.18	0.45	0.45
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	4.0	4.0	6.4	6.4	4.0	6.4	6.4
Vehicle Extension (s)	2.0	4.5	4.5	2.0	5.2	2.0	2.0	4.7	4.7	2.0	4.7	4.7
Lane Grp Cap (vph)	112	857	267	145	905	465	172	782	350	397	1015	454
v/s Ratio Prot	0.03	c0.77		0.02	c0.67	0.08	0.05	c0.48		c0.35	0.57	
v/s Ratio Perm			0.11			0.12			0.07			0.04
v/c Ratio	0.65	2.88	0.43	0.30	2.37	0.41	0.59	1.36	0.19	1.91	1.26	0.09
Uniform Delay, d1	55.8	44.0	36.4	53.3	43.1	21.2	53.4	39.0	27.2	49.0	32.8	18.6
Progression Factor	1.21	1.64	2.57	0.91	0.93	0.69	1.00	1.00	1.00	0.78	0.66	0.18
Incremental Delay, d2	0.9	844.6	0.5	0.2	619.4	0.1	3.3	172.2	0.5	412.5	117.8	0.1
Delay (s)	68.8	916.8	94.0	48.9	659.7	14.7	56.6	211.2	27.7	450.6	139.5	3.4
Level of Service	E	F	F	D	F	B	E	F	C	F	F	A
Approach Delay (s)		840.4			588.8			176.8			246.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	520.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	163.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	0.86		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		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)	1583	4550	1417	1583	5732		1583	3167	1417	1583	3167	1417
Flt Permitted	0.12	1.00	1.00	0.12	1.00		0.26	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	198	4550	1417	202	5732		427	3167	1417	215	3167	1417
Volume (vph)	279	3371	99	33	2453	5	55	936	248	321	922	307
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	282	3405	100	33	2478	5	56	945	251	324	931	310
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	4	0	0	0
Lane Group Flow (vph)	282	3405	65	33	2483	0	56	945	247	324	931	310
Turn Type	pm+pt		Perm	pm+pt		Perm		pm+ov	pm+pt		pm+ov	
Protected Phases	1	6		5	2			8	5	7	4	1
Permitted Phases	6		6	2		8	8	8	4			4
Actuated Green, G (s)	40.2	33.2	33.2	38.8	32.5	25.5	25.5	31.8	36.5	36.5	43.5	
Effective Green, g (s)	40.7	33.7	33.7	39.3	33.0	27.0	27.0	33.3	38.0	38.0	45.0	
Actuated g/C Ratio	0.45	0.37	0.37	0.44	0.37	0.30	0.30	0.37	0.42	0.42	0.50	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5	5.5	5.5	4.0	4.0	5.5	4.0	
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0	5.0	5.0	3.0	3.0	5.0	3.0	
Lane Grp Cap (vph)	197	1704	531	185	2102	128	950	587	197	1337	771	
v/s Ratio Prot	c0.11	c0.75		0.01	0.43		0.30	0.03	c0.13	0.29	0.03	
v/s Ratio Perm	0.54		0.05	0.07		0.13		0.15	c0.57		0.19	
v/c Ratio	1.43	2.00	0.12	0.18	1.18	0.44	0.99	0.42	1.64	0.70	0.40	
Uniform Delay, d1	43.7	28.1	18.5	20.6	28.5	25.4	31.4	21.2	22.1	21.3	14.1	
Progression Factor	1.51	0.68	0.19	0.31	0.32	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	196.9	449.4	0.0	0.0	82.1	4.9	27.8	0.5	311.8	2.0	0.3	
Delay (s)	262.7	468.6	3.6	6.5	91.1	30.3	59.2	21.6	333.9	23.3	14.4	
Level of Service	F	F	A	A	F	C	E	C	F	C	B	
Approach Delay (s)		441.0			90.0		50.4				85.9	
Approach LOS		F			F		D				F	

Intersection Summary

HCM Average Control Delay	229.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	139.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖		↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1583	3069		1583	3158		1504	1581	1417		1641	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1583	3069		1583	3158		1504	1581	1417		1641	
Volume (vph)	22	978	254	650	1328	24	183	182	125	35	153	10
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	24	1087	282	722	1476	27	203	202	139	39	170	11
RTOR Reduction (vph)	0	19	0	0	1	0	0	0	86	0	0	0
Lane Group Flow (vph)	24	1350	0	722	1502	0	197	208	53	0	220	0
Turn Type	Prot		Prot		Split		pm+ov		Split			
Protected Phases	1	6		5	2		3	3	5		4	4
Permitted Phases									3			
Actuated Green, G (s)	3.6	36.1		36.2	68.7		10.0	10.0	46.2		20.0	
Effective Green, g (s)	2.6	36.9		35.2	69.5		10.9	10.9	46.1		21.0	
Actuated g/C Ratio	0.02	0.31		0.29	0.58		0.09	0.09	0.38		0.18	
Clearance Time (s)	3.0	4.8		3.0	4.8		4.9	4.9	3.0		5.0	
Vehicle Extension (s)	3.0	6.0		3.0	6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	34	944		464	1829		137	144	592		287	
v/s Ratio Prot	0.02	c0.44		c0.46	0.48		0.13	c0.13	0.03		c0.13	
v/s Ratio Perm									0.01			
v/c Ratio	0.71	1.43		1.56	0.82		1.44	1.44	0.09		0.77	
Uniform Delay, d1	58.3	41.5		42.4	20.3		54.5	54.5	23.6		47.2	
Progression Factor	0.82	0.86		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	5.9	194.3		260.6	4.3		233.5	234.6	0.1		11.6	
Delay (s)	53.5	229.8		303.0	24.6		288.0	289.2	23.6		58.7	
Level of Service	D	F		F	C		F	F	C		E	
Approach Delay (s)		226.7			114.9			220.9			58.7	
Approach LOS		F			F			F			E	

Intersection Summary

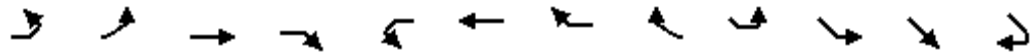
HCM Average Control Delay	160.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	115.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↖	↖		↖	↖		↖	↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	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	0.90		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1504	1513	1417	1583	1493		1583	1657		1583	1667	1417
Flt Permitted	0.72	0.70	1.00	0.95	1.00		0.23	1.00		0.26	1.00	1.00
Satd. Flow (perm)	1141	1109	1417	1583	1493		383	1657		434	1667	1417
Volume (vph)	261	10	36	17	17	38	80	528	21	54	583	291
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	266	10	37	17	17	39	82	539	21	55	595	297
RTOR Reduction (vph)	0	0	32	0	30	0	0	2	0	0	0	162
Lane Group Flow (vph)	133	143	5	17	26	0	82	558	0	55	595	135
Turn Type	Perm		Perm	Split			Perm			Perm		Perm
Protected Phases		4		3	3			2			2	
Permitted Phases	4		4				2			2		2
Actuated Green, G (s)	10.0	10.0	10.0	17.0	17.0		32.6	32.6		32.6	32.6	32.6
Effective Green, g (s)	11.0	11.0	11.0	18.0	18.0		34.0	34.0		34.0	34.0	34.0
Actuated g/C Ratio	0.15	0.15	0.15	0.24	0.24		0.45	0.45		0.45	0.45	0.45
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	167	163	208	380	358		174	751		197	756	642
v/s Ratio Prot				0.01	c0.02			0.34			c0.36	
v/s Ratio Perm	0.12	c0.13	0.00				0.21			0.13		0.10
v/c Ratio	0.80	0.88	0.03	0.04	0.07		0.47	0.74		0.28	0.79	0.21
Uniform Delay, d1	30.9	31.3	27.4	21.9	22.0		14.3	16.9		12.8	17.4	12.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	22.5	37.3	0.1	0.2	0.4		8.9	6.6		3.5	8.1	0.7
Delay (s)	53.5	68.7	27.5	22.1	22.4		23.1	23.5		16.3	25.5	13.1
Level of Service	D	E	C	C	C		C	C		B	C	B
Approach Delay (s)		57.3			22.4			23.4			21.1	
Approach LOS		E			C			C			C	

Intersection Summary

HCM Average Control Delay	27.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	SEL2	SEL	SET	SER
Lane Configurations			↕	↗		↕↗				↘	↕↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0		4.0				4.0	4.0	
Lane Util. Factor			1.00	1.00		0.95				1.00	0.95	
Frt			1.00	0.85		0.99				1.00	0.99	
Flt Protected			0.99	1.00		0.98				0.95	1.00	
Satd. Flow (prot)			1165	1000		2163				1583	3132	
Flt Permitted			0.78	1.00		0.66				0.46	1.00	
Satd. Flow (perm)			921	1000		1451				771	3132	
Volume (vph)	19	46	272	10	285	362	41	20	4	34	295	23
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	20	47	280	10	294	373	42	21	4	35	304	24
RTOR Reduction (vph)	0	0	0	5	0	3	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	347	5	0	727	0	0	0	39	320	0
Turn Type		Perm		Perm	Perm				Perm	Perm		
Protected Phases			6			2					4	
Permitted Phases		6		6	2				4	4		
Actuated Green, G (s)			34.0	34.0		34.0				30.0	30.0	
Effective Green, g (s)			36.0	36.0		36.0				31.0	31.0	
Actuated g/C Ratio			0.48	0.48		0.48				0.41	0.41	
Clearance Time (s)			6.0	6.0		6.0				5.0	5.0	
Vehicle Extension (s)			3.0	3.0		3.0				3.0	3.0	
Lane Grp Cap (vph)			442	480		696				319	1295	
v/s Ratio Prot											0.10	
v/s Ratio Perm			0.38	0.00		c0.50				0.05		
v/c Ratio			0.79	0.01		1.09dl				0.12	0.25	
Uniform Delay, d1			16.3	10.2		19.5				13.6	14.4	
Progression Factor			1.04	1.40		1.00				1.00	1.00	
Incremental Delay, d2			10.7	0.0		46.5				0.8	0.5	
Delay (s)			27.7	14.3		66.0				14.4	14.8	
Level of Service			C	B		E				B	B	
Approach Delay (s)			27.3			66.0					14.8	
Approach LOS			C			E					B	

Intersection Summary

HCM Average Control Delay	32.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	119.4%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	NWL	NWT	NWR	NWR2
Lane Configurations	↶	↗	↶	
Ideal Flow (vphpl)	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1583	1667	1417	
Flt Permitted	0.54	1.00	1.00	
Satd. Flow (perm)	903	1667	1417	
Volume (vph)	142	313	190	349
Peak-hour factor, PHF	0.97	0.97	0.97	0.97
Adj. Flow (vph)	146	323	196	360
RTOR Reduction (vph)	0	0	88	0
Lane Group Flow (vph)	146	323	468	0
Turn Type	Perm		Perm	
Protected Phases		8		
Permitted Phases	8		8	
Actuated Green, G (s)	30.0	30.0	30.0	
Effective Green, g (s)	31.0	31.0	31.0	
Actuated g/C Ratio	0.41	0.41	0.41	
Clearance Time (s)	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	
Lane Grp Cap (vph)	373	689	586	
v/s Ratio Prot		0.19		
v/s Ratio Perm	0.16		c0.33	
v/c Ratio	0.39	0.47	0.80	
Uniform Delay, d1	15.4	16.0	19.3	
Progression Factor	0.87	0.86	0.96	
Incremental Delay, d2	0.3	0.2	1.1	
Delay (s)	13.6	14.0	19.6	
Level of Service	B	B	B	
Approach Delay (s)		16.9		
Approach LOS		B		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86			1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.98			0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	1.00
Satd. Flow (prot)	2168	3974		1118	3965			1153		1118	1176	1000
Flt Permitted	0.95	1.00		0.05	1.00			0.93		0.15	1.00	1.00
Satd. Flow (perm)	2168	3974		54	3965			1069		179	1176	1000
Volume (vph)	195	2367	323	86	2627	408	9	326	53	45	285	263
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	197	2391	326	87	2654	412	9	329	54	45	288	266
RTOR Reduction (vph)	0	16	0	0	12	0	0	4	0	0	0	0
Lane Group Flow (vph)	197	2701	0	87	3054	0	0	388	0	45	288	266
Turn Type	Prot		Perm		Perm		Perm		Perm		pm+ov	
Protected Phases	5	2			6			4			4	5
Permitted Phases				6			4			4		4
Actuated Green, G (s)	18.5	109.0		86.5	86.5			32.0		32.0	32.0	50.5
Effective Green, g (s)	18.5	109.0		86.5	86.5			33.0		33.0	33.0	51.5
Actuated g/C Ratio	0.12	0.73		0.58	0.58			0.22		0.22	0.22	0.34
Clearance Time (s)	4.0	4.0		4.0	4.0			5.0		5.0	5.0	4.0
Vehicle Extension (s)	1.5	4.0		4.0	4.0			3.0		3.0	3.0	1.5
Lane Grp Cap (vph)	267	2888		31	2286			235		39	259	370
v/s Ratio Prot	0.09	c0.68			0.77						0.24	0.09
v/s Ratio Perm				c1.60				c0.36		0.25		0.18
v/c Ratio	0.74	0.94		2.81	1.34			1.65		1.15	1.11	0.72
Uniform Delay, d1	63.4	17.5		31.8	31.8			58.5		58.5	58.5	42.9
Progression Factor	1.38	0.51		1.00	1.00			1.00		1.09	1.09	0.95
Incremental Delay, d2	0.8	0.8		894.8	154.2			311.4		175.0	82.8	4.3
Delay (s)	88.5	9.7		926.6	185.9			369.9		238.6	146.4	45.0
Level of Service	F	A		F	F			F		F	F	D
Approach Delay (s)		15.0			206.4			369.9			108.3	
Approach LOS		B			F			F			F	

Intersection Summary

HCM Average Control Delay	128.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.28		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	139.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00	0.57	1.00	1.00	0.88
Flpb, ped/bikes	0.96	1.00		0.99	1.00		0.94	1.00	1.00	0.75	1.00	1.00
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1520	1553		1570	1651		1495	3167	801	1192	3167	1248
Flt Permitted	0.62	1.00		0.44	1.00		0.45	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	988	1553		729	1651		705	3167	801	533	3167	1248
Volume (vph)	99	176	94	174	211	10	44	458	145	40	427	59
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	101	180	96	178	215	10	45	467	148	41	436	60
RTOR Reduction (vph)	0	26	0	0	2	0	0	0	81	0	0	38
Lane Group Flow (vph)	101	250	0	178	223	0	45	467	67	41	436	22
Conf. Peds. (#/hr)	66		43	43		66	111		339	339		111
Conf. Bikes (#/hr)			4			6			18			1
Turn Type	Perm			pm+pt			Perm		pm+ov	Perm		Perm
Protected Phases		6		5	2			8	5		4	
Permitted Phases	6			2			8	8	4			4
Actuated Green, G (s)	27.6	27.6		37.6	37.6		27.0	27.0	33.5	27.0	27.0	27.0
Effective Green, g (s)	29.0	29.0		39.0	39.0		28.0	28.0	34.0	28.0	28.0	28.0
Actuated g/C Ratio	0.39	0.39		0.52	0.52		0.37	0.37	0.45	0.37	0.37	0.37
Clearance Time (s)	5.4	5.4		3.5	5.4		5.0	5.0	3.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	382	600		446	859		263	1182	406	199	1182	466
v/s Ratio Prot		0.16		c0.03	0.13			c0.15	0.01		0.14	
v/s Ratio Perm	0.10			c0.18			0.06		0.07	0.08		0.02
v/c Ratio	0.26	0.42		0.40	0.26		0.17	0.40	0.17	0.21	0.37	0.05
Uniform Delay, d1	15.7	16.8		10.3	10.0		15.7	17.3	12.1	16.0	17.1	15.0
Progression Factor	1.10	1.14		1.00	1.00		1.81	1.84	4.72	1.00	1.00	1.00
Incremental Delay, d2	1.6	2.1		0.6	0.7		1.2	0.9	0.2	2.3	0.9	0.2
Delay (s)	19.0	21.2		10.9	10.7		29.8	32.7	57.3	18.3	18.0	15.2
Level of Service	B	C		B	B		C	C	E	B	B	B
Approach Delay (s)		20.6			10.8			38.0			17.7	
Approach LOS		C			B			D			B	

Intersection Summary			
HCM Average Control Delay	23.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕			↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95			0.95	1.00
Frbp, ped/bikes		1.00	1.00		0.96		1.00	0.95			1.00	0.30
Flpb, ped/bikes		0.93	1.00		0.92		0.81	1.00			0.95	1.00
Frt		1.00	0.85		0.98		1.00	0.99			1.00	0.85
Flt Protected		0.99	1.00		0.99		0.95	1.00			0.99	1.00
Satd. Flow (prot)		1528	1417		1438		1289	2964			2956	420
Flt Permitted		0.87	1.00		0.93		0.27	1.00			0.60	1.00
Satd. Flow (perm)		1353	1417		1348		368	2964			1809	420
Volume (vph)	56	137	33	31	125	21	105	612	50	187	549	21
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	60	147	35	33	134	23	113	658	54	201	590	23
RTOR Reduction (vph)	0	0	35	0	1	0	0	3	0	0	0	8
Lane Group Flow (vph)	0	207	0	0	189	0	113	709	0	0	791	15
Confl. Peds. (#/hr)	570		715	715		570	814		795	795		814
Confl. Bikes (#/hr)			9			12			43			28
Turn Type	Perm		NA	Perm			Perm			Perm		Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		2
Actuated Green, G (s)		30.5	0.0		30.5		34.1	34.1			34.1	34.1
Effective Green, g (s)		32.0	0.0		32.0		35.0	35.0			35.0	35.0
Actuated g/C Ratio		0.43	0.00		0.43		0.47	0.47			0.47	0.47
Clearance Time (s)		5.5			5.5		4.9	4.9			4.9	4.9
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		577	0		575		172	1383			844	196
v/s Ratio Prot								0.24				
v/s Ratio Perm		c0.15			0.14		0.31				c0.44	0.04
v/c Ratio		0.36	0.00		0.33		0.66	0.51			1.06dl	0.08
Uniform Delay, d1		14.6	37.5		14.3		15.4	14.0			19.0	11.1
Progression Factor		1.00	1.00		1.00		1.00	1.00			0.95	0.85
Incremental Delay, d2		1.7	0.0		1.5		18.0	1.4			18.4	0.7
Delay (s)		16.3	37.5		15.9		33.3	15.4			36.4	10.2
Level of Service		B	D		B		C	B			D	B
Approach Delay (s)		19.4			15.9			17.8			35.7	
Approach LOS		B			B			B			D	

Intersection Summary

HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.8%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕	↗		↕↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			0.95	1.00		0.95	
Frbp, ped/bikes		0.85			0.98			1.00	0.67		0.98	
Flpb, ped/bikes		0.99			0.93			1.00	1.00		1.00	
Frt		0.93			0.99			1.00	0.85		0.99	
Flt Protected		1.00			0.98			1.00	1.00		1.00	
Satd. Flow (prot)		1741			1969			2235	668		2186	
Flt Permitted		0.89			0.63			1.00	1.00		0.93	
Satd. Flow (perm)		1563			1276			2235	668		2040	
Volume (vph)	24	177	189	246	267	33	0	949	270	9	451	20
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	24	181	193	251	272	34	0	968	276	9	460	20
RTOR Reduction (vph)	0	25	0	0	3	0	0	0	99	0	2	0
Lane Group Flow (vph)	0	373	0	0	554	0	0	968	177	0	487	0
Conf. Peds. (#/hr)	138		216	216		138	330		211	211		330
Conf. Bikes (#/hr)			2			2			16			3
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			4			2				2
Permitted Phases	4			4			2		2	2		
Actuated Green, G (s)		68.5			68.5			71.0	71.0			71.0
Effective Green, g (s)		70.0			70.0			72.0	72.0			72.0
Actuated g/C Ratio		0.47			0.47			0.48	0.48			0.48
Clearance Time (s)		5.5			5.5			5.0	5.0			5.0
Vehicle Extension (s)		3.0			3.0			3.0	3.0			3.0
Lane Grp Cap (vph)		729			595			1073	321			979
v/s Ratio Prot								c0.43				
v/s Ratio Perm		0.24			c0.43				0.27			0.24
v/c Ratio		0.51			1.14dl			0.90	0.55			0.50
Uniform Delay, d1		28.0			37.7			35.8	27.6			26.6
Progression Factor		0.76			1.19			1.57	2.99			1.00
Incremental Delay, d2		0.2			15.1			1.4	0.6			1.8
Delay (s)		21.6			59.9			57.5	83.1			28.4
Level of Service		C			E			E	F			C
Approach Delay (s)		21.6			59.9			63.1				28.4
Approach LOS		C			E			E				C

Intersection Summary

HCM Average Control Delay	50.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.6%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.97	0.86		0.97	0.86		1.00	0.91		1.00	0.86	0.86
Frbp, ped/bikes	1.00	0.94		1.00	0.99		1.00	0.92		1.00	0.99	0.84
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.92	1.00	1.00
Frt	1.00	0.97		1.00	0.99		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	2168	3687		2168	3962		1097	2866		1029	3009	726
Flt Permitted	0.95	1.00		0.95	1.00		0.23	1.00		0.25	1.00	1.00
Satd. Flow (perm)	2168	3687		2168	3962		264	2866		270	3009	726
Volume (vph)	403	2705	688	224	2549	121	413	666	203	58	533	280
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	424	2847	724	236	2683	127	435	701	214	61	561	295
RTOR Reduction (vph)	0	31	0	0	4	0	0	36	0	0	2	1
Lane Group Flow (vph)	424	3540	0	236	2806	0	435	879	0	61	570	283
Conf. Peds. (#/hr)	217		162	162		217	210		236	236		210
Conf. Bikes (#/hr)			3			2			13			5
Turn Type	Prot			Prot			pm+pt			Perm		pm+ov
Protected Phases	5	2		1	6		3	8			4	4
Permitted Phases							8			4		4
Actuated Green, G (s)	32.1	76.5		13.0	57.4		45.1	45.1		31.1	31.1	63.2
Effective Green, g (s)	32.1	78.0		13.0	58.9		47.0	47.0		33.0	33.0	65.1
Actuated g/C Ratio	0.21	0.52		0.09	0.39		0.31	0.31		0.22	0.22	0.43
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	5.9		5.9	5.9	4.0
Vehicle Extension (s)	2.0	4.0		2.0	4.0		3.0	2.0		2.0	2.0	2.0
Lane Grp Cap (vph)	464	1917		188	1556		138	898		59	662	334
v/s Ratio Prot	0.20	c0.96		0.11	c0.71		c0.21	0.31			0.19	0.18
v/s Ratio Perm							c0.77			0.23		0.21
v/c Ratio	0.91	1.85		1.26	1.80		3.15	0.98		1.03	0.86	0.85
Uniform Delay, d1	57.6	36.0		68.5	45.5		47.9	51.0		58.5	56.3	38.0
Progression Factor	1.25	1.16		0.81	0.72		1.00	1.00		1.03	1.03	1.17
Incremental Delay, d2	2.9	381.2		119.0	361.7		987.2	24.4		113.7	8.8	14.1
Delay (s)	74.8	423.1		174.7	394.5		1035.1	75.4		174.0	66.8	58.7
Level of Service	E	F		F	F		F	E		F	E	E
Approach Delay (s)		386.2			377.4			384.7			71.4	
Approach LOS		F			F			F			E	

Intersection Summary

HCM Average Control Delay	352.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.23		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	167.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.95		1.00	0.95	
Frt		0.97			0.93		1.00	0.95		1.00	1.00	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1115			1075		1118	2127		1118	2228	
Flt Permitted		0.67			0.75		0.18	1.00		0.15	1.00	
Satd. Flow (perm)		764			829		213	2127		181	2228	
Volume (vph)	133	61	48	180	22	191	42	1250	599	350	936	21
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	137	63	49	186	23	197	43	1289	618	361	965	22
RTOR Reduction (vph)	0	15	0	0	11	0	0	96	0	0	3	0
Lane Group Flow (vph)	0	234	0	0	395	0	43	1811	0	361	984	0
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		4		4		4		2		2		2
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		25.0			25.0		25.6	25.6		25.6	25.6	
Effective Green, g (s)		26.0			26.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio		0.43			0.43		0.43	0.43		0.43	0.43	
Clearance Time (s)		5.0			5.0		4.4	4.4		4.4	4.4	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		331			359		92	922		78	965	
v/s Ratio Prot								0.85			0.44	
v/s Ratio Perm		0.31			c0.48		0.20			c1.99		
v/c Ratio		0.71			1.10		0.47	1.96		4.63	1.02	
Uniform Delay, d1		13.9			17.0		12.1	17.0		17.0	17.0	
Progression Factor		1.00			1.00		0.29	0.19		1.00	1.00	
Incremental Delay, d2		6.8			77.5		1.5	434.1		1661.6	34.1	
Delay (s)		20.7			94.5		5.1	437.4		1678.6	51.1	
Level of Service		C			F		A	F		F	D	
Approach Delay (s)		20.7			94.5			427.9			486.9	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	388.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.85		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	167.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.98		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	1123		1118	1154		1118	2223		1118	2211	
Flt Permitted	0.33	1.00		0.33	1.00		0.15	1.00		0.15	1.00	
Satd. Flow (perm)	386	1123		386	1154		174	2223		174	2211	
Volume (vph)	193	315	136	52	394	58	103	1586	61	22	989	77
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	201	328	142	54	410	60	107	1652	64	23	1030	80
RTOR Reduction (vph)	0	26	0	0	4	0	0	4	0	0	9	0
Lane Group Flow (vph)	201	444	0	54	466	0	107	1712	0	23	1101	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		4		4		2		2		2	
Permitted Phases	4		4		2		2		2		2	
Actuated Green, G (s)	23.4	23.4		23.4	23.4		26.5	26.5		26.5	26.5	
Effective Green, g (s)	25.0	25.0		25.0	25.0		27.0	27.0		27.0	27.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.45	0.45		0.45	0.45	
Clearance Time (s)	5.6	5.6		5.6	5.6		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)	161	468		161	481		78	1000		78	995	
v/s Ratio Prot		0.40			0.40			c0.77			0.50	
v/s Ratio Perm	c0.52			0.14			0.61			0.13		
v/c Ratio	1.25	0.95		0.34	0.97		1.37	1.71		0.29	1.11	
Uniform Delay, d1	17.5	16.9		11.9	17.1		16.5	16.5		10.5	16.5	
Progression Factor	0.60	0.54		1.00	1.00		2.37	2.46		0.45	0.56	
Incremental Delay, d2	116.6	4.8		1.2	32.7		174.6	320.6		0.9	49.4	
Delay (s)	127.2	13.9		13.1	49.8		213.7	361.2		5.6	58.6	
Level of Service	F	B		B	D		F	F		A	E	
Approach Delay (s)		47.8			46.0			352.5			57.5	
Approach LOS		D			D			F			E	

Intersection Summary

HCM Average Control Delay	184.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	149.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↔↔↔	↔		↔↔	↔↔↔	↔	↔	↔↔		↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		0.97	0.91	1.00		0.97	0.91	1.00	1.00	0.95		1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		3072	4550	1417		3072	4550	1417	1583	3154		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (perm)		3072	4550	1417		3072	4550	1417	1583	3154		1583
Volume (vph)	2	127	2552	84	49	154	2221	302	151	1344	37	210
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2	131	2631	87	51	159	2290	311	156	1386	38	216
RTOR Reduction (vph)	0	0	0	29	0	0	0	78	0	2	0	0
Lane Group Flow (vph)	0	133	2631	58	0	210	2290	233	156	1422	0	216
Turn Type	Prot	Prot	pm+ov		Prot	Prot	pm+ov		Prot			Prot
Protected Phases	1	1	6	3	5	5	2	7	3	8		7
Permitted Phases			6				2					
Actuated Green, G (s)		10.5	32.1	44.1		13.4	35.0	47.0	12.0	42.3		12.0
Effective Green, g (s)		10.5	33.6	45.6		13.4	36.5	48.5	12.0	45.0		12.0
Actuated g/C Ratio		0.09	0.28	0.38		0.11	0.30	0.40	0.10	0.38		0.10
Clearance Time (s)		4.0	5.5	4.0		4.0	5.5	4.0	4.0	6.7		4.0
Vehicle Extension (s)		3.0	5.0	3.0		3.0	5.0	3.0	3.0	4.0		3.0
Lane Grp Cap (vph)		269	1274	586		343	1384	620	158	1183		158
v/s Ratio Prot		0.04	c0.58	0.01		c0.07	c0.50	0.04	0.10	c0.45		c0.14
v/s Ratio Perm				0.03				0.13				
v/c Ratio		0.49	2.07	0.10		0.61	1.65	0.38	0.99	1.20		1.37
Uniform Delay, d1		52.2	43.2	24.0		50.8	41.8	25.1	53.9	37.5		54.0
Progression Factor		0.59	1.31	2.64		0.44	0.89	1.54	1.00	1.00		1.03
Incremental Delay, d2		0.1	479.6	0.0		0.3	294.9	0.0	67.2	99.3		168.9
Delay (s)		30.9	536.2	63.3		22.8	332.0	38.6	121.1	136.8		224.5
Level of Service		C	F	E		C	F	D	F	F		F
Approach Delay (s)		498.2				276.5			135.2			
Approach LOS		F				F			F			

Intersection Summary

HCM Average Control Delay	292.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	130.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3167	1417
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3167	1417
Volume (vph)	962	76
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	992	78
RTOR Reduction (vph)	0	49
Lane Group Flow (vph)	992	29
Turn Type		Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	42.3	42.3
Effective Green, g (s)	45.0	45.0
Actuated g/C Ratio	0.38	0.38
Clearance Time (s)	6.7	6.7
Vehicle Extension (s)	4.0	4.0
Lane Grp Cap (vph)	1188	531
v/s Ratio Prot	0.31	
v/s Ratio Perm		0.02
v/c Ratio	0.84	0.06
Uniform Delay, d1	34.1	23.9
Progression Factor	0.85	1.31
Incremental Delay, d2	0.5	0.0
Delay (s)	29.6	31.4
Level of Service	C	C
Approach Delay (s)	62.5	
Approach LOS	E	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4533		1583	5680		1583	3113		1583	3144	
Flt Permitted	0.13	1.00		0.11	1.00		0.19	1.00		0.13	1.00	
Satd. Flow (perm)	212	4533		188	5680		317	3113		215	3144	
Volume (vph)	48	2586	65	98	2391	158	50	1211	154	142	983	49
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	51	2751	69	104	2544	168	53	1288	164	151	1046	52
RTOR Reduction (vph)	0	3	0	0	11	0	0	11	0	0	0	0
Lane Group Flow (vph)	51	2817	0	104	2701	0	53	1441	0	151	1098	0
Turn Type	Perm		pm+pt			Perm			pm+pt			
Protected Phases	2		1			6			8			
Permitted Phases	2		6			8			4			
Actuated Green, G (s)	30.4	30.4		41.4	41.4		25.6	25.6		38.2	38.2	
Effective Green, g (s)	31.4	31.4		42.4	42.4		27.0	27.0		39.6	39.6	
Actuated g/C Ratio	0.35	0.35		0.47	0.47		0.30	0.30		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.5	5.0		5.4	5.4		3.5	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1582		197	2676		95	934		225	1383	
v/s Ratio Prot	c0.62		0.04			c0.48			c0.46			
v/s Ratio Perm	0.24		0.21			0.17			0.23			
v/c Ratio	0.69	1.78		0.53	1.01		0.56	1.54		0.67	0.79	
Uniform Delay, d1	25.1	29.3		41.0	23.8		26.5	31.5		20.9	21.7	
Progression Factor	0.60	0.67		2.22	1.80		0.80	0.83		1.00	1.00	
Incremental Delay, d2	4.7	351.6		0.2	7.8		10.9	246.8		7.6	4.8	
Delay (s)	19.8	371.2		91.1	50.6		32.2	272.8		28.6	26.5	
Level of Service	B		F			D			C			
Approach Delay (s)	364.9		52.1			264.4			26.7			
Approach LOS	F		D			F			C			

Intersection Summary

HCM Average Control Delay	192.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	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	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4550	1417	1583	3167	1417	1583	3135	3135
Flt Permitted	0.14	1.00	1.00	0.14	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	233	4550	1417	233	4550	1417	1583	3167	1417	1583	3135	3135
Volume (vph)	220	2059	90	78	1829	254	187	998	111	317	807	57
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	224	2101	92	80	1866	259	191	1018	113	323	823	58
RTOR Reduction (vph)	0	0	52	0	0	20	0	0	1	0	6	0
Lane Group Flow (vph)	224	2101	40	80	1866	239	191	1018	112	323	875	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	Prot		pm+ov		Prot	
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	32.2	26.7	35.6	32.2	26.7	34.2	8.9	32.2	37.7	7.5	30.8	
Effective Green, g (s)	33.6	28.6	37.0	33.6	28.6	35.6	8.4	33.4	38.4	7.0	32.0	
Actuated g/C Ratio	0.37	0.32	0.41	0.37	0.32	0.40	0.09	0.37	0.43	0.08	0.36	
Clearance Time (s)	3.5	5.9	3.5	3.5	5.9	3.5	3.5	5.2	3.5	3.5	5.2	
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	
Lane Grp Cap (vph)	162	1446	583	162	1446	623	148	1175	668	123	1115	
v/s Ratio Prot	c0.08	c0.46	0.01	0.03	0.41	0.03	c0.12	c0.32	0.01	c0.20	0.28	
v/s Ratio Perm	0.44		0.02	0.16		0.14			0.07			
v/c Ratio	1.38	1.45	0.07	0.49	1.29	0.38	1.29	0.87	0.17	2.63	0.78	
Uniform Delay, d1	44.7	30.7	16.1	42.3	30.7	19.4	40.8	26.2	15.9	41.5	25.9	
Progression Factor	1.70	0.29	0.06	1.00	1.00	1.00	1.00	1.00	1.00	1.42	0.87	
Incremental Delay, d2	175.8	204.2	0.0	2.4	136.0	0.4	171.8	7.5	0.1	744.4	2.4	
Delay (s)	252.0	213.0	1.0	44.6	166.7	19.8	212.6	33.8	16.1	803.1	25.0	
Level of Service	F	F	A	D	F	B	F	C	B	F	C	
Approach Delay (s)		208.6			145.0			58.1			233.8	
Approach LOS		F			F			E			F	

Intersection Summary

HCM Average Control Delay	165.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	116.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 92: Le Conte Ave & Gayley Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.94		1.00	1.00	0.84	1.00	0.97		1.00	1.00	
Flpb, ped/bikes	0.86	1.00		0.90	1.00	1.00	0.94	1.00		0.97	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1362	1466		1425	1667	1196	1487	2979		1529	3143	
Flt Permitted	0.74	1.00		0.65	1.00	1.00	0.44	1.00		0.35	1.00	
Satd. Flow (perm)	1056	1466		972	1667	1196	695	2979		570	3143	
Volume (vph)	19	76	56	116	29	55	2	510	152	89	483	12
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	20	81	60	123	31	59	2	543	162	95	514	13
RTOR Reduction (vph)	0	35	0	0	0	42	0	37	0	0	2	0
Lane Group Flow (vph)	20	106	0	123	31	17	2	668	0	95	525	0
Conf. Peds. (#/hr)	130		66	66		130	66		85	85		66
Conf. Bikes (#/hr)			1			1			5			14
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2			2		
Actuated Green, G (s)	20.2	20.2		20.2	20.2	20.2	45.3	45.3		45.3	45.3	
Effective Green, g (s)	21.0	21.0		21.0	21.0	21.0	46.0	46.0		46.0	46.0	
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.8	4.8		4.8	4.8	4.8	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	296	410		272	467	335	426	1827		350	1928	
v/s Ratio Prot		0.07			0.02			c0.22			0.17	
v/s Ratio Perm	0.02			c0.13		0.01	0.00			0.17		
v/c Ratio	0.07	0.26		0.45	0.07	0.05	0.00	0.37		0.27	0.27	
Uniform Delay, d1	19.8	21.0		22.3	19.8	19.7	5.6	7.2		6.7	6.7	
Progression Factor	1.00	1.00		0.93	1.00	1.11	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.5		5.3	0.3	0.3	0.0	0.6		1.9	0.3	
Delay (s)	20.3	22.5		26.1	20.1	22.2	5.6	7.8		8.6	7.1	
Level of Service	C	C		C	C	C	A	A		A	A	
Approach Delay (s)		22.2			24.1			7.8			7.3	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↘		↗	↕	↘	↗	↕	↘
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor				1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes				1.00	0.89		1.00	1.00	0.81	1.00	1.00	
Flpb, ped/bikes				1.00	1.00		0.98	1.00	1.00	0.97	1.00	
Frt				1.00	0.85		1.00	1.00	0.85	1.00	1.00	
Flt Protected				0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)				1118	894		1098	2235	807	1086	2234	
Flt Permitted				0.95	1.00		0.44	1.00	1.00	0.20	1.00	
Satd. Flow (perm)				1118	894		514	2235	807	224	2234	
Volume (vph)	0	0	0	126	4	149	3	1081	174	228	504	2
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	0	0	130	4	154	3	1114	179	235	520	2
RTOR Reduction (vph)	0	0	0	0	109	0	0	0	72	0	0	0
Lane Group Flow (vph)	0	0	0	130	49	0	3	1114	107	235	522	0
Conf. Peds. (#/hr)	55						55	20		161	161	20
Conf. Bikes (#/hr)							1		14			
Turn Type	Split		Perm			Perm		Perm custom				
Protected Phases	3	3			4			6				
Permitted Phases				4			6		6	2	2	
Actuated Green, G (s)				21.0	21.0		44.4	44.4	44.4	44.4	44.4	
Effective Green, g (s)				22.0	22.0		45.0	45.0	45.0	45.0	45.0	
Actuated g/C Ratio				0.29	0.29		0.60	0.60	0.60	0.60	0.60	
Clearance Time (s)				5.0	5.0		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)				3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)				328	262		308	1341	484	134	1340	
v/s Ratio Prot					0.06			0.50				
v/s Ratio Perm				c0.12			0.01		0.13	c1.05	0.23	
v/c Ratio				0.40	0.19		0.01	0.83	0.22	1.75	0.39	
Uniform Delay, d1				21.2	19.8		6.0	12.0	6.9	15.0	7.8	
Progression Factor				1.48	4.62		0.91	0.89	0.99	1.00	1.00	
Incremental Delay, d2				0.3	0.1		0.0	0.6	0.1	368.0	0.9	
Delay (s)				31.7	91.6		5.5	11.3	7.0	383.0	8.7	
Level of Service				C	F		A	B	A	F	A	
Approach Delay (s)		0.0			64.6			10.7			124.9	
Approach LOS		A			E			B			F	
Intersection Summary												
HCM Average Control Delay			54.2				HCM Level of Service				D	
HCM Volume to Capacity ratio			1.30									
Actuated Cycle Length (s)			75.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			96.4%				ICU Level of Service				F	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑↑		↔	↑↑↑↑		↔	↑↑	↔	↔	↑	↔↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86		1.00	0.95	1.00	1.00	1.00	0.88
Frbp, ped/bikes	1.00	0.98		1.00	0.95		1.00	1.00	0.67	1.00	1.00	0.85
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.95	1.00	1.00	0.85	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3928		1118	3751		1062	2235	668	954	1176	1503
Flt Permitted	0.95	1.00		0.06	1.00		0.37	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	2168	3928		70	3751		415	2235	668	420	1176	1503
Volume (vph)	358	3703	183	44	2667	501	68	504	72	131	189	304
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	381	3939	195	47	2837	533	72	536	77	139	201	323
RTOR Reduction (vph)	0	5	0	0	13	0	0	0	0	0	0	0
Lane Group Flow (vph)	381	4129	0	47	3357	0	72	536	77	139	201	323
Conf. Peds. (#/hr)	208		161	161		208	171		278	278		171
Conf. Bikes (#/hr)			8			7			18			3
Turn Type	Prot			Perm			pm+pt		Perm	Perm		pm+ov
Protected Phases	1	6			2		3	8			4	1
Permitted Phases				2			8		8	4		4
Actuated Green, G (s)	25.9	95.9		66.0	66.0		43.3	43.3	43.3	30.2	30.2	56.1
Effective Green, g (s)	25.9	96.9		67.0	67.0		45.1	45.1	45.1	32.0	32.0	57.9
Actuated g/C Ratio	0.17	0.65		0.45	0.45		0.30	0.30	0.30	0.21	0.21	0.39
Clearance Time (s)	4.0	5.0		5.0	5.0		4.0	5.8	5.8	5.8	5.8	4.0
Vehicle Extension (s)	2.0	4.0		4.0	4.0		2.0	3.0	3.0	3.0	3.0	2.0
Lane Grp Cap (vph)	374	2537		31	1675		164	672	201	90	251	620
v/s Ratio Prot	0.18	c1.05			c0.89		0.03	c0.24			0.17	0.09
v/s Ratio Perm				0.67			0.11		0.12	c0.33		0.12
v/c Ratio	1.02	1.63		1.52	2.00		0.44	0.80	0.38	1.54	0.80	0.52
Uniform Delay, d1	62.1	26.5		41.5	41.5		40.2	48.3	41.5	59.0	56.0	35.4
Progression Factor	1.03	0.98		0.52	0.54		1.00	1.00	1.00	1.03	1.03	1.20
Incremental Delay, d2	18.9	282.6		246.7	452.0		0.7	6.6	1.2	289.7	15.6	0.3
Delay (s)	83.0	308.5		268.3	474.5		40.8	54.8	42.7	350.8	73.3	42.7
Level of Service	F	F		F	F		D	D	D	F	E	D
Approach Delay (s)		289.5			471.6			52.0			116.5	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM Average Control Delay	326.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.77		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	149.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑		↖		↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0		4.0			
Lane Util. Factor		0.95		1.00	0.95		1.00		1.00			
Frt		0.99		1.00	1.00		1.00		0.85			
Flt Protected		1.00		0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3126		1583	3167		1583		1417			
Flt Permitted		1.00		0.06	1.00		0.76		1.00			
Satd. Flow (perm)		3126		107	3167		1262		1417			
Volume (vph)	0	2052	192	929	1493	0	71	0	657	0	0	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2115	198	958	1539	0	73	0	677	0	0	0
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	183	0	0	0
Lane Group Flow (vph)	0	2307	0	958	1539	0	73	0	494	0	0	0
Turn Type				pm+pt		custom		Over	Perm			
Protected Phases		2		1	6			1			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		57.2		100.2	100.2		10.8		39.0			
Effective Green, g (s)		58.2		101.2	101.2		10.8		39.0			
Actuated g/C Ratio		0.49		0.84	0.84		0.09		0.32			
Clearance Time (s)		5.0		4.0	5.0		4.0		4.0			
Vehicle Extension (s)		4.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		1516		570	2671		114		461			
v/s Ratio Prot		0.74		c0.55	0.49				0.35			
v/s Ratio Perm				c0.87			c0.06					
v/c Ratio		1.52		1.68	0.58		0.64		1.07			
Uniform Delay, d1		30.9		42.7	2.9		52.7		40.5			
Progression Factor		1.00		1.20	0.59		1.00		1.00			
Incremental Delay, d2		238.3		312.5	0.7		11.6		62.4			
Delay (s)		269.2		363.7	2.4		64.4		102.9			
Level of Service		F		F	A		E		F			
Approach Delay (s)		269.2			141.0			99.2			0.0	
Approach LOS		F			F			F			A	

Intersection Summary

HCM Average Control Delay	188.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	142.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑↑	↔	↔	↑↑	↔↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		0.97	0.86		1.00	0.95	1.00	1.00	0.95	0.88
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00	0.89	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00	0.96	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3924		2168	3986		1104	2235	885	1073	2235	1667
Flt Permitted	0.95	1.00		0.95	1.00		0.34	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	2168	3924		2168	3986		396	2235	885	338	2235	1667
Volume (vph)	923	4188	484	19	2901	259	258	569	132	506	314	331
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1003	4552	526	21	3153	282	280	618	143	550	341	360
RTOR Reduction (vph)	0	13	0	0	8	0	0	0	0	0	0	6
Lane Group Flow (vph)	1003	5065	0	21	3427	0	280	618	143	550	341	354
Conf. Peds. (#/hr)	13		43	43		13	53		69	69		53
Conf. Bikes (#/hr)			16			5			13			18
Turn Type	Prot			Prot			pm+pt		pm+ov	Perm		pm+ov
Protected Phases	5	2		1	6		3	8	1		4	5
Permitted Phases							8		8	4		4
Actuated Green, G (s)	30.0	89.5		5.0	64.5		39.1	39.1	44.1	28.1	28.1	58.1
Effective Green, g (s)	30.0	91.0		5.0	66.0		42.0	42.0	47.0	31.0	31.0	61.0
Actuated g/C Ratio	0.20	0.61		0.03	0.44		0.28	0.28	0.31	0.21	0.21	0.41
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.9	4.0	6.9	6.9	4.0
Vehicle Extension (s)	1.0	4.0		1.0	4.0		3.0	2.0	1.0	2.0	2.0	1.0
Lane Grp Cap (vph)	434	2381		72	1754		144	626	301	70	462	678
v/s Ratio Prot	c0.46	c1.29		0.01	c0.86		c0.09	0.28	0.02		0.15	0.10
v/s Ratio Perm							0.45		0.15	c1.63		0.11
v/c Ratio	2.31	2.13		0.29	1.95		1.94	0.99	0.48	7.86	0.74	0.52
Uniform Delay, d1	60.0	29.5		70.8	42.0		54.2	53.7	41.5	59.5	55.7	33.5
Progression Factor	0.75	0.48		1.21	0.81		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	590.6	507.3		0.1	429.3		449.3	32.3	0.4	3114.9	5.3	0.3
Delay (s)	635.6	521.6		85.8	463.2		503.6	86.1	42.0	3174.4	61.0	33.9
Level of Service	F	F		F	F		F	F	D	F	E	C
Approach Delay (s)		540.4			460.9			192.3			1422.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	579.8	HCM Level of Service	F
HCM Volume to Capacity ratio	3.58		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	197.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖↖	↑↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86		0.97	0.81		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.93		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	4023		2168	4737		1118	2082		1118	2176	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1118	4023		2168	4737		1118	2082		1118	2176	
Volume (vph)	71	3564	147	186	3168	126	121	514	431	489	958	208
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	72	3637	150	190	3233	129	123	524	440	499	978	212
RTOR Reduction (vph)	0	4	0	0	5	0	0	101	0	0	0	0
Lane Group Flow (vph)	72	3783	0	190	3357	0	123	863	0	499	1190	0
Turn Type	Prot		Prot		Prot		Prot		Prot			
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	11.1	68.5		15.0	72.4		17.0	33.0		14.0	30.0	
Effective Green, g (s)	11.1	70.0		15.0	73.9		17.0	35.0		14.0	32.0	
Actuated g/C Ratio	0.07	0.47		0.10	0.49		0.11	0.23		0.09	0.21	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	1.0	4.0		1.0	4.0		1.0	4.0		1.0	4.0	
Lane Grp Cap (vph)	83	1877		217	2334		127	486		104	464	
v/s Ratio Prot	0.06	c0.94		0.09	c0.71		0.11	c0.41		c0.45	c0.55	
v/s Ratio Perm												
v/c Ratio	0.87	2.02		0.88	1.44		0.97	1.78		4.80	2.56	
Uniform Delay, d1	68.7	40.0		66.6	38.0		66.2	57.5		68.0	59.0	
Progression Factor	1.03	1.15		0.61	0.32		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.4	457.2		3.8	197.5		69.0	357.2		1730.7	710.4	
Delay (s)	78.8	503.4		44.6	209.8		135.2	414.7		1798.7	769.4	
Level of Service	E	F		D	F		F	F		F	F	
Approach Delay (s)		495.5			201.0			383.0			1073.5	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	476.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.28		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	194.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑	↗	↗	↑↑	↗	↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4521		1583	4550	1417	1583	3167	1417	1583	3124	
Flt Permitted	0.11	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.11	1.00	
Satd. Flow (perm)	190	4521		1583	4550	1417	189	3167	1417	189	3124	
Volume (vph)	55	2353	104	101	2368	131	206	1137	240	5	982	96
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	57	2451	108	105	2467	136	215	1184	250	5	1023	100
RTOR Reduction (vph)	0	5	0	0	0	9	0	0	81	0	1	0
Lane Group Flow (vph)	57	2554	0	105	2467	127	215	1184	169	5	1122	0
Turn Type	Perm			Prot		Perm	Perm		Perm	Perm		
Protected Phases	8			7	4			6			2	
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	34.0	34.0		8.2	45.7	45.7	34.3	34.3	34.3	34.3	34.3	
Effective Green, g (s)	35.0	35.0		7.7	46.7	46.7	35.3	35.3	35.3	35.3	35.3	
Actuated g/C Ratio	0.39	0.39		0.09	0.52	0.52	0.39	0.39	0.39	0.39	0.39	
Clearance Time (s)	5.0	5.0		3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	74	1758		135	2361	735	74	1242	556	74	1225	
v/s Ratio Prot	c0.56			0.07	c0.54			0.37			0.36	
v/s Ratio Perm	0.30					0.09	c1.14		0.12	0.03		
v/c Ratio	0.77	1.45		0.78	1.04	0.17	2.91	0.95	0.30	0.07	0.92	
Uniform Delay, d1	24.0	27.5		40.3	21.6	11.4	27.4	26.5	18.9	17.1	25.9	
Progression Factor	0.93	0.85		0.89	1.70	2.16	0.59	0.57	0.33	1.00	1.00	
Incremental Delay, d2	35.4	205.7		7.6	24.3	0.1	860.8	2.4	0.1	1.8	12.2	
Delay (s)	57.8	229.1		43.5	61.1	24.8	877.0	17.5	6.4	18.8	38.1	
Level of Service	E	F		D	E	C	F	B	A	B	D	
Approach Delay (s)	225.4			58.6			127.9			38.0		
Approach LOS	F			E			F			D		

Intersection Summary

HCM Average Control Delay	123.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.09		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	119.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑		↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4521		1583	3118		1583	3167	1417
Flt Permitted	0.14	1.00	1.00	0.12	1.00		0.95	1.00		0.14	1.00	1.00
Satd. Flow (perm)	228	4550	1417	201	4521		1583	3118		238	3167	1417
Volume (vph)	74	2132	93	102	1606	72	272	1467	167	66	1025	113
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	76	2176	95	104	1639	73	278	1497	170	67	1046	115
RTOR Reduction (vph)	0	0	32	0	5	0	0	10	0	0	0	19
Lane Group Flow (vph)	76	2176	63	104	1707	0	278	1658	0	67	1046	96
Turn Type	Perm		pm+ov	pm+pt			Prot			Perm		Perm
Protected Phases		6	3	5	2		3	8			4	
Permitted Phases	6		6	2						4		4
Actuated Green, G (s)	27.7	27.7	41.2	35.5	35.5		13.5	44.5		27.5	27.5	27.5
Effective Green, g (s)	29.2	29.2	42.2	37.0	37.0		13.0	45.0		28.0	28.0	28.0
Actuated g/C Ratio	0.32	0.32	0.47	0.41	0.41		0.14	0.50		0.31	0.31	0.31
Clearance Time (s)	5.5	5.5	3.5	3.0	5.5		3.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	1476	727	141	1859		229	1559		74	985	441
v/s Ratio Prot		c0.48	0.01	0.03	c0.38		c0.18	c0.53			0.33	
v/s Ratio Perm	0.33		0.03	0.27						0.28		0.07
v/c Ratio	1.03	1.47	0.09	0.74	0.92		1.21	1.06		0.91	1.06	0.22
Uniform Delay, d1	30.4	30.4	13.2	22.8	25.1		38.5	22.5		29.7	31.0	22.9
Progression Factor	1.00	1.00	1.00	2.08	1.51		1.00	1.00		0.68	0.71	0.49
Incremental Delay, d2	112.3	217.1	0.0	1.9	1.0		129.5	41.7		42.8	36.6	0.4
Delay (s)	142.7	247.5	13.2	49.3	38.9		168.0	64.2		63.0	58.6	11.6
Level of Service	F	F	B	D	D		F	E		E	E	B
Approach Delay (s)		234.7			39.5			79.0			54.5	
Approach LOS		F			D			E			D	

Intersection Summary

HCM Average Control Delay	114.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3157		1583	3151			1616			1607	
Flt Permitted	0.14	1.00		0.20	1.00			0.95			0.95	
Satd. Flow (perm)	229	3157		338	3151			1548			1529	
Volume (vph)	29	944	19	94	1464	50	11	86	23	62	306	103
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	973	20	97	1509	52	11	89	24	64	315	106
RTOR Reduction (vph)	0	2	0	0	4	0	0	15	0	0	4	0
Lane Group Flow (vph)	30	991	0	97	1557	0	0	109	0	0	481	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	28.8	28.8		28.8	28.8			22.0			22.0	
Effective Green, g (s)	29.1	29.1		29.1	29.1			22.9			22.9	
Actuated g/C Ratio	0.49	0.49		0.49	0.49			0.38			0.38	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	111	1531		164	1528			591			584	
v/s Ratio Prot		0.31			c0.49							
v/s Ratio Perm	0.13			0.29				0.07			c0.31	
v/c Ratio	0.27	0.65		0.59	1.02			0.18			0.82	
Uniform Delay, d1	9.2	11.6		11.2	15.4			12.3			16.7	
Progression Factor	0.79	0.74		1.00	1.00			1.00			1.00	
Incremental Delay, d2	5.4	1.9		14.7	28.0			0.2			9.2	
Delay (s)	12.6	10.5		25.9	43.4			12.5			25.9	
Level of Service	B	B		C	D			B			C	
Approach Delay (s)		10.5			42.4			12.5			25.9	
Approach LOS		B			D			B			C	

Intersection Summary

HCM Average Control Delay	28.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			






























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			1.00		1.00	1.00	
Flpb, ped/bikes					1.00			1.00		1.00	1.00	
Frt					0.94			1.00		1.00	1.00	
Flt Protected					0.97			1.00		0.95	1.00	
Satd. Flow (prot)					1528			3147		1583	3167	
Flt Permitted					0.82			1.00		0.15	1.00	
Satd. Flow (perm)					1291			3147		251	3167	
Volume (vph)	0	0	0	141	0	102	0	1167	27	77	2098	0
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	150	0	109	0	1241	29	82	2232	0
RTOR Reduction (vph)	0	0	0	0	26	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	233	0	0	1268	0	82	2232	0
Conf. Peds. (#/hr)								10		32	32	10
Conf. Bikes (#/hr)			1							2		4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					30.5			61.0		61.0	61.0	
Effective Green, g (s)					31.0			61.0		61.0	61.0	
Actuated g/C Ratio					0.31			0.61		0.61	0.61	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					400			1920		153	1932	
v/s Ratio Prot								0.40			c0.70	
v/s Ratio Perm					c0.18					0.33		
v/c Ratio					0.58			0.66		0.54	1.16	
Uniform Delay, d1					29.0			12.7		11.3	19.5	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					6.1			1.8		12.8	76.2	
Delay (s)					35.1			14.5		24.1	95.7	
Level of Service					D			B		C	F	
Approach Delay (s)		0.0			35.1			14.5			93.2	
Approach LOS		A			D			B			F	
Intersection Summary												
HCM Average Control Delay			63.3									HCM Level of Service E
HCM Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			100.0									Sum of lost time (s) 8.0
Intersection Capacity Utilization			93.9%									ICU Level of Service F
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↔		↖	↑↑	↖	↖	↑↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.94	1.00	1.00		1.00	1.00	0.95	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	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1325	3072	3146		1583	3167	1352	1583	4429	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3072	3167	1325	3072	3146		155	3167	1352	171	4429	
Volume (vph)	82	588	64	373	1193	30	99	1137	334	20	1934	216
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	85	606	66	385	1230	31	102	1172	344	21	1994	223
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	91	0	11	0
Lane Group Flow (vph)	85	606	66	385	1260	0	102	1172	253	21	2206	0
Conf. Peds. (#/hr)	73		41	41		73	67		26	26		67
Conf. Bikes (#/hr)			3			4			1			4
Turn Type	Prot		pm+ov	Prot		pm+pt		pm+ov	pm+pt			
Protected Phases	5	2	3	1	6	3	8	1	7	4		
Permitted Phases			2			8		8	4			
Actuated Green, G (s)	6.4	48.8	55.8	8.0	50.4	48.5	41.7	49.7	40.3	37.5		
Effective Green, g (s)	6.4	50.1	57.1	8.0	51.7	49.9	43.1	51.1	41.7	38.9		
Actuated g/C Ratio	0.05	0.42	0.48	0.07	0.43	0.42	0.36	0.43	0.35	0.32		
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3	4.0	5.4	4.0	4.0	5.4		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	164	1322	675	205	1355	148	1137	621	92	1436		
v/s Ratio Prot	0.03	c0.19	0.01	c0.13	c0.40	c0.04	0.37	0.03	0.01	c0.50		
v/s Ratio Perm			0.04			0.25		0.16	0.07			
v/c Ratio	0.52	0.46	0.10	1.88	0.93	0.69	1.03	0.41	0.23	1.54		
Uniform Delay, d1	55.3	25.2	17.3	56.0	32.4	56.9	38.5	23.9	30.2	40.5		
Progression Factor	0.79	0.50	0.49	0.94	1.26	1.28	1.32	2.43	1.00	1.00		
Incremental Delay, d2	2.4	1.0	0.1	399.7	3.9	6.0	26.5	0.2	1.3	244.7		
Delay (s)	46.2	13.5	8.6	452.3	44.8	78.8	77.3	58.4	31.5	285.2		
Level of Service	D	B	A	F	D	E	E	E	C	F		
Approach Delay (s)		16.7			140.1		73.4			282.9		
Approach LOS		B			F		E			F		

Intersection Summary

HCM Average Control Delay	159.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	109.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3097		1583	3167	1417	1583	3085	
Flt Permitted	0.07	1.00	1.00	0.33	1.00		0.13	1.00	1.00	0.26	1.00	
Satd. Flow (perm)	120	3167	1417	549	3097		211	3167	1417	426	3085	
Volume (vph)	64	613	253	217	1083	185	241	750	39	163	886	183
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	645	266	228	1140	195	254	789	41	172	933	193
RTOR Reduction (vph)	0	0	39	0	12	0	0	0	22	0	15	0
Lane Group Flow (vph)	67	645	227	228	1323	0	254	789	19	172	1111	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8		4	
Actuated Green, G (s)	54.6	54.6	54.6	54.6	54.6		54.0	54.0	54.0	54.0	54.0	
Effective Green, g (s)	56.5	56.5	56.5	56.5	56.5		55.5	55.5	55.5	55.5	55.5	
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	57	1491	667	258	1458		98	1465	655	197	1427	
v/s Ratio Prot		0.20			0.43			0.25			0.36	
v/s Ratio Perm	c0.56		0.16	0.42			c1.20		0.01	0.40		
v/c Ratio	1.18	0.43	0.34	0.88	0.91		2.59	0.54	0.03	0.87	0.78	
Uniform Delay, d1	31.8	21.1	20.0	28.8	29.3		32.2	23.1	17.6	29.1	27.1	
Progression Factor	1.20	1.14	1.22	1.08	1.05		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	161.0	0.7	1.1	10.7	2.8		745.1	1.4	0.1	37.8	4.3	
Delay (s)	199.2	24.9	25.4	41.7	33.5		777.3	24.5	17.7	66.9	31.4	
Level of Service	F	C	C	D	C		F	C	B	E	C	
Approach Delay (s)		36.9			34.7			200.6			36.1	
Approach LOS		D			C			F			D	
Intersection Summary												
HCM Average Control Delay			72.0				HCM Level of Service				E	
HCM Volume to Capacity ratio			1.89									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			110.5%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖	↖	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3114		1583	3079		1583	1667	1417	1583	1599	
Flt Permitted	0.20	1.00		0.20	1.00		0.13	1.00	1.00	0.39	1.00	
Satd. Flow (perm)	327	3114		327	3079		211	1667	1417	653	1599	
Volume (vph)	52	681	86	85	1229	280	55	441	92	60	565	210
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	740	93	92	1336	304	60	479	100	65	614	228
RTOR Reduction (vph)	0	17	0	0	32	0	0	0	25	0	2	0
Lane Group Flow (vph)	57	817	0	92	1608	0	60	479	75	65	840	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1059		111	1047		111	878	746	344	842	
v/s Ratio Prot		0.26			c0.52			0.29			c0.53	
v/s Ratio Perm	0.17			0.28			0.28		0.05	0.10		
v/c Ratio	0.51	0.77		0.83	1.54		0.54	0.55	0.10	0.19	1.00	
Uniform Delay, d1	15.8	17.7		18.2	19.8		9.4	9.4	7.1	7.5	14.2	
Progression Factor	1.00	1.00		0.95	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.0	5.4		6.5	241.4		17.6	2.4	0.3	1.2	30.3	
Delay (s)	31.8	23.1		23.7	260.6		27.0	11.9	7.4	8.7	44.5	
Level of Service	C	C		C	F		C	B	A	A	D	
Approach Delay (s)		23.7			248.0			12.6			41.9	
Approach LOS		C			F			B			D	

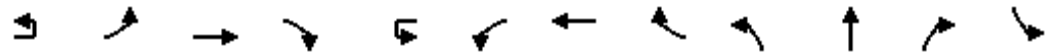
Intersection Summary

HCM Average Control Delay	119.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	1.00		1.00	0.99			1.00			0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.99			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1560	1663		1583	1636			1643			1615	
Flt Permitted	0.26	1.00		0.14	1.00			0.96			0.91	
Satd. Flow (perm)	426	1663		230	1636			1583			1479	
Volume (vph)	244	927	10	29	530	46	46	698	47	28	326	67
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	257	976	11	31	558	48	48	735	49	29	343	71
RTOR Reduction (vph)	0	1	0	0	5	0	0	4	0	0	12	0
Lane Group Flow (vph)	257	986	0	31	601	0	0	828	0	0	431	0
Conf. Peds. (#/hr)	28		25	25		28	21		28	28		21
Conf. Bikes (#/hr)			13			10			6			3
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	29.0	29.0		29.0	29.0			23.0			23.0	
Effective Green, g (s)	29.0	29.0		29.0	29.0			23.0			23.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48			0.38			0.38	
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)	206	804		111	791			607			567	
v/s Ratio Prot		0.59			0.37							
v/s Ratio Perm	c0.60			0.13				c0.52			0.29	
v/c Ratio	1.25	1.23		0.28	0.76			1.36			0.76	
Uniform Delay, d1	15.5	15.5		9.3	12.7			18.5			16.1	
Progression Factor	1.00	1.00		0.70	0.79			2.13			1.00	
Incremental Delay, d2	145.2	113.1		1.5	1.7			170.0			9.3	
Delay (s)	160.7	128.6		8.0	11.7			209.5			25.4	
Level of Service	F	F		A	B			F			C	
Approach Delay (s)		135.2			11.5			209.5			25.4	
Approach LOS		F			B			F			C	

Intersection Summary			
HCM Average Control Delay	114.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	132.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑	↗		↔	↑↑↑	↗	↖	↖		↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	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		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		1583	4550	1417		1583	4550	1417	1583	1659		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.48	1.00		0.09
Satd. Flow (perm)		1583	4550	1417		1583	4550	1417	800	1659		156
Volume (vph)	36	122	2380	16	3	93	2150	213	25	502	16	167
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	37	126	2454	16	3	96	2216	220	26	518	16	172
RTOR Reduction (vph)	0	0	0	5	0	0	0	93	0	1	0	0
Lane Group Flow (vph)	0	163	2454	11	0	99	2216	127	26	533	0	172
Turn Type	Prot	Prot		Perm	Prot	Prot		pm+ov	pm+pt			pm+pt
Protected Phases	1	1	6		5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		16.1	41.3	41.3		11.3	36.5	48.3	41.0	36.6		52.4
Effective Green, g (s)		16.1	42.3	42.3		11.3	37.5	49.3	43.0	38.6		54.4
Actuated g/C Ratio		0.13	0.35	0.35		0.09	0.31	0.41	0.36	0.32		0.45
Clearance Time (s)		4.0	5.0	5.0		4.0	5.0	4.0	4.0	6.0		4.0
Vehicle Extension (s)		3.0	4.4	4.4		3.0	4.3	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		212	1604	499		149	1422	629	315	534		211
v/s Ratio Prot		c0.10	c0.54			0.06	0.49	0.02	0.00	c0.32		c0.08
v/s Ratio Perm				0.01				0.07	0.03			0.29
v/c Ratio		0.77	1.53	0.02		0.66	1.56	0.20	0.08	1.00		0.82
Uniform Delay, d1		50.2	38.9	25.3		52.5	41.2	22.7	25.2	40.7		28.7
Progression Factor		1.00	1.00	1.00		1.51	0.37	0.72	1.00	1.00		1.21
Incremental Delay, d2		15.4	241.7	0.1		1.0	251.6	0.0	0.1	38.3		18.0
Delay (s)		65.5	280.5	25.4		80.2	267.0	16.3	25.4	79.0		52.8
Level of Service		E	F	C		F	F	B	C	E		D
Approach Delay (s)			265.7				238.0			76.5		
Approach LOS			F				F			E		

Intersection Summary

HCM Average Control Delay	219.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	111.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations	↱	
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frt	0.97	
Flt Protected	1.00	
Satd. Flow (prot)	1625	
Flt Permitted	1.00	
Satd. Flow (perm)	1625	
Volume (vph)	270	54
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	278	56
RTOR Reduction (vph)	6	0
Lane Group Flow (vph)	328	0
Turn Type		
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	44.0	
Effective Green, g (s)	46.0	
Actuated g/C Ratio	0.38	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	623	
v/s Ratio Prot	0.20	
v/s Ratio Perm		
v/c Ratio	0.53	
Uniform Delay, d1	28.6	
Progression Factor	1.06	
Incremental Delay, d2	0.7	
Delay (s)	31.1	
Level of Service	C	
Approach Delay (s)	38.5	
Approach LOS	D	

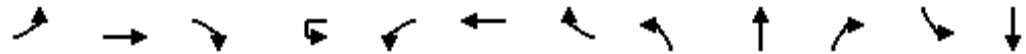
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	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	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1571	1640		1583	1633		1583	3034		1583	3074	
Flt Permitted	0.34	1.00		0.08	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	564	1640		133	1633		208	3034		208	3074	
Volume (vph)	276	938	84	92	466	53	339	845	215	19	1098	179
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	288	977	88	96	485	55	353	880	224	20	1144	186
RTOR Reduction (vph)	0	4	0	0	4	0	0	25	0	0	14	0
Lane Group Flow (vph)	288	1061	0	96	536	0	353	1079	0	20	1316	0
Conf. Peds. (#/hr)	18		24	24		18	27		25	25		27
Conf. Bikes (#/hr)			5			42			5			2
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	49.0	49.0		49.0	49.0		31.1	31.1		31.1	31.1	
Effective Green, g (s)	50.0	50.0		50.0	50.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.36	0.36		0.36	0.36	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	313	911		74	907		74	1079		74	1093	
v/s Ratio Prot		0.65			0.33			0.36			0.43	
v/s Ratio Perm	0.51			c0.72			c1.69			0.10		
v/c Ratio	0.92	1.17		1.30	0.59		4.77	1.00		0.27	1.20	
Uniform Delay, d1	18.2	20.0		20.0	13.2		29.0	29.0		20.7	29.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	34.0	86.3		203.5	2.8		1726.9	27.4		8.8	100.6	
Delay (s)	52.2	106.3		223.5	16.0		1755.9	56.4		29.5	129.6	
Level of Service	D	F		F	B		F	E		C	F	
Approach Delay (s)		94.8			47.4			468.1			128.1	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	211.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	144.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗		↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00
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)	1583	4550	1417		1583	4550	1417	1583	3167	1417	1583	3167
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.13	1.00	1.00	0.24	1.00
Satd. Flow (perm)	1583	4550	1417		1583	4550	1417	209	3167	1417	407	3167
Volume (vph)	64	2282	215	10	86	1646	444	151	769	126	10	891
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	66	2353	222	10	89	1697	458	156	793	130	10	919
RTOR Reduction (vph)	0	0	18	0	0	0	112	0	0	79	0	0
Lane Group Flow (vph)	66	2353	204	0	99	1697	346	156	793	51	10	919
Turn Type	Prot		pm+ov	Prot	Prot		Perm	pm+pt		Perm	pm+pt	
Protected Phases	1	6	3	5	5	2		3	8		7	4
Permitted Phases			6				2	8		8		4
Actuated Green, G (s)	6.0	42.2	47.2		5.0	41.2	41.2	46.3	41.3	41.3	38.3	37.3
Effective Green, g (s)	6.0	43.5	49.5		5.0	42.5	42.5	49.5	43.5	43.5	41.5	39.5
Actuated g/C Ratio	0.05	0.40	0.45		0.05	0.39	0.39	0.45	0.40	0.40	0.38	0.36
Clearance Time (s)	4.0	5.3	5.0		4.0	5.3	5.3	5.0	6.2	6.2	5.0	6.2
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	4.2	4.2	3.0	3.6
Lane Grp Cap (vph)	86	1799	689		72	1758	547	169	1252	560	175	1137
v/s Ratio Prot	0.04	c0.52	0.02		c0.06	0.37		c0.05	0.25		0.00	0.29
v/s Ratio Perm			0.13				0.24	c0.36		0.04	0.02	
v/c Ratio	0.77	1.31	0.30		1.38	0.97	0.63	0.92	0.63	0.09	0.06	0.81
Uniform Delay, d1	51.3	33.2	19.2		52.5	33.0	27.4	24.8	26.8	20.9	22.1	31.8
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	32.8	142.7	0.2		234.7	14.7	5.5	47.2	1.2	0.1	0.1	4.5
Delay (s)	84.1	176.0	19.4		287.2	47.7	32.9	71.9	28.1	21.0	22.3	36.3
Level of Service	F	F	B		F	D	C	E	C	C	C	D
Approach Delay (s)		160.5				55.2			33.5			35.1
Approach LOS		F				E			C			D

Intersection Summary

HCM Average Control Delay	88.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	58
Peak-hour factor, PHF	0.97
Adj. Flow (vph)	60
RTOR Reduction (vph)	10
Lane Group Flow (vph)	50
Turn Type	pm+ov
Protected Phases	1
Permitted Phases	4
Actuated Green, G (s)	43.3
Effective Green, g (s)	45.5
Actuated g/C Ratio	0.41
Clearance Time (s)	4.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	586
v/s Ratio Prot	0.00
v/s Ratio Perm	0.03
v/c Ratio	0.09
Uniform Delay, d1	19.6
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	19.7
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑			↑↑↑	↔	↔	↔↔↔	↔			
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.86	0.81	0.86			
Frt	1.00	1.00			1.00	0.85	1.00	0.95	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (prot)	3072	4550			5733	1417	1362	3774	1218			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.98	1.00			
Satd. Flow (perm)	3072	4550			5733	1417	1362	3774	1218			
Volume (vph)	570	1942	0	0	1651	257	875	290	716	0	0	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	582	1982	0	0	1685	262	893	296	731	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	141	0	10	10	0	0	0
Lane Group Flow (vph)	582	1982	0	0	1685	121	447	1097	356	0	0	0
Turn Type	Prot				Perm		Split	Perm				
Protected Phases	1	6			2	4		4				
Permitted Phases					2		4		4			
Actuated Green, G (s)	36.0	74.0			34.0	34.0	35.2	35.2	35.2			
Effective Green, g (s)	36.0	75.0			35.0	35.0	37.0	37.0	37.0			
Actuated g/C Ratio	0.30	0.62			0.29	0.29	0.31	0.31	0.31			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.8	5.8	5.8			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	922	2844			1672	413	420	1164	376			
v/s Ratio Prot	0.19	c0.44			c0.29	c0.33		0.29				
v/s Ratio Perm					0.09		0.29		0.29			
v/c Ratio	0.63	0.70			1.01	0.29	1.06	0.98dl	0.95			
Uniform Delay, d1	36.3	14.9			42.5	32.9	41.5	40.5	40.6			
Progression Factor	0.82	0.92			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.4			23.9	1.8	62.0	14.7	32.8			
Delay (s)	30.3	14.2			66.4	34.7	103.5	55.1	73.3			
Level of Service	C	B			E	C	F	E	E			
Approach Delay (s)	17.8				62.1		69.9		0.0			
Approach LOS	B				E		E		A			

Intersection Summary

HCM Average Control Delay	46.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↔↔	↑↑↑					↔	↔↑	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81		0.97	0.91					0.91	0.86	0.91
Frt		0.97		1.00	1.00					1.00	0.98	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.97	1.00
Satd. Flow (prot)		6547		3072	4550					1441	2732	1289
Flt Permitted		1.00		0.95	1.00					0.95	0.97	1.00
Satd. Flow (perm)		6547		3072	4550					1441	2732	1289
Volume (vph)	0	1509	378	692	1827	0	0	0	0	1019	283	548
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1540	386	706	1864	0	0	0	0	1040	289	559
RTOR Reduction (vph)	0	38	0	0	0	0	0	0	0	0	9	14
Lane Group Flow (vph)	0	1888	0	706	1864	0	0	0	0	520	927	418
Turn Type				Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Actuated Green, G (s)		40.3		30.5	75.3					35.0	35.0	35.0
Effective Green, g (s)		41.0		31.0	76.0					36.0	36.0	36.0
Actuated g/C Ratio		0.34		0.26	0.63					0.30	0.30	0.30
Clearance Time (s)		4.7		4.5	4.7					5.0	5.0	5.0
Vehicle Extension (s)		3.0		4.0	3.0					4.0	4.0	4.0
Lane Grp Cap (vph)		2237		794	2882					432	820	387
v/s Ratio Prot		c0.29		c0.23	0.41					c0.36	0.34	
v/s Ratio Perm												0.32
v/c Ratio		0.84		0.89	0.65					1.20	1.18dl	1.08
Uniform Delay, d1		36.5		42.8	13.7					42.0	42.0	42.0
Progression Factor		1.00		0.90	0.49					1.00	1.00	1.00
Incremental Delay, d2		4.1		1.3	0.1					111.8	73.8	68.9
Delay (s)		40.7		39.9	6.8					153.8	115.8	110.9
Level of Service		D		D	A					F	F	F
Approach Delay (s)		40.7			15.9			0.0			125.1	
Approach LOS		D			B			A			F	

Intersection Summary

HCM Average Control Delay	55.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	115.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	0.99		1.00	0.99			0.98			0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.99			0.93			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1571	1615		1583	1641			1524			1619	
Flt Permitted	0.22	1.00		0.12	1.00			0.97			0.86	
Satd. Flow (perm)	366	1615		208	1641			1485			1403	
Volume (vph)	47	976	159	251	660	47	50	284	317	19	72	10
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	47	976	159	251	660	47	50	284	317	19	72	10
RTOR Reduction (vph)	0	10	0	0	4	0	0	57	0	0	7	0
Lane Group Flow (vph)	47	1125	0	251	703	0	0	594	0	0	94	0
Conf. Peds. (#/hr)	19		23	23		19	17		16	16		17
Conf. Bikes (#/hr)			9			39			2			10
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	32.0	32.0		32.0	32.0			20.0			20.0	
Effective Green, g (s)	32.0	32.0		32.0	32.0			20.0			20.0	
Actuated g/C Ratio	0.53	0.53		0.53	0.53			0.33			0.33	
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)	195	861		111	875			495			468	
v/s Ratio Prot		0.70			0.43							
v/s Ratio Perm	0.13			c1.20				c0.40			0.07	
v/c Ratio	0.24	1.31		2.26	0.80			1.20			0.20	
Uniform Delay, d1	7.5	14.0		14.0	11.4			20.0			14.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	2.9	146.5		595.3	7.7			108.4			0.2	
Delay (s)	10.4	160.5		609.3	19.2			128.4			14.5	
Level of Service	B	F		F	B			F			B	
Approach Delay (s)		154.5			173.8			128.4			14.5	
Approach LOS		F			F			F			B	

Intersection Summary

HCM Average Control Delay	150.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.85		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	141.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑	↗		↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	1.00
Frt	1.00	0.98		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1583	4446		1583	4490			3135	1417		3148	1417
Flt Permitted	0.13	1.00		0.95	1.00			0.55	1.00		0.53	1.00
Satd. Flow (perm)	222	4446		1583	4490			1731	1417		1681	1417
Volume (vph)	492	1406	252	105	1366	132	221	875	135	95	714	104
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	518	1480	265	111	1438	139	233	921	142	100	752	109
RTOR Reduction (vph)	0	28	0	0	13	0	0	0	88	0	0	17
Lane Group Flow (vph)	518	1717	0	111	1564	0	0	1154	54	0	852	92
Turn Type	Perm		Prot		Perm		Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	6		5		2		8		8		4	
Permitted Phases	6						8		8		4	
Actuated Green, G (s)	36.0	36.0		8.0	48.0			33.5	33.5		33.5	33.5
Effective Green, g (s)	36.0	36.0		8.0	48.0			34.0	34.0		34.0	34.0
Actuated g/C Ratio	0.40	0.40		0.09	0.53			0.38	0.38		0.38	0.38
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	89	1778		141	2395			654	535		635	535
v/s Ratio Prot		0.39		c0.07	0.35							
v/s Ratio Perm	c2.33							c0.67	0.04		0.51	0.06
v/c Ratio	5.82	0.97		0.79	0.65			1.94dl	0.10		1.34	0.17
Uniform Delay, d1	27.0	26.4		40.2	15.0			28.0	18.1		28.0	18.6
Progression Factor	1.44	1.47		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	2181.8	9.3		24.5	1.4			350.3	0.4		164.2	0.7
Delay (s)	2220.8	48.0		64.7	16.4			378.3	18.5		192.2	19.3
Level of Service	F	D		E	B			F	B		F	B
Approach Delay (s)		545.4			19.6			338.9			172.6	
Approach LOS		F			B			F			F	

Intersection Summary

HCM Average Control Delay	301.6	HCM Level of Service	F
HCM Volume to Capacity ratio	3.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	135.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: 6th St & Western Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00
Frbp, ped/bikes		0.99			0.96			0.99			1.00	0.75
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.99			0.98			0.99			1.00	0.85
Flt Protected		1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)		3116			2972			3109			3167	1066
Flt Permitted		1.00			1.00			1.00			1.00	1.00
Satd. Flow (perm)		3116			2972			3109			3167	1066
Volume (vph)	0	1223	78	0	1182	185	0	1578	97	0	1725	117
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1274	81	0	1231	193	0	1644	101	0	1797	122
RTOR Reduction (vph)	0	1	0	0	2	0	0	5	0	0	0	7
Lane Group Flow (vph)	0	1354	0	0	1422	0	0	1740	0	0	1797	115
Conf. Peds. (#/hr)	136		73	73		136	120		104	120		104
Conf. Bikes (#/hr)			5			7			19			15
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1420			1354			1416			1443	486
v/s Ratio Prot		0.43			c0.48			0.56			c0.57	
v/s Ratio Perm												0.11
v/c Ratio		0.95			1.05			1.23			1.25	0.24
Uniform Delay, d1		23.6			24.5			24.5			24.5	15.0
Progression Factor		1.00			1.00			0.65			1.00	1.00
Incremental Delay, d2		15.1			38.8			103.6			116.4	1.2
Delay (s)		38.7			63.3			119.6			140.9	16.1
Level of Service		D			E			F			F	B
Approach Delay (s)		38.7			63.3			119.6			133.0	
Approach LOS		D			E			F			F	

Intersection Summary

HCM Average Control Delay	94.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	124.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.97		1.00	0.96		1.00	0.96		1.00	0.91	
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	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4374		1583	4333		1583	2997		1583	2775	
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.13	1.00	
Satd. Flow (perm)	233	4374		235	4333		214	2997		224	2775	
Volume (vph)	284	1297	106	127	1558	143	123	1543	168	106	1095	362
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	309	1410	115	138	1693	155	134	1677	183	115	1190	393
RTOR Reduction (vph)	0	10	0	0	12	0	0	9	0	0	35	0
Lane Group Flow (vph)	309	1515	0	138	1836	0	134	1851	0	115	1548	0
Conf. Peds. (#/hr)	663		371	371		663	453		618	618		453
Conf. Bikes (#/hr)			12			12			20			20
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.2	27.2		34.8	27.0		37.8	30.0		35.0	28.6	
Effective Green, g (s)	36.6	28.6		36.2	28.4		39.0	31.2		36.2	29.8	
Actuated g/C Ratio	0.41	0.32		0.40	0.32		0.43	0.35		0.40	0.33	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1390		211	1367		211	1039		187	919	
v/s Ratio Prot	c0.13	0.35		0.06	0.42		c0.05	c0.62		0.04	0.56	
v/s Ratio Perm	c0.46			0.21			0.22			0.20		
v/c Ratio	1.44	1.09		0.65	1.34		0.64	1.78		0.61	1.68	
Uniform Delay, d1	43.2	30.7		21.0	30.8		21.2	29.4		22.3	30.1	
Progression Factor	1.84	0.97		0.77	0.89		0.78	1.00		1.63	1.50	
Incremental Delay, d2	203.1	43.9		5.1	157.9		3.1	353.6		0.5	308.2	
Delay (s)	282.7	73.7		21.3	185.2		19.7	382.8		36.8	353.5	
Level of Service	F	E		C	F		B	F		D	F	
Approach Delay (s)		108.9			173.8			358.4			332.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	242.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	130.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
4: 8th St & Western Ave

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3134		1583	3115		1583	3165		1583	3153	
Flt Permitted	0.26	1.00		0.32	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	434	3134		534	3115		163	3165		163	3153	
Volume (vph)	51	587	43	95	663	81	62	1443	5	108	1544	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	54	624	46	101	705	86	66	1535	5	115	1643	48
RTOR Reduction (vph)	0	4	0	0	6	0	0	0	0	0	2	0
Lane Group Flow (vph)	54	666	0	101	785	0	66	1540	0	115	1689	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	40.4	40.4		40.4	40.4		40.3	40.3		40.3	40.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	198	1428		243	1419		74	1442		74	1436	
v/s Ratio Prot		0.21			c0.25			0.49			0.54	
v/s Ratio Perm	0.12			0.19			0.41			c0.71		
v/c Ratio	0.27	0.47		0.42	0.55		0.89	1.07		1.55	1.18	
Uniform Delay, d1	15.2	16.9		16.5	17.8		22.5	24.5		24.5	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.46	0.46	
Incremental Delay, d2	3.4	1.1		5.2	1.6		77.4	44.2		255.3	80.0	
Delay (s)	18.6	18.0		21.6	19.4		99.9	68.7		266.6	91.2	
Level of Service	B	B		C	B		F	E		F	F	
Approach Delay (s)		18.1			19.6			69.9			102.3	
Approach LOS		B			B			E			F	

Intersection Summary

HCM Average Control Delay	65.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕↕↕		↗	↕↕↕		↗	↕↕	↗	↗	↕↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4540		1583	4486		1583	3167	1417	1583	3167	1417
Flt Permitted	0.12	1.00		0.12	1.00		0.12	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	196	4540		195	4486		194	3167	1417	194	3167	1417
Volume (vph)	76	2071	31	93	1581	164	179	1250	94	177	1371	114
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	77	2092	31	94	1597	166	181	1263	95	179	1385	115
RTOR Reduction (vph)	0	1	0	0	13	0	0	0	18	0	0	19
Lane Group Flow (vph)	77	2122	0	94	1750	0	181	1263	77	179	1385	96
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	40.4	33.0		40.8	33.2		41.4	33.4	41.0	41.4	33.4	40.8
Effective Green, g (s)	41.4	34.0		41.8	34.2		42.4	34.4	42.0	42.4	34.4	41.8
Actuated g/C Ratio	0.41	0.34		0.42	0.34		0.42	0.34	0.42	0.42	0.34	0.42
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	184	1544		187	1534		193	1089	652	193	1089	649
v/s Ratio Prot	0.03	c0.47		c0.04	0.39		c0.07	0.40	0.01	0.07	c0.44	0.01
v/s Ratio Perm	0.14			0.17			0.32		0.05	0.32		0.06
v/c Ratio	0.42	1.37		0.50	1.14		0.94	1.16	0.12	0.93	1.27	0.15
Uniform Delay, d1	23.5	33.0		23.9	32.9		47.8	32.8	17.7	47.7	32.8	18.1
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	1.5	172.5		2.1	71.9		46.8	82.4	0.1	44.2	129.6	0.1
Delay (s)	25.0	205.5		26.0	104.8		94.5	115.2	17.8	91.9	162.4	18.2
Level of Service	C	F		C	F		F	F	B	F	F	B
Approach Delay (s)		199.2			100.8			106.7			145.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	142.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	118.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4515		1583	4507		1583	3122		1583	3103	
Flt Permitted	0.09	1.00		0.09	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	145	4515		145	4507		185	3122		185	3103	
Volume (vph)	287	2099	114	112	1736	116	77	1158	120	91	1465	227
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	293	2142	116	114	1771	118	79	1182	122	93	1495	232
RTOR Reduction (vph)	0	3	0	0	8	0	0	2	0	0	5	0
Lane Group Flow (vph)	293	2255	0	114	1881	0	79	1302	0	93	1722	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
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)	74	2308		74	2304		74	1249		74	1241	
v/s Ratio Prot		0.50			0.42			0.42			c0.55	
v/s Ratio Perm	c2.02			0.79			0.43			0.50		
v/c Ratio	3.96	0.98		1.54	0.82		1.07	1.04		1.26	1.39	
Uniform Delay, d1	22.0	21.5		22.0	18.5		27.0	27.0		27.0	27.0	
Progression Factor	1.31	1.35		1.16	1.18		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1352.4	10.6		249.3	0.3		124.4	37.3		188.5	179.3	
Delay (s)	1381.2	39.6		274.9	22.1		151.4	64.3		215.5	206.3	
Level of Service	F	D		F	C		F	E		F	F	
Approach Delay (s)		193.7			36.5			69.3			206.8	
Approach LOS		F			D			E			F	

Intersection Summary

HCM Average Control Delay	134.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	133.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1583	4537		1583	4537			1646	1417		1561	
Flt Permitted	0.07	1.00		0.06	1.00			0.89	1.00		0.91	
Satd. Flow (perm)	119	4537		100	4537			1477	1417		1433	
Volume (vph)	46	2314	46	78	1865	35	27	77	78	32	53	54
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	2515	50	85	2027	38	29	84	85	35	58	59
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	2	0	7	0
Lane Group Flow (vph)	50	2564	0	85	2064	0	0	113	83	0	145	0
Turn Type	Perm		Perm		Perm		Perm		Perm	Perm		
Protected Phases	6		2		2		8		8	4		
Permitted Phases	6		2		8		8		8	4		
Actuated Green, G (s)	66.8	66.8		66.8	66.8			14.7	14.7		14.7	
Effective Green, g (s)	66.8	66.8		66.8	66.8			15.2	15.2		15.2	
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.17	0.17		0.17	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	88	3367		74	3367			249	239		242	
v/s Ratio Prot	0.57		0.45									
v/s Ratio Perm	0.42		c0.85				0.08	0.06		c0.10		
v/c Ratio	0.57	0.76	1.15		0.61		0.45	0.35		0.60		
Uniform Delay, d1	5.2	6.9	11.6		5.5		33.7	33.0		34.6		
Progression Factor	1.00	1.00	1.26		0.99		1.00	1.00		1.00		
Incremental Delay, d2	24.0	1.7	118.0		0.4		1.3	0.9		3.9		
Delay (s)	29.1	8.6	132.6		5.8		35.0	33.9		38.5		
Level of Service	C		F		A		C	C		D		
Approach Delay (s)	8.9		10.8				34.5			38.5		
Approach LOS	A		B				C			D		

Intersection Summary

























HCM Average Control Delay	11.6	HCM Level of Service	B
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.96		1.00	1.00	0.98	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	0.95	0.85
Flt Protected	1.00		0.95	1.00	0.97	1.00
Satd. Flow (prot)	4238		1583	4550	2906	1239
Flt Permitted	1.00		0.09	1.00	0.97	1.00
Satd. Flow (perm)	4238		148	4550	2906	1239
Volume (vph)	1796	459	588	1449	571	727
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1833	468	600	1479	583	742
RTOR Reduction (vph)	49	0	0	0	87	1
Lane Group Flow (vph)	2252	0	600	1479	813	424
Conf. Peds. (#/hr)		183	183			21
Conf. Bikes (#/hr)		4				5
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	39.9		51.9	51.9	28.4	36.4
Effective Green, g (s)	40.9		52.9	52.9	29.1	37.1
Actuated g/C Ratio	0.45		0.59	0.59	0.32	0.41
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	1926		215	2674	940	566
v/s Ratio Prot	0.53		c0.25	0.33	c0.28	0.07
v/s Ratio Perm			c1.39			0.28
v/c Ratio	1.17		2.79	0.55	0.86	0.75
Uniform Delay, d1	24.6		26.6	11.3	28.6	22.5
Progression Factor	1.00		1.00	1.00	0.68	0.33
Incremental Delay, d2	82.1		818.7	0.8	5.7	3.3
Delay (s)	106.7		845.2	12.2	25.2	10.8
Level of Service	F		F	B	C	B
Approach Delay (s)	106.7			252.6	20.5	
Approach LOS	F			F	C	

Intersection Summary			
HCM Average Control Delay	139.8	HCM Level of Service	F
HCM Volume to Capacity ratio	2.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 9: 8th Street & Crenshaw Blvd

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 						 			 	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Fr _t	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Fl _t Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3073		1583	1667	1417	1583	3116		1583	3163	
Fl _t Permitted	0.46	1.00		0.37	1.00	1.00	0.23	1.00		0.11	1.00	
Satd. Flow (perm)	767	3073		616	1667	1417	387	3116		189	3163	
Volume (vph)	20	374	92	185	249	59	179	1256	149	20	973	7
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	20	382	94	189	254	60	183	1282	152	20	993	7
RTOR Reduction (vph)	0	0	0	0	0	42	0	10	0	0	0	0
Lane Group Flow (vph)	20	476	0	189	254	18	183	1424	0	20	1000	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	8			4			4	6		2		
Permitted Phases	8			4			4	6		2		
Actuated Green, G (s)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	922		185	500	425	237	1904		116	1933	
v/s Ratio Prot		0.15			0.15			0.46			0.32	
v/s Ratio Perm	0.03			c0.31		0.01	c0.47			0.11		
v/c Ratio	0.09	0.52		1.02	0.51	0.04	0.77	0.75		0.17	0.52	
Uniform Delay, d ₁	22.6	26.1		31.5	26.0	22.3	12.9	12.5		7.6	9.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.62	1.73		0.35	0.46	
Incremental Delay, d ₂	0.7	2.1		71.9	3.7	0.2	2.3	0.3		0.3	0.1	
Delay (s)	23.4	28.2		103.4	29.7	22.5	23.2	22.0		2.9	4.7	
Level of Service	C	C		F	C	C	C	C		A	A	
Approach Delay (s)		28.0			56.5			22.1			4.6	
Approach LOS		C			E			C			A	
Intersection Summary												
HCM Average Control Delay			22.8	HCM Level of Service				C				
HCM Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			90.0	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												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4486		1583	4521		1583	3130		1583	3167	1417
Flt Permitted	0.14	1.00		0.95	1.00		0.13	1.00		0.13	1.00	1.00
Satd. Flow (perm)	236	4486		1583	4521		209	3130		217	3167	1417
Volume (vph)	64	2261	233	69	1700	74	102	1454	122	73	1192	130
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	2380	245	73	1789	78	107	1531	128	77	1255	137
RTOR Reduction (vph)	0	13	0	0	5	0	0	6	0	0	0	84
Lane Group Flow (vph)	67	2612	0	73	1862	0	107	1653	0	77	1255	53
Turn Type	pm+pt		Prot		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2						4			8		8
Actuated Green, G (s)	32.7	27.4		7.9	29.1		38.5	30.9		36.1	29.7	29.7
Effective Green, g (s)	34.0	28.3		7.4	30.0		39.5	31.9		37.1	30.7	30.7
Actuated g/C Ratio	0.38	0.31		0.08	0.33		0.44	0.35		0.41	0.34	0.34
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1411		130	1507		208	1109		187	1080	483
v/s Ratio Prot	0.02	c0.58		c0.05	0.41		c0.04	c0.53		0.03	0.40	
v/s Ratio Perm	0.12						0.18			0.14		0.04
v/c Ratio	0.39	1.85		0.56	1.24		0.51	1.49		0.41	1.16	0.11
Uniform Delay, d1	22.6	30.9		39.7	30.0		20.8	29.1		21.6	29.6	20.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.95	0.80	0.74
Incremental Delay, d2	1.4	385.8		5.5	111.8		2.1	225.4		1.3	82.1	0.4
Delay (s)	24.1	416.6		45.2	141.8		22.9	254.4		21.8	106.0	15.3
Level of Service	C			D			C			C		B
Approach Delay (s)	406.9			138.2			240.4			93.1		
Approach LOS	F			F			F			F		

Intersection Summary

HCM Average Control Delay	244.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	126.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↖	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			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			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1583	4517		1583	4534			1643	1417		1646	1417
Flt Permitted	0.09	1.00		0.09	1.00			0.99	1.00		0.99	1.00
Satd. Flow (perm)	147	4517		147	4534			1643	1417		1646	1417
Volume (vph)	66	2083	106	6	1875	44	80	203	42	63	193	37
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	73	2289	116	7	2060	48	88	223	46	69	212	41
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	36	0	0	36
Lane Group Flow (vph)	73	2405	0	7	2106	0	0	311	10	0	281	5
Turn Type	Perm		Perm		Split		Perm		Split		Perm	
Protected Phases	6		2		4		4		3		3	
Permitted Phases	6		2				4				3	
Actuated Green, G (s)	43.6	43.6		43.6	43.6			19.0	19.0		10.5	10.5
Effective Green, g (s)	45.5	45.5		45.5	45.5			20.5	20.5		12.0	12.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.23	0.23		0.13	0.13
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	2284		74	2292			374	323		219	189
v/s Ratio Prot	c0.53		0.46		c0.19		c0.17					
v/s Ratio Perm	0.50			0.05				0.01				0.00
v/c Ratio	0.99	1.05		0.09	0.92			0.83	0.03		1.28	0.03
Uniform Delay, d1	21.9	22.2		11.6	20.5			33.1	27.0		39.0	33.9
Progression Factor	0.68	0.69		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	92.1	33.3		2.5	7.4			14.5	0.0		157.5	0.1
Delay (s)	107.0	48.6		14.1	27.9			47.6	27.1		196.5	34.0
Level of Service	F	D		B	C			D	C		F	C
Approach Delay (s)	50.3		27.9		45.0		175.8					
Approach LOS	D		C		D		F					

Intersection Summary			
HCM Average Control Delay	48.6	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1583	4542		1583	4541			1655			1650	1417
Flt Permitted	0.12	1.00		0.07	1.00			1.00			0.99	1.00
Satd. Flow (perm)	208	4542		125	4541			1655			1650	1417
Volume (vph)	180	1826	21	22	1427	19	13	266	10	21	82	174
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	1902	22	23	1486	20	14	277	10	22	85	181
RTOR Reduction (vph)	0	1	0	0	1	0	0	2	0	0	0	154
Lane Group Flow (vph)	188	1923	0	23	1505	0	0	299	0	0	107	27
Turn Type	Perm		Perm		Split		Split		Split		Perm	
Protected Phases	6		2		3		3		4		4	
Permitted Phases	6		2								4	
Actuated Green, G (s)	52.0	52.0		52.0	52.0			9.6			12.5	12.5
Effective Green, g (s)	53.5	53.5		53.5	53.5			11.0			13.5	13.5
Actuated g/C Ratio	0.59	0.59		0.59	0.59			0.12			0.15	0.15
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	124	2700		74	2699			202			248	213
v/s Ratio Prot		0.42			0.33			c0.18			c0.06	
v/s Ratio Perm	c0.91			0.18								0.02
v/c Ratio	1.52	0.71		0.31	0.56			1.48			0.43	0.13
Uniform Delay, d1	18.2	12.8		9.1	11.1			39.5			34.8	33.1
Progression Factor	1.00	1.00		1.46	1.52			1.00			1.00	1.00
Incremental Delay, d2	269.1	1.6		4.5	0.3			241.3			1.2	0.3
Delay (s)	287.3	14.5		17.7	17.2			280.8			36.0	33.4
Level of Service	F	B		B	B			F			D	C
Approach Delay (s)		38.8			17.2			280.8			34.4	
Approach LOS		D			B			F			C	

Intersection Summary

HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		0.99		1.00	1.00			0.99			0.98	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	1.00			0.97			0.93	
Flt Protected		1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)		4231		1490	4267			1497			1432	
Flt Permitted		1.00		0.06	1.00			0.95			0.98	
Satd. Flow (perm)		4231		100	4267			1439			1406	
Volume (vph)	0	1959	70	48	1580	22	28	147	47	10	61	73
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	2153	77	53	1736	24	31	162	52	11	67	80
RTOR Reduction (vph)	0	3	0	0	1	0	0	3	0	0	12	0
Lane Group Flow (vph)	0	2227	0	53	1759	0	0	242	0	0	146	0
Conf. Peds. (#/hr)	34		71	71		34	15		9	9		15
Conf. Bikes (#/hr)			8			12			4			2
Turn Type				Perm			Perm			Perm		
Protected Phases		6			2			8			4	
Permitted Phases				2			8			4		
Actuated Green, G (s)		63.1		63.1	63.1			19.4			19.4	
Effective Green, g (s)		62.6		62.6	62.6			19.4			19.4	
Actuated g/C Ratio		0.70		0.70	0.70			0.22			0.22	
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2943		70	2968			310			303	
v/s Ratio Prot		0.53			0.41							
v/s Ratio Perm				c0.53				c0.17			0.10	
v/c Ratio		0.76		0.76	0.59			0.78			0.48	
Uniform Delay, d1		8.8		8.8	7.1			33.3			30.9	
Progression Factor		1.03		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.2		53.7	0.9			12.0			1.2	
Delay (s)		9.3		62.6	8.0			45.3			32.1	
Level of Service		A		E	A			D			C	
Approach Delay (s)		9.3			9.6			45.3			32.1	
Approach LOS		A			A			D			C	
Intersection Summary												
HCM Average Control Delay			12.2				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			77.0%				ICU Level of Service				D	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	↘
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1490	2980	1333	1490	2951		1490	4246		1490	4238	
Flt Permitted	0.13	1.00	1.00	0.12	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	202	2980	1333	194	2951		216	4246		216	4238	
Volume (vph)	92	1513	102	126	1341	96	123	2165	129	157	2156	160
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	95	1560	105	130	1382	99	127	2232	133	162	2223	165
RTOR Reduction (vph)	0	0	32	0	6	0	0	7	0	0	9	0
Lane Group Flow (vph)	95	1560	73	130	1475	0	127	2358	0	162	2379	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	35.6	30.0	37.0	38.4	31.4		35.0	28.0		35.0	28.0	
Effective Green, g (s)	36.6	31.0	38.0	39.4	32.4		36.0	29.0		36.0	29.0	
Actuated g/C Ratio	0.41	0.34	0.42	0.44	0.36		0.40	0.32		0.40	0.32	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	162	1026	622	186	1062		185	1368		185	1366	
v/s Ratio Prot	0.04	c0.52	0.01	c0.05	0.50		0.05	0.56		c0.07	c0.56	
v/s Ratio Perm	0.20		0.05	0.25			0.22			0.28		
v/c Ratio	0.59	1.52	0.12	0.70	1.39		0.69	1.72		0.88	1.74	
Uniform Delay, d1	22.3	29.5	15.8	41.9	28.8		41.8	30.5		42.9	30.5	
Progression Factor	0.75	0.71	0.62	1.00	1.00		1.64	1.43		1.73	1.45	
Incremental Delay, d2	0.5	234.7	0.0	10.9	181.0		1.0	325.8		4.5	333.8	
Delay (s)	17.2	255.5	9.8	52.8	209.8		69.4	369.6		78.7	378.0	
Level of Service	B	F	A	D	F		E	F		E	F	
Approach Delay (s)		228.0			197.1			354.3			359.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	299.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	134.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↑↑↑		↘	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2980	1333	1490	2918		1490	4219		1490	4278	
Flt Permitted	0.16	1.00	1.00	0.22	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	249	2980	1333	351	2918		165	4219		165	4278	
Volume (vph)	45	751	101	164	1005	162	154	2096	228	94	2155	15
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	45	759	102	166	1015	164	156	2117	230	95	2177	15
RTOR Reduction (vph)	0	0	19	0	1	0	0	14	0	0	1	0
Lane Group Flow (vph)	45	759	83	166	1178	0	156	2333	0	95	2191	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm		Perm		
Protected Phases		8		7	4		6		6		2	
Permitted Phases	8		8	4		6		2				
Actuated Green, G (s)	35.0	35.0	35.0	43.0	43.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0
Effective Green, g (s)	36.0	36.0	36.0	44.0	44.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Actuated g/C Ratio	0.40	0.40	0.40	0.49	0.49	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	100	1192	533	222	1427	70	1781	70	1806	70	1806	70
v/s Ratio Prot		0.25		0.03	c0.40		0.55		0.51		0.51	
v/s Ratio Perm	0.18		0.06	0.33		c0.94		0.58		0.58		
v/c Ratio	0.45	0.64	0.16	0.75	0.83	2.23	1.31	1.36	1.21	1.36	1.21	
Uniform Delay, d1	19.8	21.7	17.3	18.8	19.7	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Progression Factor	1.42	1.45	1.67	1.00	1.00	1.00	1.00	0.34	0.35	0.34	0.35	
Incremental Delay, d2	1.3	0.2	0.1	12.9	5.6	596.1	143.5	169.1	96.5	169.1	96.5	
Delay (s)	29.3	31.7	28.8	31.7	25.3	622.1	169.5	178.0	105.6	178.0	105.6	
Level of Service	C	C	C	C	C	F	F	F	F	F	F	
Approach Delay (s)		31.2			26.1		197.7		108.6			
Approach LOS		C			C		F		F			F

Intersection Summary

HCM Average Control Delay	114.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.99			0.98		1.00	1.00		1.00	1.00	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2954			2917		1490	4280		1490	4262	
Flt Permitted		1.00			1.00		0.19	1.00		0.19	1.00	
Satd. Flow (perm)		2954			2917		299	4280		299	4262	
Volume (vph)	0	1231	77	0	985	162	71	2331	10	99	2206	71
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1256	79	0	1005	165	72	2379	10	101	2251	72
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	1335	0	0	1170	0	72	2388	0	101	2318	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		8		4		4		6		6		2
Permitted Phases		8		4		6		6		2		2
Actuated Green, G (s)		30.1		30.1		20.3	20.3	20.3		20.3	20.3	
Effective Green, g (s)		31.0		31.0		21.0	21.0	21.0		21.0	21.0	
Actuated g/C Ratio		0.52		0.52		0.35	0.35	0.35		0.35	0.35	
Clearance Time (s)		4.9		4.9		4.7	4.7	4.7		4.7	4.7	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1526		1507		105	1498	105		1492	105	
v/s Ratio Prot		c0.45		0.40			c0.56			0.54		
v/s Ratio Perm						0.24		0.34				
v/c Ratio		0.87		0.78		0.69	1.59	0.96		1.55		
Uniform Delay, d1		12.8		11.7		16.7	19.5	19.1		19.5		
Progression Factor		1.00		1.00		1.00	1.00	1.00		1.00		
Incremental Delay, d2		5.9		2.6		30.7	270.6	78.0		252.4		
Delay (s)		18.7		14.3		47.4	290.1	97.1		271.9		
Level of Service		B		B		D	F	F		F		F
Approach Delay (s)		18.7		14.3		283.0		264.6				
Approach LOS		B		B		F		F				F

Intersection Summary

HCM Average Control Delay	186.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1489	4175		1490	4156		1490	4258		1490	4203	
Flt Permitted	0.14	1.00		0.13	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	216	4175		209	4156		202	4258		1490	4203	
Volume (vph)	133	1784	144	240	1310	131	127	2045	45	155	1948	109
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	136	1820	147	245	1337	134	130	2087	46	158	1988	111
RTOR Reduction (vph)	0	10	0	0	13	0	0	3	0	0	6	0
Lane Group Flow (vph)	136	1957	0	245	1458	0	130	2130	0	158	2093	0
Conf. Peds. (#/hr)	145		153	153		145	164		89	89		164
Conf. Bikes (#/hr)			13			8			6			17
Turn Type	pm+pt		pm+pt		pm+pt		Prot					
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		2		8							
Actuated Green, G (s)	35.5	29.0		37.5	30.0		37.5	31.0		7.5	32.0	
Effective Green, g (s)	35.0	29.0		37.0	30.0		37.0	31.0		7.0	32.0	
Actuated g/C Ratio	0.39	0.32		0.41	0.33		0.41	0.34		0.08	0.36	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	169	1345		186	1385		169	1467		116	1494	
v/s Ratio Prot	0.05	c0.47		c0.10	0.35		0.05	c0.50		c0.11	0.50	
v/s Ratio Perm	0.26		0.44		0.26							
v/c Ratio	0.80	1.45		1.32	1.05		0.77	1.45		1.36	1.40	
Uniform Delay, d1	21.4	30.5		43.7	30.0		42.9	29.5		41.5	29.0	
Progression Factor	1.23	0.80		1.52	0.79		2.04	1.27		1.00	1.00	
Incremental Delay, d2	14.2	207.0		170.1	37.1		2.0	203.8		208.5	184.4	
Delay (s)	40.5	231.6		236.4	60.6		89.5	241.2		250.0	213.4	
Level of Service	D	F		F	E		F	F		F	F	
Approach Delay (s)		219.2			85.7			232.5			216.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	194.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	132.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↗↗↗		↗	↗↗↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			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		0.97			0.98		1.00	1.00		1.00	1.00	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1504			1510		1490	4264		1490	4251	
Flt Permitted		0.95			0.72		0.09	1.00		0.09	1.00	
Satd. Flow (perm)		1439			1103		146	4264		146	4251	
Volume (vph)	48	427	142	69	173	46	27	2107	38	19	2273	51
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	49	436	145	70	177	47	28	2150	39	19	2319	52
RTOR Reduction (vph)	0	1	0	0	1	0	0	2	0	0	3	0
Lane Group Flow (vph)	0	629	0	0	293	0	28	2187	0	19	2368	0
Conf. Peds. (#/hr)	10		12	12		10	57		25	25		57
Conf. Bikes (#/hr)			2						1			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		38.0			38.0		42.5	42.5		42.5	42.5	
Effective Green, g (s)		39.0			39.0		43.0	43.0		43.0	43.0	
Actuated g/C Ratio		0.43			0.43		0.48	0.48		0.48	0.48	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		624			478		70	2037		70	2031	
v/s Ratio Prot								0.51			c0.56	
v/s Ratio Perm		c0.44			0.27		0.19			0.13		
v/c Ratio		1.01			0.61		0.40	1.07		0.27	1.17	
Uniform Delay, d1		25.5			19.7		15.2	23.5		14.1	23.5	
Progression Factor		1.00			1.00		1.00	1.00		0.37	0.54	
Incremental Delay, d2		38.2			2.3		16.2	43.0		0.9	75.3	
Delay (s)		63.7			22.0		31.3	66.5		6.1	88.0	
Level of Service		E			C		C	E		A	F	
Approach Delay (s)		63.7			22.0			66.1			87.3	
Approach LOS		E			C			E			F	
Intersection Summary												
HCM Average Control Delay			72.7				HCM Level of Service			E		
HCM Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)		8.0			
Intersection Capacity Utilization			103.9%				ICU Level of Service		G			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4272		1490	4233		1490	4268		1490	4228	
Flt Permitted	0.12	1.00		0.10	1.00		0.95	1.00		0.11	1.00	
Satd. Flow (perm)	187	4272		163	4233		1490	4268		176	4228	
Volume (vph)	296	1931	33	41	1290	107	41	2115	48	189	2273	210
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	305	1991	34	42	1330	110	42	2180	49	195	2343	216
RTOR Reduction (vph)	0	1	0	0	10	0	0	2	0	0	9	0
Lane Group Flow (vph)	305	2024	0	42	1430	0	42	2227	0	195	2550	0
Turn Type	Perm		pm+pt			Prot		pm+pt				
Protected Phases	8		7		4		5		1			6
Permitted Phases	8		4					2		6		
Actuated Green, G (s)	33.1	33.1	41.9		41.9		5.8	30.2	47.3		37.5	
Effective Green, g (s)	34.5	34.5	43.3		43.3		5.8	31.6	48.7		38.9	
Actuated g/C Ratio	0.34	0.34	0.43		0.43		0.06	0.32	0.49		0.39	
Clearance Time (s)	5.4	5.4	4.0		5.4		4.0	5.4	4.0		5.4	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	4.0		3.0	
Lane Grp Cap (vph)	65	1474	134		1833		86	1349	258		1645	
v/s Ratio Prot	0.47		0.02		c0.34		0.03		c0.10		c0.60	
v/s Ratio Perm	c1.63		0.12					0.52		0.27		
v/c Ratio	4.69	1.37	0.31		0.78		0.49	1.65	0.76		1.55	
Uniform Delay, d1	32.8	32.8	24.0		24.3		45.7	34.2	23.5		30.6	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1696.0	172.2	1.3		3.4		4.3	296.2	12.6		250.6	
Delay (s)	1728.8	204.9	25.3		27.7		50.0	330.4	36.1		281.1	
Level of Service	F		C			C		D	F	D		F
Approach Delay (s)	404.4		27.6					325.2		263.8		
Approach LOS	F		C					F		F		

Intersection Summary

HCM Average Control Delay	277.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	127.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑			↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	0.97			0.99			1.00	0.96		0.98	
Flpb, ped/bikes	0.98	1.00			1.00			0.99	1.00		1.00	
Frt	1.00	0.99			0.99			1.00	0.85		0.97	
Flt Protected	0.95	1.00			1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1467	4108			4207			1524	1280		1477	
Flt Permitted	0.11	1.00			1.00			0.79	1.00		0.69	
Satd. Flow (perm)	166	4108			4207			1223	1280		1037	
Volume (vph)	254	1836	191	0	1434	65	79	190	151	48	111	39
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	282	2040	212	0	1593	72	88	211	168	53	123	43
RTOR Reduction (vph)	0	13	0	0	5	0	0	0	6	0	10	0
Lane Group Flow (vph)	282	2239	0	0	1660	0	0	299	162	0	209	0
Conf. Peds. (#/hr)	95		113	113		95	73		22	22		73
Conf. Bikes (#/hr)			13			15			3			3
Turn Type	Perm			Perm			Perm		Perm		Perm	
Protected Phases	6			2			8		8		4	
Permitted Phases	6						8		8		4	
Actuated Green, G (s)	58.8	58.8			58.8			23.7	23.7		23.7	
Effective Green, g (s)	58.3	58.3			58.3			23.7	23.7		23.7	
Actuated g/C Ratio	0.65	0.65			0.65			0.26	0.26		0.26	
Clearance Time (s)	3.5	3.5			3.5			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)	108	2661			2725			322	337		273	
v/s Ratio Prot		0.55			0.39							
v/s Ratio Perm	c1.70						c0.24		0.13		0.20	
v/c Ratio	2.61	0.84			0.61			0.93	0.48		0.76	
Uniform Delay, d1	15.9	12.3			9.2			32.3	28.0		30.6	
Progression Factor	1.44	1.44			0.25			1.00	1.00		1.00	
Incremental Delay, d2	744.0	2.5			0.2			31.8	1.1		12.0	
Delay (s)	766.8	20.1			2.6			64.2	29.0		42.6	
Level of Service	F	C			A			E	C		D	
Approach Delay (s)		103.2			2.6			51.5			42.6	
Approach LOS		F			A			D			D	

Intersection Summary			
HCM Average Control Delay	61.2	HCM Level of Service	E
HCM Volume to Capacity ratio	2.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↗		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1583	4537		1583	4300	1218		1590			1582	
Flt Permitted	0.10	1.00		0.08	1.00	1.00		0.89			0.82	
Satd. Flow (perm)	169	4537		128	4300	1218		1427			1304	
Volume (vph)	137	1832	35	76	1399	100	36	174	88	79	208	128
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	151	2013	38	84	1537	110	40	191	97	87	229	141
RTOR Reduction (vph)	0	2	0	0	0	46	0	6	0	0	18	0
Lane Group Flow (vph)	151	2049	0	84	1537	64	0	322	0	0	439	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	6			2			2	8			4	
Permitted Phases	6			2			2	8			4	
Actuated Green, G (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Effective Green, g (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Actuated g/C Ratio	0.58	0.58		0.58	0.58	0.58		0.33			0.33	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	98	2621		74	2484	704		476			435	
v/s Ratio Prot		0.45			0.36							
v/s Ratio Perm	c0.89			0.66			0.05	0.23			c0.34	
v/c Ratio	1.54	0.78		1.14	0.62	0.09		0.68			1.01	
Uniform Delay, d1	19.0	14.6		19.0	12.5	8.5		25.8			30.0	
Progression Factor	1.86	2.00		0.96	0.79	0.48		1.00			1.00	
Incremental Delay, d2	275.0	1.7		133.4	0.9	0.2		3.8			45.5	
Delay (s)	310.5	31.0		151.6	10.7	4.3		29.6			75.5	
Level of Service	F	C		F	B	A		C			E	
Approach Delay (s)		50.2			17.1			29.6			75.5	
Approach LOS		D			B			C			E	

Intersection Summary

HCM Average Control Delay	39.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	4546		1583	4550	1531	
Flt Permitted	1.00		0.07	1.00	0.97	
Satd. Flow (perm)	4546		121	4550	1531	
Volume (vph)	1977	10	54	1485	75	50
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2081	11	57	1563	79	53
RTOR Reduction (vph)	0	0	0	0	4	0
Lane Group Flow (vph)	2092	0	57	1563	128	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2793		74	2796	454	
v/s Ratio Prot	0.46			0.34	c0.08	
v/s Ratio Perm			c0.47			
v/c Ratio	0.75		0.77	0.56	0.28	
Uniform Delay, d1	12.4		12.7	10.2	24.3	
Progression Factor	1.00		1.54	1.58	1.00	
Incremental Delay, d2	1.9		43.3	0.6	0.3	
Delay (s)	14.3		62.9	16.7	24.6	
Level of Service	B		E	B	C	
Approach Delay (s)	14.3			18.4	24.6	
Approach LOS	B			B	C	
Intersection Summary						
HCM Average Control Delay			16.4		HCM Level of Service	B
HCM Volume to Capacity ratio			0.61			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			64.9%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3133	3133
Flt Permitted	0.15	1.00	1.00	0.10	1.00	1.00	0.15	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	257	3167	1417	167	3167	1417	247	3167	1417	215	3133	3133
Volume (vph)	106	1461	110	172	1169	181	121	1293	240	122	1277	96
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	110	1522	115	179	1218	189	126	1347	250	127	1330	100
RTOR Reduction (vph)	0	0	17	0	0	1	0	0	120	0	6	0
Lane Group Flow (vph)	110	1522	98	179	1218	188	126	1347	130	127	1424	0
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt		
Protected Phases		6		5		2	7		8		7	4
Permitted Phases	6		6	2		2	8		8		4	
Actuated Green, G (s)	35.0	35.0	35.0	44.0	44.0	49.7	27.1	27.1	27.1	36.0	36.0	
Effective Green, g (s)	36.0	36.0	36.0	45.0	45.0	51.0	27.0	27.0	27.0	37.0	37.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.50	0.50	0.57	0.30	0.30	0.30	0.41	0.41	
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	
Lane Grp Cap (vph)	103	1267	567	162	1584	866	74	950	425	180	1288	
v/s Ratio Prot		c0.48		c0.06	0.38	0.01		0.43		0.05	c0.45	
v/s Ratio Perm	0.43		0.07	0.49		0.12	c0.51		0.09	0.24		
v/c Ratio	1.07	1.20	0.17	1.10	0.77	0.22	1.70	1.42	0.31	0.71	1.11	
Uniform Delay, d1	27.0	27.0	17.4	44.7	18.3	9.6	31.5	31.5	24.3	42.6	26.5	
Progression Factor	1.00	1.00	1.00	2.38	0.25	0.30	0.51	0.50	0.14	1.15	1.18	
Incremental Delay, d2	108.2	98.4	0.7	56.1	0.3	0.0	321.4	188.6	0.2	7.9	55.6	
Delay (s)	135.2	125.4	18.1	162.6	5.0	2.9	337.4	204.4	3.5	57.0	86.8	
Level of Service	F	F	B	F	A	A	F	F	A	E	F	
Approach Delay (s)		118.9			22.5			185.0			84.4	
Approach LOS		F			C			F			F	

Intersection Summary

HCM Average Control Delay	104.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	120.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗	↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3143		1583	3167	1417	1583	3137		1583	3132	
Flt Permitted	0.19	1.00		0.12	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	310	3143		196	3167	1417	238	3137		208	3132	
Volume (vph)	195	1319	71	125	840	196	112	1245	84	232	1373	109
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	199	1346	72	128	857	200	114	1270	86	237	1401	111
RTOR Reduction (vph)	0	4	0	0	0	27	0	6	0	0	6	0
Lane Group Flow (vph)	199	1414	0	128	857	173	114	1350	0	237	1506	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	40.1	32.3		39.7	32.1	37.9	26.1	26.1		35.1	35.1	
Effective Green, g (s)	41.2	34.2		40.8	34.0	39.0	28.0	28.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.38		0.45	0.38	0.43	0.31	0.31		0.41	0.41	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	241	1194		194	1196	677	74	976		162	1288	
v/s Ratio Prot	c0.06	c0.45		0.05	0.27	0.01		0.43		c0.08	0.48	
v/s Ratio Perm	0.31			0.25		0.11	0.48			c0.52		
v/c Ratio	0.83	1.18		0.66	0.72	0.26	1.54	1.38		1.46	1.17	
Uniform Delay, d1	17.1	27.9		21.1	23.9	16.2	31.0	31.0		44.7	26.5	
Progression Factor	1.00	1.00		1.75	1.04	0.84	1.50	1.50		0.92	0.52	
Incremental Delay, d2	20.1	91.6		0.7	0.3	0.0	292.2	178.1		218.2	78.7	
Delay (s)	37.2	119.5		37.6	25.2	13.7	338.7	224.5		259.5	92.4	
Level of Service	D	F		D	C	B	F	F		F	F	
Approach Delay (s)		109.3			24.6			233.3			115.0	
Approach LOS		F			C			F			F	

Intersection Summary

HCM Average Control Delay	124.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	120.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	↖↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.98		1.00	1.00	0.75	1.00	1.00	0.65	1.00	0.98	
Flpb, ped/bikes	0.85	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1346	1616		3072	1667	1060	1583	3167	918	1508	3096	
Flt Permitted	0.55	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	786	1616		3072	1667	1060	157	3167	918	264	3096	
Volume (vph)	19	426	36	137	329	149	6	1064	278	37	1256	57
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	20	444	38	143	343	155	6	1108	290	39	1308	59
RTOR Reduction (vph)	0	3	0	0	0	16	0	0	0	0	3	0
Lane Group Flow (vph)	20	479	0	143	343	139	6	1108	290	39	1364	0
Conf. Peds. (#/hr)	152		159	159		152	117		165	165		117
Conf. Bikes (#/hr)			5			9			7			6
Turn Type	Perm			Prot		Perm	Perm		pm+ov		Perm	
Protected Phases		8		7	4			6	7			2
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	20.2	20.2		10.0	34.2	34.2	46.2	46.2	56.2	46.2	46.2	
Effective Green, g (s)	21.0	21.0		10.0	35.0	35.0	47.0	47.0	57.0	47.0	47.0	
Actuated g/C Ratio	0.23	0.23		0.11	0.39	0.39	0.52	0.52	0.63	0.52	0.52	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	183	377		341	648	412	82	1654	622	138	1617	
v/s Ratio Prot		c0.30		0.05	c0.21			0.35	0.05		c0.44	
v/s Ratio Perm	0.03					0.13	0.04		0.26	0.15		
v/c Ratio	0.11	1.27		0.42	0.53	0.34	0.07	0.67	0.47	0.28	0.84	
Uniform Delay, d1	27.1	34.5		37.3	21.2	19.3	10.7	15.8	8.6	12.1	18.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.32	0.26	0.31	0.53	0.79	
Incremental Delay, d2	1.2	141.0		0.8	3.1	2.2	0.2	0.2	0.1	0.5	0.5	
Delay (s)	28.3	175.5		38.1	24.2	21.6	3.5	4.2	2.7	6.8	15.0	
Level of Service	C	F		D	C	C	A	A	A	A	B	
Approach Delay (s)		169.7			26.7			3.9			14.7	
Approach LOS		F			C			A			B	

Intersection Summary			
HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↖↖		↖	↖↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.94		1.00	1.00	0.81
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4320		1583	4404		1583	2894		1583	3167	1151
Flt Permitted	0.15	1.00		0.15	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	244	4320		244	4404		217	2894		1583	3167	1151
Volume (vph)	296	1932	328	199	1162	106	73	1298	247	173	1535	210
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	312	2034	345	209	1223	112	77	1366	260	182	1616	221
RTOR Reduction (vph)	0	26	0	0	12	0	0	17	0	0	0	110
Lane Group Flow (vph)	312	2353	0	209	1323	0	77	1609	0	182	1616	111
Confl. Peds. (#/hr)	152		159	159		152	166		214	214		166
Turn Type	pm+pt			pm+pt			pm+pt			Prot		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					4
Actuated Green, G (s)	33.1	26.3		33.1	26.3		35.1	29.7		10.8	35.1	35.1
Effective Green, g (s)	33.3	27.3		33.3	27.3		35.3	30.7		10.0	36.1	36.1
Actuated g/C Ratio	0.37	0.30		0.37	0.30		0.39	0.34		0.11	0.40	0.40
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	180	1310		180	1336		155	987		176	1270	462
v/s Ratio Prot	c0.12	c0.54		0.08	0.30		0.03	c0.56		c0.11	0.51	
v/s Ratio Perm	0.53			0.35			0.17					0.10
v/c Ratio	1.73	1.80		1.16	0.99		0.50	1.63		1.03	1.27	0.24
Uniform Delay, d1	25.6	31.4		27.2	31.2		22.7	29.6		40.0	26.9	17.9
Progression Factor	1.31	1.19		1.00	1.00		0.99	0.82		0.83	1.51	2.92
Incremental Delay, d2	345.2	360.2		117.1	22.4		2.1	287.4		69.9	127.7	1.0
Delay (s)	378.8	397.6		144.3	53.7		24.6	311.7		103.3	168.3	53.1
Level of Service	F	F		F	D		C	F		F	F	D
Approach Delay (s)		395.4			65.9			298.7			149.8	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	248.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	137.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.98	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Frt			0.86	1.00	0.92	0.85		0.99		1.00	1.00	
Flt Protected			1.00	0.95	0.98	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1413	1501	1339	1299		3099		1576	3167	
Flt Permitted			1.00	0.95	0.98	1.00		1.00		0.12	1.00	
Satd. Flow (perm)			1413	1501	1339	1299		3099		205	3167	
Volume (vph)	0	0	82	113	0	127	0	1298	127	178	1208	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	84	115	0	130	0	1324	130	182	1233	0
RTOR Reduction (vph)	0	0	79	0	39	72	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	5	73	49	12	0	1448	0	182	1233	0
Conf. Peds. (#/hr)	10		1	1		10	18		29	29		18
Conf. Bikes (#/hr)			1			2			3			3
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			4.8	12.3	12.3	12.3		58.5		58.5	58.5	
Effective Green, g (s)			5.7	13.2	13.2	13.2		59.1		59.1	59.1	
Actuated g/C Ratio			0.06	0.15	0.15	0.15		0.66		0.66	0.66	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			89	220	196	191		2035		135	2080	
v/s Ratio Prot								0.47			0.39	
v/s Ratio Perm			c0.00	c0.05	0.04	0.01				c0.89		
v/c Ratio			0.06	0.33	0.25	0.06		0.71		1.35	0.59	
Uniform Delay, d1			39.6	34.4	34.0	33.1		10.0		15.4	8.7	
Progression Factor			1.00	1.00	1.00	1.00		1.00		1.14	0.71	
Incremental Delay, d2			0.3	0.9	0.7	0.1		2.1		161.2	0.1	
Delay (s)			39.9	35.3	34.7	33.2		12.1		178.8	6.3	
Level of Service			D	D	C	C		B		F	A	
Approach Delay (s)		39.9			34.4			12.1			28.5	
Approach LOS		D			C			B			C	
Intersection Summary												
HCM Average Control Delay			21.8									HCM Level of Service C
HCM Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			78.2%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↔	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.99			0.96		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4493			4366		1583	5733			5733	
Flt Permitted		1.00			1.00		0.17	1.00			1.00	
Satd. Flow (perm)		4493			4366		284	5733			5733	
Volume (vph)	0	1951	177	0	1235	455	91	1220	0	0	1551	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1991	181	0	1260	464	93	1245	0	0	1583	0
RTOR Reduction (vph)	0	11	0	0	66	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2161	0	0	1658	0	93	1245	0	0	1583	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1033			1004		67	1347			1347	
v/s Ratio Prot		c0.48			0.38			0.22			0.28	
v/s Ratio Perm							c0.33					
v/c Ratio		2.09			1.65		1.39	0.92			1.18	
Uniform Delay, d1		38.5			38.5		38.2	37.4			38.2	
Progression Factor		0.70			1.00		1.00	1.00			0.72	
Incremental Delay, d2		491.8			297.5		243.5	12.0			79.6	
Delay (s)		518.7			336.0		281.8	49.4			107.2	
Level of Service		F			F		F	D			F	
Approach Delay (s)		518.7			336.0			65.6			107.2	
Approach LOS		F			F			E			F	
Intersection Summary												
HCM Average Control Delay			288.0				HCM Level of Service				F	
HCM Volume to Capacity ratio			1.74									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			53.5		
Intersection Capacity Utilization			90.0%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↔		↘	↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3165		1583	3146	
Flt Permitted	0.17	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	284	5733	1417		4550	1417		3165		1583	3146	
Volume (vph)	26	1435	34	0	1309	349	0	1058	3	166	1161	53
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	27	1464	35	0	1336	356	0	1080	3	169	1185	54
RTOR Reduction (vph)	0	0	27	0	0	272	0	0	0	0	3	0
Lane Group Flow (vph)	27	1464	8	0	1336	84	0	1083	0	169	1236	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	67	1347	333		1069	333		1029		79	1022	
v/s Ratio Prot		0.26			c0.29			0.34		c0.11	c0.39	
v/s Ratio Perm	0.10		0.01			0.06						
v/c Ratio	0.40	1.09	0.02		1.25	0.25		1.05		2.14	1.21	
Uniform Delay, d1	32.3	38.2	29.4		38.2	31.1		33.8		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.82	1.94		0.40		1.00	1.00	
Incremental Delay, d2	17.1	51.7	0.1		113.1	0.2		26.4		552.4	103.3	
Delay (s)	49.4	90.0	29.6		144.4	60.4		39.9		599.9	137.1	
Level of Service	D	F	C		F	E		D		F	F	
Approach Delay (s)		87.9			126.8			39.9			192.6	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	116.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	81.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗			↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.99			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4541		1583	4545		1583	3138			3065	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4541		290	4545		1583	3138			3065	
Volume (vph)	244	2125	29	70	1238	9	34	756	48	0	944	258
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	249	2168	30	71	1263	9	35	771	49	0	963	263
RTOR Reduction (vph)	0	2	0	0	1	0	0	5	0	0	25	0
Lane Group Flow (vph)	249	2196	0	71	1271	0	35	815	0	0	1201	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1044		67	1045		79	1020			996	
v/s Ratio Prot		0.48			0.28		c0.02	0.26			c0.39	
v/s Ratio Perm	c0.86			0.24								
v/c Ratio	3.72	2.10		1.06	1.22		0.44	0.80			1.21	
Uniform Delay, d1	38.5	38.5		38.5	38.5		46.1	30.8			33.8	
Progression Factor	1.00	1.00		0.70	0.70		1.00	1.00			0.26	
Incremental Delay, d2	1258.1	500.0		49.9	98.3		3.9	6.6			93.6	
Delay (s)	1296.6	538.5		77.1	125.3		50.1	37.3			102.3	
Level of Service	F	F		E	F		D	D			F	
Approach Delay (s)		615.7			122.7			37.8			102.3	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	311.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.10		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖	↖	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3145		1583	3147		1583	3167	1417	1583	3167	1417
Flt Permitted	0.15	1.00		0.13	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	243	3145		222	3147		1583	3167	1417	1583	3167	1417
Volume (vph)	120	1357	66	33	803	35	97	677	188	79	939	80
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	125	1414	69	34	836	36	101	705	196	82	978	83
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	61	0	0	46
Lane Group Flow (vph)	125	1479	0	34	869	0	101	705	135	82	978	37
Turn Type	Perm			Perm			Prot		Perm	Prot		Perm
Protected Phases	6			2			3		8	7		4
Permitted Phases	6			2					8			4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		7.8	39.3	39.3	7.7	39.2	39.2
Effective Green, g (s)	30.0	30.0		30.0	30.0		7.8	40.3	40.3	7.7	40.2	40.2
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.09	0.45	0.45	0.09	0.45	0.45
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	81	1048		74	1049		137	1418	635	135	1415	633
v/s Ratio Prot		0.47			0.28		c0.06	0.22		0.05	c0.31	
v/s Ratio Perm	c0.51			0.15					0.10			0.03
v/c Ratio	1.54	1.41		0.46	0.83		0.74	0.50	0.21	0.61	0.69	0.06
Uniform Delay, d1	30.0	30.0		23.6	27.6		40.1	17.7	15.2	39.7	19.9	14.1
Progression Factor	0.83	0.82		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	250.0	185.6		19.2	7.5		18.5	1.2	0.8	7.5	2.8	0.2
Delay (s)	275.0	210.2		42.8	35.2		58.6	18.9	15.9	47.2	22.7	14.3
Level of Service	F	F		D	D		E	B	B	D	C	B
Approach Delay (s)		215.3			35.4			22.3			23.9	
Approach LOS		F			D			C			C	

Intersection Summary

HCM Average Control Delay	91.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶			↶↶			↶↶	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	0.99			0.99			1.00	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4508		1583	4487			3137			3148	
Flt Permitted	0.11	1.00		0.09	1.00			1.00			0.80	
Satd. Flow (perm)	185	4508		147	4487			3137			2529	
Volume (vph)	146	1955	128	80	1309	133	0	1007	68	28	880	26
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	149	1995	131	82	1336	136	0	1028	69	29	898	27
RTOR Reduction (vph)	0	8	0	0	13	0	0	2	0	0	2	0
Lane Group Flow (vph)	149	2118	0	82	1459	0	0	1095	0	0	952	0
Turn Type	Perm			Perm						Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2						4		
Actuated Green, G (s)	43.5	43.5		43.5	43.5			34.8			34.8	
Effective Green, g (s)	45.2	45.2		45.2	45.2			36.8			36.8	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.41			0.41	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	93	2264		74	2253			1283			1034	
v/s Ratio Prot		0.47			0.33			0.35				
v/s Ratio Perm	c0.81			0.56							c0.38	
v/c Ratio	1.60	0.94		1.11	0.65			0.85			0.92	
Uniform Delay, d1	22.4	21.0		22.4	16.5			24.1			25.2	
Progression Factor	0.42	0.37		0.54	0.25			1.00			1.00	
Incremental Delay, d2	275.5	1.0		107.1	0.8			5.7			12.9	
Delay (s)	284.9	8.8		119.2	4.9			29.9			38.1	
Level of Service	F	A		F	A			C			D	
Approach Delay (s)		26.9			10.9			29.9			38.1	
Approach LOS		C			B			C			D	

Intersection Summary

HCM Average Control Delay	25.0	HCM Level of Service	C
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4472		1583	4472		1583	4381		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	217	4472		217	4472		1583	4381		1583	4550	1417
Volume (vph)	294	1798	230	367	1150	149	70	954	313	210	1684	244
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	306	1873	240	382	1198	155	73	994	326	219	1754	254
RTOR Reduction (vph)	0	18	0	0	18	0	0	40	0	0	0	119
Lane Group Flow (vph)	306	2095	0	382	1335	0	73	1280	0	219	1754	135
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	28.7	28.7		28.7	28.7		7.5	32.1		14.2	37.8	37.8
Effective Green, g (s)	30.7	30.7		30.7	30.7		8.5	33.1		14.2	38.8	38.8
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.09	0.37		0.16	0.43	0.43
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1525		74	1525		150	1611		250	1962	611
v/s Ratio Prot		0.47			0.30		0.05			c0.14	c0.39	
v/s Ratio Perm	1.41			c1.76				0.29				0.10
v/c Ratio	4.14	1.37		5.16	0.88		0.49	0.79		0.88	0.89	0.22
Uniform Delay, d1	29.6	29.6		29.6	27.8		38.7	25.4		37.0	23.7	16.1
Progression Factor	1.00	1.00		0.35	0.30		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1442.2	172.5		1898.8	6.4		0.9	4.1		26.4	6.8	0.8
Delay (s)	1471.8	202.1		1909.3	14.9		39.6	29.5		63.5	30.5	16.9
Level of Service	F	F		F	B		D	C		E	C	B
Approach Delay (s)		362.8			432.0			30.1			32.2	
Approach LOS		F			F			C			C	

Intersection Summary

HCM Average Control Delay	223.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.92
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1560	4540		1577	4510			1584			1645	1306
Flt Permitted	0.14	1.00		0.06	1.00			0.96			0.92	1.00
Satd. Flow (perm)	230	4540		98	4510			1532			1523	1306
Volume (vph)	80	2008	14	25	1362	39	25	182	50	23	117	262
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	2136	15	27	1449	41	27	194	53	24	124	279
RTOR Reduction (vph)	0	1	0	0	3	0	0	8	0	0	0	36
Lane Group Flow (vph)	85	2150	0	27	1487	0	0	266	0	0	148	243
Conf. Peds. (#/hr)	67		64	64		67	46		45	45		46
Conf. Bikes (#/hr)			7			5			5			6
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	156	3087		67	3067			368			366	313
v/s Ratio Prot		c0.47			0.33							
v/s Ratio Perm	0.37			0.28				0.17			0.10	c0.19
v/c Ratio	0.54	0.70		0.40	0.48			0.72			0.40	0.77
Uniform Delay, d1	8.1	9.7		7.1	7.6			34.9			32.0	35.5
Progression Factor	0.72	0.47		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.2	0.1		17.1	0.6			11.6			3.3	17.0
Delay (s)	7.1	4.7		24.1	8.2			46.5			35.3	52.4
Level of Service	A	A		C	A			D			D	D
Approach Delay (s)		4.8			8.5			46.5			46.5	
Approach LOS		A			A			D			D	

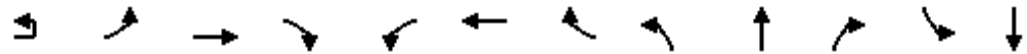
Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑↑↗		↘↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.75	1.00	0.93		1.00	0.97		1.00	0.95	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.99		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)	1573	3167	1060	1583	2828		3072	4391		3072	4211	
Flt Permitted	0.16	1.00	1.00	0.11	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	257	3167	1060	185	2828		3072	4391		3072	4211	
Volume (vph)	386	1136	85	253	553	172	62	2070	125	154	1564	277
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	411	1209	90	269	588	183	66	2202	133	164	1664	295
RTOR Reduction (vph)	0	0	47	0	25	0	0	6	0	0	20	0
Lane Group Flow (vph)	411	1209	43	269	747	0	66	2329	0	164	1939	0
Confl. Peds. (#/hr)	211		160	160		211	310		128	128		310
Confl. Bikes (#/hr)			10			8			9			7
Turn Type	pm+pt		Perm	pm+pt			Prot			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2								
Actuated Green, G (s)	49.6	34.6	34.6	49.6	34.6		9.6	43.4		9.6	43.4	
Effective Green, g (s)	50.0	36.0	36.0	50.0	36.0		9.6	44.4		9.6	44.4	
Actuated g/C Ratio	0.42	0.30	0.30	0.42	0.30		0.08	0.37		0.08	0.37	
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	261	950	318	240	848		246	1625		246	1558	
v/s Ratio Prot	c0.18	0.38		0.13	0.26		0.02	c0.53		0.05	c0.46	
v/s Ratio Perm	c0.47		0.04	0.34								
v/c Ratio	1.57	1.27	0.14	1.12	0.88		0.27	1.43		0.67	1.24	
Uniform Delay, d1	28.0	42.0	30.6	55.2	40.0		51.9	37.8		53.6	37.8	
Progression Factor	1.33	0.99	1.24	1.00	1.00		0.96	0.93		1.22	0.45	
Incremental Delay, d2	260.3	123.5	0.0	94.4	12.6		0.4	197.4		0.6	110.5	
Delay (s)	297.5	164.9	38.1	149.6	52.6		50.3	232.5		65.9	127.5	
Level of Service	F	F	D	F	D		D	F		E	F	
Approach Delay (s)		190.1			77.7			227.4			122.8	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	166.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	117.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97	
Frt	1.00		1.00		1.00	0.96	0.85	1.00		0.85	1.00	
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1583		4538		1583	4118	1218	1583		1417	3072	
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (perm)	1583		4538		1583	4118	1218	1583		1417	3072	
Volume (vph)	22	0	1190	22	14	878	915	36	0	46	1029	0
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	23	0	1266	23	15	934	973	38	0	49	1095	0
RTOR Reduction (vph)	0	0	2	0	0	58	343	0	0	47	0	0
Lane Group Flow (vph)	23	0	1287	0	15	1244	262	38	0	2	1095	0
Turn Type	Prot				Prot		Perm	Prot			custom	custom
Protected Phases	5		2		1		6			7		
Permitted Phases							6				7	8
Actuated Green, G (s)	4.2		53.1		2.0	50.0	50.0	4.0		4.0	39.1	
Effective Green, g (s)	6.1		54.1		3.9	51.9	51.9	5.0		5.0	41.0	
Actuated g/C Ratio	0.05		0.45		0.03	0.43	0.43	0.04		0.04	0.34	
Clearance Time (s)	5.9		5.0		5.9	5.9	5.9	5.0		5.0	5.9	
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80		2046		51	1781	527	66		59	1050	
v/s Ratio Prot	0.01		c0.28		0.01	c0.30		c0.02				
v/s Ratio Perm							0.21			0.00	c0.36	
v/c Ratio	0.29		0.63		0.29	0.70	0.50	0.58		0.03	1.04	
Uniform Delay, d1	54.9		25.3		56.7	27.7	24.6	56.5		55.2	39.5	
Progression Factor	1.09		1.21		1.01	1.75	9.82	1.00		1.00	1.21	
Incremental Delay, d2	0.2		0.1		1.8	1.3	1.9	11.6		0.2	32.8	
Delay (s)	60.1		30.6		59.0	49.7	243.6	68.0		55.4	80.4	
Level of Service	E		C		E	D	F	E		E	F	
Approach Delay (s)			31.1			110.8			60.9			79.0
Approach LOS			C			F			E			E
Intersection Summary												
HCM Average Control Delay			78.3									HCM Level of Service E
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			120.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			73.2%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	65
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	69
RTOR Reduction (vph)	40
Lane Group Flow (vph)	29
Turn Type	custom
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	39.1
Effective Green, g (s)	41.0
Actuated g/C Ratio	0.34
Clearance Time (s)	5.9
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	484
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.06
Uniform Delay, d1	26.5
Progression Factor	2.17
Incremental Delay, d2	0.1
Delay (s)	57.7
Level of Service	E
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.97	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4549			4435	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4549			4435	
Volume (vph)	0	1625	398	0	1280	384	181	1996	2	0	1724	350
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1675	410	0	1320	396	187	2058	2	0	1777	361
RTOR Reduction (vph)	0	0	3	0	0	9	0	0	0	0	21	0
Lane Group Flow (vph)	0	1675	407	0	1320	387	187	2060	0	0	2117	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		34.2	47.2		34.2	34.2	13.0	73.8			55.3	
Effective Green, g (s)		36.2	50.7		36.2	36.2	14.5	75.8			57.3	
Actuated g/C Ratio		0.30	0.42		0.30	0.30	0.12	0.63			0.48	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1729	646		1729	427	191	2873			2118	
v/s Ratio Prot		c0.29	0.08		0.23		c0.12	0.45			c0.48	
v/s Ratio Perm			0.21			0.27						
v/c Ratio		0.97	0.63		0.76	0.91	0.98	0.72			1.00	
Uniform Delay, d1		41.3	27.3		38.0	40.3	52.6	14.9			31.3	
Progression Factor		1.26	1.17		1.00	1.00	1.07	0.74			0.33	
Incremental Delay, d2		10.8	1.1		3.3	25.4	47.7	1.1			5.7	
Delay (s)		63.0	33.0		41.3	65.7	104.2	12.1			16.0	
Level of Service		E	C		D	E	F	B			B	
Approach Delay (s)		57.1			46.9			19.7			16.0	
Approach LOS		E			D			B			B	

Intersection Summary

HCM Average Control Delay	34.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.99			0.97		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611			1606		1583	4528		1583	4509	
Flt Permitted		0.79			0.95		0.08	1.00		0.07	1.00	
Satd. Flow (perm)		1311			1531		126	4528		109	4509	
Volume (vph)	217	181	27	10	48	17	121	1941	66	125	1792	116
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	221	185	28	10	49	17	123	1981	67	128	1829	118
RTOR Reduction (vph)	0	2	0	0	8	0	0	3	0	0	6	0
Lane Group Flow (vph)	0	432	0	0	68	0	123	2045	0	128	1941	0
Turn Type	Perm		Perm			Perm			Perm			
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.0			30.0		83.4	83.4		83.4	83.4	
Effective Green, g (s)		29.0			29.0		83.0	83.0		83.0	83.0	
Actuated g/C Ratio		0.24			0.24		0.69	0.69		0.69	0.69	
Clearance Time (s)		3.0			3.0		3.6	3.6		3.6	3.6	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		317			370		87	3132		75	3119	
v/s Ratio Prot								0.45			0.43	
v/s Ratio Perm		c0.33			0.04		0.97			c1.17		
v/c Ratio		1.36			0.18		1.41	0.65		1.71	0.62	
Uniform Delay, d1		45.5			36.1		18.5	10.4		18.5	10.0	
Progression Factor		1.00			1.00		1.00	1.00		0.59	0.37	
Incremental Delay, d2		182.0			1.1		240.9	1.1		337.7	0.3	
Delay (s)		227.5			37.2		259.4	11.5		348.5	4.0	
Level of Service		F			D		F	B		F	A	
Approach Delay (s)		227.5			37.2			25.5			25.3	
Approach LOS		F			D			C			C	

Intersection Summary

HCM Average Control Delay	44.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.94		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	
Frt	1.00	0.97		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4169		1583	4462		1583	4473		1583	4404	
Flt Permitted	0.12	1.00		0.12	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	194	4169		194	4462		181	4473		193	4404	
Volume (vph)	192	1969	475	179	1390	64	218	1950	125	70	1590	184
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	204	2095	505	190	1479	68	232	2074	133	74	1691	196
RTOR Reduction (vph)	0	41	0	0	5	0	0	7	0	0	14	0
Lane Group Flow (vph)	204	2559	0	190	1542	0	232	2200	0	74	1873	0
Conf. Peds. (#/hr)	127		197	127		197	103		84	84		103
Conf. Bikes (#/hr)			6			13			4			11
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.9	34.9		43.9	34.9		44.8	36.8		40.4	34.6	
Effective Green, g (s)	42.4	34.4		42.4	34.4		43.8	36.8		39.4	34.6	
Actuated g/C Ratio	0.42	0.34		0.42	0.34		0.44	0.37		0.39	0.35	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	193	1434		193	1535		177	1646		143	1524	
v/s Ratio Prot	c0.08	c0.61		0.08	0.35		c0.09	c0.49		0.02	0.43	
v/s Ratio Perm	0.36			0.34			0.48			0.18		
v/c Ratio	1.06	1.78		0.98	1.00		1.31	1.34		0.52	1.23	
Uniform Delay, d1	23.4	32.8		48.1	32.8		48.7	31.6		25.2	32.7	
Progression Factor	0.86	0.84		1.51	0.96		1.72	0.81		1.00	1.00	
Incremental Delay, d2	64.7	354.5		54.9	22.3		159.0	153.6		1.3	108.9	
Delay (s)	84.7	382.2		127.3	53.6		242.9	179.3		26.6	141.6	
Level of Service	F	F		F	D		F	F		C	F	
Approach Delay (s)		360.5			61.7			185.4			137.3	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	205.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	133.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		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	
Frt		0.95			0.99		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1507			1604		1583	4486		1583	4498	
Flt Permitted		0.86			0.35		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1308			570		104	4486		104	4498	
Volume (vph)	129	312	269	116	106	19	57	2077	116	25	2044	60
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	136	328	283	122	112	20	60	2186	122	26	2152	63
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	742	0	0	251	0	60	2302	0	26	2212	0
Confl. Peds. (#/hr)	29		64	64		29	102		42	42		102
Confl. Bikes (#/hr)			4			5			5			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		366			160		67	2871		67	2879	
v/s Ratio Prot								0.51			0.49	
v/s Ratio Perm		c0.57			0.44		c0.58			0.25		
v/c Ratio		2.03			1.57		0.90	0.80		0.39	0.77	
Uniform Delay, d1		36.0			36.0		15.2	13.3		8.6	12.7	
Progression Factor		1.00			1.00		1.00	1.00		1.29	1.17	
Incremental Delay, d2		471.8			284.2		83.2	2.5		1.5	0.2	
Delay (s)		507.8			320.2		98.3	15.8		12.7	15.1	
Level of Service		F			F		F	B		B	B	
Approach Delay (s)		507.8			320.2			17.9			15.1	
Approach LOS		F			F			B			B	

Intersection Summary			
HCM Average Control Delay	95.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4505		1583	4532		1583	4520		1583	4443	
Flt Permitted	0.14	1.00		0.12	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	238	4505		208	4532		196	4520		196	4443	
Volume (vph)	325	2452	171	112	1641	44	143	1837	84	250	1763	328
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	349	2637	184	120	1765	47	154	1975	90	269	1896	353
RTOR Reduction (vph)	0	9	0	0	3	0	0	6	0	0	26	0
Lane Group Flow (vph)	349	2812	0	120	1809	0	154	2059	0	269	2223	0
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	6		5		2		3		8		7	4
Permitted Phases	6		2				8				4	
Actuated Green, G (s)	27.0	27.0		36.0	36.0		40.0	33.0		40.0	33.0	
Effective Green, g (s)	28.0	28.0		37.0	37.0		41.0	34.0		41.0	34.0	
Actuated g/C Ratio	0.31	0.31		0.41	0.41		0.46	0.38		0.46	0.38	
Clearance Time (s)	5.0	5.0		3.5	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1402		162	1863		197	1708		197	1678	
v/s Ratio Prot		0.62		0.04	c0.40		0.06	0.46		c0.11	0.50	
v/s Ratio Perm	c1.47			0.26			0.29			c0.52		
v/c Ratio	4.72	2.01		0.74	0.97		0.78	1.21		1.37	1.33	
Uniform Delay, d1	31.0	31.0		43.4	26.0		42.4	28.0		43.7	28.0	
Progression Factor	1.41	1.41		1.00	1.00		1.70	0.44		1.00	1.00	
Incremental Delay, d2	1675.1	452.8		16.6	15.0		1.9	93.1		193.5	150.5	
Delay (s)	1718.7	496.5		60.0	41.0		73.9	105.4		237.2	178.5	
Level of Service	F	F		E	D		E	F		F	F	
Approach Delay (s)		631.1			42.2			103.2			184.8	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	282.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	134.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↷		↶	↷	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Fr _t	1.00	0.98		1.00	0.98		1.00	0.98		1.00	0.98	
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3100		1583	3108		1583	4477		1583	4472	
Fl _t Permitted	0.29	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	489	3100		222	3108		202	4477		230	4472	
Volume (vph)	170	1370	223	183	744	105	359	1814	216	111	1941	251
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	183	1473	240	197	800	113	386	1951	232	119	2087	270
RTOR Reduction (vph)	0	14	0	0	2	0	0	16	0	0	18	0
Lane Group Flow (vph)	183	1699	0	197	911	0	386	2167	0	119	2339	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4				6				2	
Actuated Green, G (s)	25.0	25.0	38.0		38.0	42.0		42.0	28.0		28.0	
Effective Green, g (s)	26.0	26.0	39.0		39.0	43.0		43.0	29.0		29.0	
Actuated g/C Ratio	0.29	0.29	0.43		0.43	0.48		0.48	0.32		0.32	
Clearance Time (s)	5.0	5.0	3.0		5.0	4.0		5.0	5.0		5.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)	141	896	232		1347	250		2139	74		1441	
v/s Ratio Prot	c0.55		c0.08		0.29	c0.17		0.48			0.52	
v/s Ratio Perm	0.37		0.28			c0.57			0.52			
v/c Ratio	1.30	1.90	0.85		0.68	1.54		1.01	1.61		1.62	
Uniform Delay, d ₁	32.0	32.0	41.6		20.4	42.2		23.5	30.5		30.5	
Progression Factor	1.00	1.00	1.81		1.75	1.00		1.00	0.86		0.86	
Incremental Delay, d ₂	176.3	407.4	18.2		2.0	263.8		22.7	279.3		280.6	
Delay (s)	208.3	439.4	93.4		37.8	306.0		46.2	305.7		306.8	
Level of Service	F	F	F		D	F		D	F		F	
Approach Delay (s)	417.1				47.6	85.3				306.7		
Approach LOS	F				D	F				F		

Intersection Summary

HCM Average Control Delay	226.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	145.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.98		1.00	0.97		1.00	0.97		1.00	0.98	
Flpb, ped/bikes	0.96	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1524	3059		1568	3005		1583	2978		1583	3047	
Flt Permitted	0.22	1.00		0.09	1.00		0.12	1.00		0.10	1.00	
Satd. Flow (perm)	348	3059		157	3005		196	2978		165	3047	
Volume (vph)	140	1077	158	27	744	130	86	915	243	267	988	111
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	144	1110	163	28	767	134	89	943	251	275	1019	114
RTOR Reduction (vph)	0	10	0	0	12	0	0	15	0	0	7	0
Lane Group Flow (vph)	144	1263	0	28	889	0	89	1179	0	275	1126	0
Conf. Peds. (#/hr)	100		100	100		100	100		100	100		100
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		4		4	
Permitted Phases	6		2		2		8		4		4	
Actuated Green, G (s)	56.1	56.1		56.1	56.1		52.6	52.6		52.6	52.6	
Effective Green, g (s)	58.0	58.0		58.0	58.0		54.0	54.0		54.0	54.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.45	0.45		0.45	0.45	
Clearance Time (s)	5.9	5.9		5.9	5.9		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	1479		76	1452		88	1340		74	1371	
v/s Ratio Prot		0.41			0.30			0.40			0.37	
v/s Ratio Perm	c0.41			0.18			0.45			c1.67		
v/c Ratio	0.86	0.85		0.37	0.61		1.01	0.88		3.72	0.82	
Uniform Delay, d1	27.3	27.3		19.5	22.7		33.0	30.0		33.0	28.8	
Progression Factor	1.00	1.00		0.68	0.65		0.74	0.80		1.00	1.00	
Incremental Delay, d2	39.7	6.5		4.5	0.7		92.8	7.6		1254.7	5.6	
Delay (s)	67.1	33.8		17.7	15.4		117.2	31.7		1287.7	34.4	
Level of Service	E	C		B	B		F	C		F	C	
Approach Delay (s)		37.1			15.5			37.6			279.2	
Approach LOS		D			B			D			F	

Intersection Summary

HCM Average Control Delay	100.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4514		1583	4542			1613			1635	
Flt Permitted	0.08	1.00		0.06	1.00			0.97			0.98	
Satd. Flow (perm)	136	4514		100	4542			1570			1611	
Volume (vph)	46	2352	132	71	1727	21	13	102	30	14	218	33
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	49	2529	142	76	1857	23	14	110	32	15	234	35
RTOR Reduction (vph)	0	6	0	0	1	0	0	5	0	0	5	0
Lane Group Flow (vph)	49	2665	0	76	1879	0	0	152	0	0	279	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	68.0	68.0		68.0	68.0			26.0			26.0	
Effective Green, g (s)	67.0	67.0		67.0	67.0			25.0			25.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	91	3024		67	3043			393			403	
v/s Ratio Prot		0.59			0.41							
v/s Ratio Perm	0.36			c0.76				0.10			c0.17	
v/c Ratio	0.54	0.88		1.13	0.62			0.39			0.69	
Uniform Delay, d1	8.5	13.3		16.5	9.3			31.1			34.0	
Progression Factor	0.54	0.60		0.85	0.48			1.00			1.00	
Incremental Delay, d2	2.1	0.4		76.6	0.1			2.8			9.4	
Delay (s)	6.7	8.4		90.6	4.6			34.0			43.4	
Level of Service	A	A		F	A			C			D	
Approach Delay (s)		8.4			7.9			34.0			43.4	
Approach LOS		A			A			C			D	

Intersection Summary

HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	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)	1583	3167	1417	1583	4550	1417	1583	1667	1417	1583	1645	
Flt Permitted	0.27	1.00	1.00	0.27	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	444	3167	1417	444	4550	1417	1583	1667	1417	1583	1645	
Volume (vph)	202	855	183	111	969	58	82	704	33	225	654	62
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	215	910	195	118	1031	62	87	749	35	239	696	66
RTOR Reduction (vph)	0	0	146	0	0	47	0	0	4	0	6	0
Lane Group Flow (vph)	215	910	49	118	1031	16	87	749	31	239	756	0
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			4		1	2		1	6	
Permitted Phases	4		4	4		4			2			
Actuated Green, G (s)	14.0	14.0	14.0	14.0	14.0	14.0	4.0	28.2	28.2	4.0	28.2	
Effective Green, g (s)	15.0	15.0	15.0	15.0	15.0	15.0	4.0	29.0	29.0	4.0	29.0	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25	0.25	0.07	0.48	0.48	0.07	0.48	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.8	4.8	4.0	4.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	792	354	111	1138	354	106	806	685	106	795	
v/s Ratio Prot		0.29			0.23		0.05	0.45		c0.15	c0.46	
v/s Ratio Perm	c0.48		0.03	0.27		0.01			0.02			
v/c Ratio	1.94	1.15	0.14	1.06	0.91	0.04	0.82	0.93	0.05	2.25	0.95	
Uniform Delay, d1	22.5	22.5	17.5	22.5	21.8	17.1	27.6	14.5	8.2	28.0	14.8	
Progression Factor	1.00	1.00	1.00	1.26	1.22	1.04	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	452.8	81.5	0.8	96.9	10.5	0.2	37.7	18.5	0.1	593.6	22.1	
Delay (s)	475.3	104.0	18.3	125.2	37.2	18.0	65.4	33.1	8.3	621.6	36.9	
Level of Service	F	F	B	F	D	B	E	C	A	F	D	
Approach Delay (s)		151.8			44.8			35.3			176.5	
Approach LOS		F			D			D			F	

Intersection Summary

HCM Average Control Delay	104.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4497		1583	4532		1583	3083		1583	3141	
Flt Permitted	0.10	1.00		0.10	1.00		0.13	1.00		0.17	1.00	
Satd. Flow (perm)	161	4497		161	4532		218	3083		280	3141	
Volume (vph)	150	2448	208	219	1591	43	190	633	136	73	734	42
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	155	2524	214	226	1640	44	196	653	140	75	757	43
RTOR Reduction (vph)	0	10	0	0	3	0	0	17	0	0	4	0
Lane Group Flow (vph)	155	2728	0	226	1681	0	196	776	0	75	796	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	50.4	42.4		50.4	42.4		39.6	31.6		35.6	29.6	
Effective Green, g (s)	48.4	41.4		48.4	41.4		37.6	30.6		33.6	28.6	
Actuated g/C Ratio	0.48	0.41		0.48	0.41		0.38	0.31		0.34	0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	177	1862		177	1876		178	943		159	898	
v/s Ratio Prot	0.06	c0.61		c0.09	0.37		c0.08	0.25		0.02	0.25	
v/s Ratio Perm	0.36			0.53			c0.34			0.13		
v/c Ratio	0.88	1.47		1.28	0.90		1.10	0.82		0.47	0.89	
Uniform Delay, d1	20.1	29.3		48.7	27.3		26.7	32.2		24.4	34.1	
Progression Factor	1.88	1.48		1.67	1.78		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.6	209.6		154.4	5.8		97.1	8.0		0.8	12.5	
Delay (s)	42.4	252.8		235.5	54.4		123.9	40.2		25.2	46.7	
Level of Service	D	F		F	D		F	D		C	D	
Approach Delay (s)		241.6			75.8			56.8			44.8	
Approach LOS		F			E			E			D	

Intersection Summary

HCM Average Control Delay	140.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	120.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4535		1583	4531		1583	3061		1583	3022	
Flt Permitted	0.11	1.00		0.10	1.00		0.14	1.00		0.17	1.00	
Satd. Flow (perm)	186	4535		175	4531		239	3061		275	3022	
Volume (vph)	72	2712	61	395	1516	42	205	865	247	48	678	296
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	77	2885	65	420	1613	45	218	920	263	51	721	315
RTOR Reduction (vph)	0	2	0	0	3	0	0	27	0	0	54	0
Lane Group Flow (vph)	77	2948	0	420	1655	0	218	1156	0	51	982	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	42.4	36.8		47.2	39.2		36.2	28.9		29.5	25.2	
Effective Green, g (s)	40.4	35.8		45.2	38.2		34.9	27.9		27.5	24.2	
Actuated g/C Ratio	0.45	0.40		0.50	0.42		0.39	0.31		0.31	0.27	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	155	1804		197	1923		197	949		132	813	
v/s Ratio Prot	0.03	0.65		c0.17	0.37		c0.09	c0.38		0.01	0.32	
v/s Ratio Perm	0.20			c0.91			0.34			0.10		
v/c Ratio	0.50	1.63		2.13	0.86		1.11	1.22		0.39	1.21	
Uniform Delay, d1	17.1	27.1		43.7	23.5		43.7	31.1		25.7	32.9	
Progression Factor	1.00	1.00		1.43	0.72		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	287.8		510.9	0.5		95.6	107.8		0.7	105.0	
Delay (s)	18.0	314.9		573.5	17.5		139.3	138.9		26.4	137.9	
Level of Service	B	F		F	B		F	F		C	F	
Approach Delay (s)		307.4			129.8			139.0			132.6	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	202.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	142.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↑	↗	↖	↗↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.99			0.99		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4521			4523		1583	1667	1417	1583	3073	
Flt Permitted	0.09	1.00			1.00		0.22	1.00	1.00	0.35	1.00	
Satd. Flow (perm)	150	4521			4523		371	1667	1417	582	3073	
Volume (vph)	233	2627	115	0	1837	75	111	387	19	14	492	120
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	248	2795	122	0	1954	80	118	412	20	15	523	128
RTOR Reduction (vph)	0	4	0	0	4	0	0	0	13	0	21	0
Lane Group Flow (vph)	248	2913	0	0	2030	0	118	412	7	15	630	0
Turn Type	pm+pt			pm+pt			pm+pt			Perm	pm+pt	
Protected Phases	5	2		1	6		3	8		8	7	4
Permitted Phases	2			6			8			8	4	
Actuated Green, G (s)	51.5	51.5			41.5		42.5	37.2	37.2	35.0	32.7	
Effective Green, g (s)	50.5	50.5			40.5		41.5	36.2	36.2	33.0	31.7	
Actuated g/C Ratio	0.50	0.50			0.40		0.42	0.36	0.36	0.33	0.32	
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	2.0	5.0			5.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	162	2283			1832		224	603	513	205	974	
v/s Ratio Prot	0.09	c0.64			0.45		c0.03	c0.25		0.00	0.20	
v/s Ratio Perm	c0.68						0.19		0.01	0.02		
v/c Ratio	1.53	1.28			1.11		0.53	0.68	0.01	0.07	0.65	
Uniform Delay, d1	24.9	24.8			29.8		20.1	27.0	20.5	23.2	29.3	
Progression Factor	1.14	1.21			1.80		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	261.8	127.0			53.4		1.0	6.2	0.1	0.1	3.3	
Delay (s)	290.3	156.8			107.0		21.1	33.2	20.5	23.3	32.7	
Level of Service	F	F			F		C	C	C	C	C	
Approach Delay (s)		167.3			107.0			30.1			32.4	
Approach LOS		F			F			C			C	

Intersection Summary

HCM Average Control Delay	122.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2227		1118	2223		1118	2190		1118	2217	
Flt Permitted	0.07	1.00		0.07	1.00		0.35	1.00		0.26	1.00	
Satd. Flow (perm)	77	2227		77	2223		412	2190		301	2217	
Volume (vph)	13	2308	56	90	1880	72	92	457	71	100	404	23
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	13	2379	58	93	1938	74	95	471	73	103	416	24
RTOR Reduction (vph)	0	2	0	0	3	0	0	7	0	0	5	0
Lane Group Flow (vph)	13	2435	0	93	2009	0	95	537	0	103	435	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	60.5	60.5		60.5	60.5		20.8	20.8		20.8	20.8	
Effective Green, g (s)	61.0	61.0		61.0	61.0		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1509		52	1507		96	511		70	517	
v/s Ratio Prot		1.09			0.90			0.25			0.20	
v/s Ratio Perm	0.17			c1.21			0.23			c0.34		
v/c Ratio	0.25	1.61		1.79	1.33		0.99	1.05		1.47	0.84	
Uniform Delay, d1	5.6	14.5		14.5	14.5		34.4	34.5		34.5	32.9	
Progression Factor	0.46	0.35		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	276.4		421.0	154.6		89.1	53.9		274.2	15.3	
Delay (s)	3.6	281.5		435.5	169.1		123.5	88.4		308.7	48.2	
Level of Service	A	F		F	F		F	F		F	D	
Approach Delay (s)		280.1			180.8			93.6			97.6	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	205.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	157.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3050						3079			3131	
Flt Permitted		0.99						1.00			0.81	
Satd. Flow (perm)		3050						3079			2568	
Volume (vph)	212	522	76	0	0	0	0	363	51	71	451	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	230	567	83	0	0	0	0	395	55	77	490	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	0	873	0	0	0	0	0	432	0	0	567	0
Conf. Peds. (#/hr)	5		38					63		59	59	63
Conf. Bikes (#/hr)			5							1		1
Turn Type	Perm						Perm					
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		37.0						17.0			17.0	
Effective Green, g (s)		36.0						16.0			16.0	
Actuated g/C Ratio		0.60						0.27			0.27	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1830						821			685	
v/s Ratio Prot								0.14				
v/s Ratio Perm		0.29									c0.22	
v/c Ratio		0.48						0.53			0.83	
Uniform Delay, d1		6.7						18.8			20.7	
Progression Factor		0.69						1.00			1.00	
Incremental Delay, d2		0.5						2.4			11.1	
Delay (s)		5.1						21.2			31.8	
Level of Service		A						C			C	
Approach Delay (s)		5.1			0.0			21.2			31.8	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay			16.9					HCM Level of Service			B	
HCM Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		8.0		
Intersection Capacity Utilization			65.8%					ICU Level of Service		C		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑				↗		↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99				0.94		1.00	0.92
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		0.95	1.00
Frt	1.00	1.00		1.00	0.98				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (prot)	1583	4523		1576	4394				1355		1513	1302
Flt Permitted	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (perm)	1583	4523		1576	4394				1355		1513	1302
Volume (vph)	141	2026	46	10	1664	291	0	0	83	369	10	249
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	147	2110	48	10	1733	303	0	0	86	384	10	259
RTOR Reduction (vph)	0	2	0	0	24	0	0	0	64	0	0	171
Lane Group Flow (vph)	147	2156	0	10	2012	0	0	0	22	0	394	88
Conf. Peds. (#/hr)	26		44	44		26	50		36	36		50
Conf. Bikes (#/hr)			5			6						3
Turn Type	Prot			Prot				custom	Perm		Perm	
Protected Phases	5	2		1	6						4	
Permitted Phases								8	4			4
Actuated Green, G (s)	12.0	62.7		1.3	52.0			27.0			27.0	27.0
Effective Green, g (s)	11.0	61.7		0.3	51.0			26.0			26.0	26.0
Actuated g/C Ratio	0.11	0.62		0.00	0.51			0.26			0.26	0.26
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	2.0	5.0		2.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	174	2791		5	2241			352			393	339
v/s Ratio Prot	c0.09	0.48		0.01	c0.46							
v/s Ratio Perm								0.02			0.26	0.07
v/c Ratio	0.84	0.77		2.00	0.90			0.06			1.00	0.26
Uniform Delay, d1	43.7	14.0		49.9	22.1			27.8			37.0	29.4
Progression Factor	1.00	1.00		0.60	1.78			1.00			1.00	1.00
Incremental Delay, d2	28.5	2.1		507.5	0.6			0.3			46.0	1.9
Delay (s)	72.1	16.2		537.3	39.9			28.2			83.0	31.2
Level of Service	E	B		F	D			C			F	C
Approach Delay (s)		19.7			42.4			28.2			62.5	
Approach LOS		B			D			C			E	
Intersection Summary												
HCM Average Control Delay			34.5			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			93.9%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2228		1118	2228		1118	2172		1118	2200	
Flt Permitted	0.07	1.00		0.07	1.00		0.18	1.00		0.16	1.00	
Satd. Flow (perm)	83	2228		83	2228		217	2172		188	2200	
Volume (vph)	51	2136	49	68	1896	42	79	829	193	57	608	72
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	53	2225	51	71	1975	44	82	864	201	59	633	75
RTOR Reduction (vph)	0	2	0	0	2	0	0	7	0	0	10	0
Lane Group Flow (vph)	53	2274	0	71	2017	0	82	1059	0	59	698	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	56.5	56.5		56.5	56.5		24.8	24.8		24.8	24.8	
Effective Green, g (s)	57.0	57.0		57.0	57.0		25.0	25.0		25.0	25.0	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	1411		53	1411		60	603		52	611	
v/s Ratio Prot	c1.02				0.91		c0.49				0.32	
v/s Ratio Perm	0.64		0.86		0.38		0.31					
v/c Ratio	1.00	1.61		1.34	1.43		1.37	1.76		1.13	1.14	
Uniform Delay, d1	16.5	16.5		16.5	16.5		32.5	32.5		32.5	32.5	
Progression Factor	1.00	1.00		0.63	0.62		0.52	0.50		1.00	1.00	
Incremental Delay, d2	123.6	278.6		164.1	193.7		174.5	340.5		166.6	82.4	
Delay (s)	140.1	295.1		174.5	204.0		191.3	356.7		199.1	114.9	
Level of Service	F	F		F	F		F	F		F	F	
Approach Delay (s)	291.6				203.0		344.9				121.4	
Approach LOS	F				F		F				F	

Intersection Summary

HCM Average Control Delay	251.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	157.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖		↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00		0.95	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1118	2202		1118	2226		1118	2235	1000		2207	
Flt Permitted	0.18	1.00		0.08	1.00		0.20	1.00	1.00		1.00	
Satd. Flow (perm)	208	2202		92	2226		240	2235	1000		2207	
Volume (vph)	123	1646	180	70	1041	30	82	920	192	0	675	62
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	129	1733	189	74	1096	32	86	968	202	0	711	65
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	11	0	8	0
Lane Group Flow (vph)	129	1913	0	74	1126	0	86	968	191	0	768	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	50.5	50.5		50.5	50.5		30.8	30.8	30.8		30.8	
Effective Green, g (s)	51.0	51.0		51.0	51.0		31.0	31.0	31.0		31.0	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.34	0.34	0.34		0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2	4.2		4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	118	1248		52	1261		83	770	344		760	
v/s Ratio Prot	c0.87		0.51		0.51		c0.43		0.35		0.35	
v/s Ratio Perm	0.62		0.80		0.80		0.36		0.19		0.19	
v/c Ratio	1.09	1.53		1.42	0.89		1.04	1.26	0.55		1.01	
Uniform Delay, d1	19.5	19.5		19.5	17.1		29.5	29.5	23.9		29.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.49	
Incremental Delay, d2	110.1	243.8		271.9	9.9		109.0	126.2	6.3		12.5	
Delay (s)	129.6	263.3		291.4	27.0		138.5	155.7	30.2		27.0	
Level of Service	F	F		F	C		F	F	C		C	
Approach Delay (s)	254.9		43.3		43.3		134.3		27.0		27.0	
Approach LOS	F		D		D		F		C		C	

Intersection Summary

HCM Average Control Delay	144.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	142.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		1.00						0.97			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.97						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		2995						2993			3143	
Flt Permitted		0.99						1.00			0.64	
Satd. Flow (perm)		2995						2993			2029	
Volume (vph)	159	457	166	0	0	0	0	918	173	97	856	0
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	185	531	193	0	0	0	0	1067	201	113	995	0
RTOR Reduction (vph)	0	41	0	0	0	0	0	26	0	0	0	0
Lane Group Flow (vph)	0	868	0	0	0	0	0	1242	0	0	1108	0
Conf. Peds. (#/hr)	60								223	223		
Conf. Bikes (#/hr)			1							3		
Turn Type	Perm						Perm					
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		21.0						33.0			33.0	
Effective Green, g (s)		20.0						32.0			32.0	
Actuated g/C Ratio		0.33						0.53			0.53	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		998						1596			1082	
v/s Ratio Prot								0.42				
v/s Ratio Perm		0.29									c0.55	
v/c Ratio		0.87						0.78			1.02	
Uniform Delay, d1		18.8						11.2			14.0	
Progression Factor		1.44						1.00			1.00	
Incremental Delay, d2		4.8						3.8			33.6	
Delay (s)		31.8						15.0			47.6	
Level of Service		C						B			D	
Approach Delay (s)		31.8			0.0			15.0			47.6	
Approach LOS		C			A			B			D	
Intersection Summary												
HCM Average Control Delay			30.6					HCM Level of Service			C	
HCM Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		8.0		
Intersection Capacity Utilization			100.6%					ICU Level of Service		G		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗↗	↗		↗↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00		0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00	0.80		1.00	0.84
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1583	4380		1583	4394		1583	3167	1133		3167	1189
Flt Permitted	0.09	1.00		0.09	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	152	4380		151	4394		1583	3167	1133		3167	1189
Volume (vph)	133	2139	186	202	1624	137	277	970	82	0	967	376
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	141	2276	198	215	1728	146	295	1032	87	0	1029	400
RTOR Reduction (vph)	0	10	0	0	10	0	0	0	56	0	0	109
Lane Group Flow (vph)	141	2464	0	215	1864	0	295	1032	31	0	1029	291
Confl. Peds. (#/hr)	214		276	276		214	112		142	142		112
Confl. Bikes (#/hr)			9			5			5			3
Turn Type	pm+pt			pm+pt			Prot		Perm			Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6					8			4
Actuated Green, G (s)	52.8	45.0		53.2	45.2		8.9	35.9	35.9		23.9	23.9
Effective Green, g (s)	50.8	44.0		51.2	44.2		8.0	35.0	35.0		23.0	23.0
Actuated g/C Ratio	0.52	0.45		0.52	0.45		0.08	0.36	0.36		0.23	0.23
Clearance Time (s)	3.0	3.0		3.0	3.0		3.1	3.1	3.1		3.1	3.1
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	178	1967		181	1982		129	1131	405		743	279
v/s Ratio Prot	0.05	c0.56		c0.08	0.42		c0.19	0.33			c0.32	
v/s Ratio Perm	0.36			0.54					0.03			0.24
v/c Ratio	0.79	1.25		1.19	0.94		2.29	0.91	0.08		1.38	1.04
Uniform Delay, d1	18.8	27.0		47.7	25.6		45.0	30.0	20.8		37.5	37.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	19.7	118.0		126.5	10.4		602.9	12.6	0.4		181.5	65.1
Delay (s)	38.5	145.0		174.2	36.0		647.9	42.6	21.2		219.0	102.6
Level of Service	D	F		F	D		F	D	C		F	F
Approach Delay (s)		139.2			50.2			167.6			186.4	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM Average Control Delay	128.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	124.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.96			0.97		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3011			3043		1583	3139		1583	3148	
Flt Permitted		0.82			0.73		0.09	1.00		0.09	1.00	
Satd. Flow (perm)		2481			2240		146	3139		148	3148	
Volume (vph)	62	230	114	81	224	72	84	1186	75	68	1199	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	68	253	125	89	246	79	92	1303	82	75	1318	55
RTOR Reduction (vph)	0	45	0	0	23	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	401	0	0	391	0	92	1381	0	75	1370	0
Turn Type		Perm		Perm		pm+pt		pm+pt		pm+pt		
Protected Phases		4		8		5		2		1		6
Permitted Phases		4		8		2				6		
Actuated Green, G (s)		29.0		29.0		52.5		46.6		51.5		46.1
Effective Green, g (s)		28.0		28.0		50.5		45.6		49.5		45.1
Actuated g/C Ratio		0.31		0.31		0.56		0.51		0.55		0.50
Clearance Time (s)		3.0		3.0		3.0		3.0		3.0		3.0
Vehicle Extension (s)		3.0		3.0		2.0		5.0		2.0		5.0
Lane Grp Cap (vph)		772		697		160		1590		152		1577
v/s Ratio Prot						c0.03		c0.44		0.02		0.44
v/s Ratio Perm		0.16		c0.17		0.29				0.25		
v/c Ratio		0.52		0.56		0.57		0.87		0.49		0.87
Uniform Delay, d1		25.5		25.9		14.5		19.6		14.3		19.8
Progression Factor		1.00		1.00		1.00		1.00		1.00		1.00
Incremental Delay, d2		2.5		1.0		3.1		6.7		0.9		6.8
Delay (s)		28.0		26.9		17.6		26.3		15.2		26.6
Level of Service		C		C		B		C		B		C
Approach Delay (s)		28.0		26.9				25.7				26.0
Approach LOS		C		C				C				C

Intersection Summary

HCM Average Control Delay	26.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.95			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4531		1583	4550		1583	3008			3087	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1583	4531		1583	4550		1583	3008			3087	
Volume (vph)	58	2955	83	18	2365	0	13	286	143	0	627	126
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	60	3078	86	19	2464	0	14	298	149	0	653	131
RTOR Reduction (vph)	0	3	0	0	0	0	0	70	0	0	19	0
Lane Group Flow (vph)	60	3161	0	19	2464	0	14	377	0	0	765	0
Turn Type	Prot		Prot		Split							
Protected Phases	1!	2!		5!	6!		8	8				7
Permitted Phases												
Actuated Green, G (s)	5.8	33.7		4.5	34.0		13.5	13.5			22.0	
Effective Green, g (s)	5.3	33.2		4.5	34.0		13.5	13.5			22.0	
Actuated g/C Ratio	0.06	0.37		0.05	0.38		0.15	0.15			0.24	
Clearance Time (s)	3.5	3.5		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			3.0	
Lane Grp Cap (vph)	93	1671		79	1719		237	451			755	
v/s Ratio Prot	c0.04	c0.70		0.01	0.54		0.01	c0.13			c0.25	
v/s Ratio Perm												
v/c Ratio	0.65	1.89		0.24	1.43		0.06	0.84			1.01	
Uniform Delay, d1	41.4	28.4		41.1	28.0		32.8	37.2			34.0	
Progression Factor	1.26	0.50		1.52	0.31		1.00	1.00			1.00	
Incremental Delay, d2	1.4	401.4		0.1	195.3		0.1	12.7			36.1	
Delay (s)	53.5	415.6		62.5	204.0		32.9	49.9			70.1	
Level of Service	D	F		E	F		C	D			E	
Approach Delay (s)		408.9			203.0			49.3			70.1	
Approach LOS		F			F			D			E	

Intersection Summary

HCM Average Control Delay	273.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↓		↑	↑↑↓		↑	↑↓		↑	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt		0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4515		1583	4517		1583	3161		1583	3167	
Flt Permitted		1.00		0.95	1.00		0.18	1.00		0.18	1.00	
Satd. Flow (perm)		4515		1583	4517		303	3161		303	3167	
Volume (vph)	0	2941	159	15	2233	113	109	824	10	14	930	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	3032	164	15	2302	116	112	849	10	14	959	0
RTOR Reduction (vph)	0	6	0	0	6	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	3190	0	15	2412	0	112	858	0	14	959	0
Turn Type				Prot			Perm			Perm		
Protected Phases		2!		5!	6			7			7	
Permitted Phases							7			7		
Actuated Green, G (s)		33.7		4.5	34.0		22.0	22.0		22.0	22.0	
Effective Green, g (s)		33.2		4.5	34.0		22.0	22.0		22.0	22.0	
Actuated g/C Ratio		0.37		0.05	0.38		0.24	0.24		0.24	0.24	
Clearance Time (s)		3.5		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	3.0	
Lane Grp Cap (vph)		1666		79	1706		74	773		74	774	
v/s Ratio Prot		c0.71		c0.01	0.53			0.27			0.30	
v/s Ratio Perm							c0.37			0.05		
v/c Ratio		1.91		0.19	1.41		1.51	1.11		0.19	1.24	
Uniform Delay, d1		28.4		41.0	28.0		34.0	34.0		26.9	34.0	
Progression Factor		0.28		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		411.9		1.2	189.9		288.5	67.0		5.6	118.5	
Delay (s)		419.8		42.2	217.9		322.5	101.0		32.5	152.5	
Level of Service		F		D	F		F	F		C	F	
Approach Delay (s)		419.8			216.8			126.5			150.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	282.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	29.5
Intersection Capacity Utilization	112.9%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frbp, ped/bikes		0.99						0.94		1.00	1.00	
Flpb, ped/bikes		0.93						1.00		0.83	1.00	
Frt		0.99						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		2862						2906		1307	3167	
Flt Permitted		0.99						1.00		0.44	1.00	
Satd. Flow (perm)		2862						2906		612	3167	
Volume (vph)	179	608	31	0	0	0	0	325	67	89	603	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	188	640	33	0	0	0	0	342	71	94	635	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	29	0	0	0	0
Lane Group Flow (vph)	0	857	0	0	0	0	0	384	0	94	635	0
Conf. Peds. (#/hr)	173		248	248			173	221		404	404	221
Conf. Bikes (#/hr)			3				2			1		4
Turn Type		Perm									Perm	
Protected Phases		2						4			4	
Permitted Phases		2									4	
Actuated Green, G (s)		17.0						17.0		17.0	17.0	
Effective Green, g (s)		16.0						16.0		16.0	16.0	
Actuated g/C Ratio		0.27						0.27		0.27	0.27	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Vehicle Extension (s)		5.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		763						775		163	845	
v/s Ratio Prot								0.13			c0.20	
v/s Ratio Perm		0.30								0.15		
v/c Ratio		1.12						0.50		0.58	0.75	
Uniform Delay, d1		22.0						18.6		19.1	20.2	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		71.8						2.3		14.0	6.1	
Delay (s)		93.8						20.8		33.1	26.3	
Level of Service		F						C		C	C	
Approach Delay (s)		93.8			0.0			20.8			27.2	
Approach LOS		F			A			C			C	
Intersection Summary												
HCM Average Control Delay			54.5					HCM Level of Service			D	
HCM Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		28.0		
Intersection Capacity Utilization			82.3%					ICU Level of Service		E		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖			↖↖↖		↖	↖		↖	↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00			0.98		1.00	0.87		1.00	1.00	0.78
Flpb, ped/bikes	1.00	1.00			1.00		0.86	1.00		1.00	1.00	1.00
Frt	1.00	1.00			0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4521			4389		1358	1353		1583	1667	1102
Flt Permitted	0.09	1.00			1.00		0.58	1.00		0.95	1.00	1.00
Satd. Flow (perm)	142	4521			4389		831	1353		1583	1667	1102
Volume (vph)	100	2239	29	0	2170	182	111	97	82	172	286	146
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	102	2285	30	0	2214	186	113	99	84	176	292	149
RTOR Reduction (vph)	0	1	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	102	2314	0	0	2389	0	113	183	0	176	292	149
Conf. Peds. (#/hr)	244		131	131		244	166		211	211		166
Conf. Bikes (#/hr)			3			5			2			3
Turn Type	Perm			Perm			Prot		custom			
Protected Phases	2		6			8		7				
Permitted Phases	2					8		4 4				
Actuated Green, G (s)	48.0	48.0			48.0	21.0	21.0		12.0	36.0	36.0	
Effective Green, g (s)	47.0	47.0			47.0	20.0	20.0		11.0	35.0	35.0	
Actuated g/C Ratio	0.52	0.52			0.52	0.22	0.22		0.12	0.39	0.39	
Clearance Time (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0	3.0	
Vehicle Extension (s)	5.0	5.0			5.0	3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	74	2361			2292	185	301		193	648	429	
v/s Ratio Prot		0.51			0.54		0.14		c0.11			
v/s Ratio Perm	c0.72					c0.14				0.18	0.14	
v/c Ratio	1.38	0.98			1.04	0.61	0.61		0.91	0.45	0.35	
Uniform Delay, d1	21.5	21.0			21.5	31.5	31.5		39.0	20.4	19.4	
Progression Factor	1.00	1.00			1.00	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	234.6	14.4			31.0	14.1	8.8		40.8	2.3	2.2	
Delay (s)	256.1	35.4			52.5	45.6	40.3		79.8	22.6	21.6	
Level of Service	F	D			D	D	D		E	C	C	
Approach Delay (s)		44.7			52.5		42.3			38.7		
Approach LOS		D			D		D			D		

Intersection Summary			
HCM Average Control Delay	47.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			






























Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBR2
Lane Configurations		↔	↔↔↔		↔	↔↔↔			↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0
Lane Util. Factor		1.00	0.91		1.00	0.91			1.00
Frbp, ped/bikes		1.00	0.98		1.00	0.96			1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00
Frt		1.00	0.99		1.00	0.98			0.86
Flt Protected		0.95	1.00		0.95	1.00			1.00
Satd. Flow (prot)		1583	4437		1583	4317			1442
Flt Permitted		0.95	1.00		0.95	1.00			1.00
Satd. Flow (perm)		1583	4437		1583	4317			1442
Volume (vph)	220	576	2200	121	563	1435	110	69	310
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	227	594	2268	125	580	1479	113	71	320
RTOR Reduction (vph)	0	0	6	0	0	0	0	0	282
Lane Group Flow (vph)	0	821	2387	0	580	1663	0	0	38
Confl. Peds. (#/hr)	99	154		137	137		99	154	155
Confl. Bikes (#/hr)				6			7	10	2
Turn Type	Prot	Prot			Prot				custom
Protected Phases	1	1	2		8	6			1
Permitted Phases									
Actuated Green, G (s)		13.0	52.0		26.0	81.0			13.0
Effective Green, g (s)		12.0	51.0		25.0	80.0			12.0
Actuated g/C Ratio		0.12	0.51		0.25	0.80			0.12
Clearance Time (s)		3.0	3.0		3.0	3.0			3.0
Vehicle Extension (s)		2.5	5.0		3.0	5.0			2.5
Lane Grp Cap (vph)		190	2263		396	3454			173
v/s Ratio Prot		c0.52	c0.54		c0.37	0.39			0.03
v/s Ratio Perm									
v/c Ratio		4.32	1.05		1.46	0.48			0.22
Uniform Delay, d1		44.0	24.5		37.5	3.3			39.8
Progression Factor		1.18	1.53		1.00	1.00			1.00
Incremental Delay, d2		1495.6	26.0		222.6	0.5			0.5
Delay (s)		1547.3	63.5		260.1	3.7			40.3
Level of Service		F	E		F	A			D
Approach Delay (s)			442.5			70.0			
Approach LOS			F			E			
Intersection Summary									
HCM Average Control Delay			275.6			HCM Level of Service			F
HCM Volume to Capacity ratio			1.62						
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0
Intersection Capacity Utilization			92.4%			ICU Level of Service			F
Analysis Period (min)			15						
c Critical Lane Group									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↔↗↘		↗	↔↗↘			↕	↗		↔↗↘	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	0.86	0.86		1.00	0.91			0.95	1.00		0.86	0.86
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.98	0.85
Flt Protected	0.95	0.99		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	961	3003		1118	3209			2235	1000		2981	860
Flt Permitted	0.95	0.69		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)	961	2085		1118	3209			2235	1000		2981	860
Volume (vph)	747	1591	24	210	1787	10	0	1147	559	0	1320	938
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	849	1808	27	239	2031	11	0	1303	635	0	1500	1066
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	212	0	16	325
Lane Group Flow (vph)	444	2239	0	239	2041	0	0	1303	423	0	1685	540
Turn Type	Prot		Prot				Perm			Over		
Protected Phases	7	4		3	8			2			6	7
Permitted Phases									2			
Actuated Green, G (s)	15.9	41.4		14.9	40.4			29.4	29.4		29.4	15.9
Effective Green, g (s)	17.0	42.0		16.0	41.0			30.0	30.0		30.0	17.0
Actuated g/C Ratio	0.17	0.42		0.16	0.41			0.30	0.30		0.30	0.17
Clearance Time (s)	5.1	4.6		5.1	4.6			4.6	4.6		4.6	5.1
Vehicle Extension (s)	3.0	3.0		5.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	163	1032		179	1316			671	300		894	146
v/s Ratio Prot	0.46	0.37		0.21	c0.64			c0.58			0.57	c0.63
v/s Ratio Perm		c0.54							0.42			
v/c Ratio	2.72	2.17		1.34	1.55			1.94	1.41		1.88	3.70
Uniform Delay, d1	41.5	29.0		42.0	29.5			35.0	35.0		35.0	41.5
Progression Factor	1.00	1.00		1.17	0.59			1.00	1.00		1.00	1.00
Incremental Delay, d2	792.8	529.5		164.7	249.5			429.3	203.1		402.3	1232.5
Delay (s)	834.3	558.5		213.6	266.8			464.3	238.1		437.3	1274.0
Level of Service	F	F		F	F			F	F		F	F
Approach Delay (s)		604.1			261.2			390.2			719.4	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	509.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.35		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	171.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			  	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt		1.00		1.00	1.00		1.00	1.00	0.85	1.00	0.93	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3177		1118	3204		1118	2235	1000	1118	2088	
Flt Permitted		0.67		0.95	1.00		0.13	1.00	1.00	0.15	1.00	
Satd. Flow (perm)		2155		1118	3204		157	2235	1000	172	2088	
Volume (vph)	485	1869	10	358	1328	21	10	786	354	28	598	470
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	495	1907	10	365	1355	21	10	802	361	29	610	480
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	209	0	141	0
Lane Group Flow (vph)	0	2411	0	365	1374	0	10	802	152	29	949	0
Turn Type		Prot		Prot			Perm		Perm	Perm		
Protected Phases		7	4		3	8			2			6
Permitted Phases								2		2		6
Actuated Green, G (s)		41.4		14.9	40.4		29.4	29.4	29.4	29.4	29.4	
Effective Green, g (s)		42.0		16.0	41.0		30.0	30.0	30.0	30.0	30.0	
Actuated g/C Ratio		0.42		0.16	0.41		0.30	0.30	0.30	0.30	0.30	
Clearance Time (s)		4.6		5.1	4.6		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		5.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1079		179	1314		47	671	300	52	626	
v/s Ratio Prot		c0.38		c0.33	0.43			0.36			c0.45	
v/s Ratio Perm		c0.56					0.06		0.15	0.17		
v/c Ratio		2.23		2.04	1.05		0.21	1.20	0.51	0.56	1.52	
Uniform Delay, d1		29.0		42.0	29.5		26.2	35.0	28.9	29.4	35.0	
Progression Factor		0.79		0.93	1.45		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		556.0		485.3	36.9		10.1	102.0	6.0	36.8	240.1	
Delay (s)		579.0		524.4	79.5		36.2	137.0	34.9	66.3	275.1	
Level of Service		F		F	E		D	F	C	E	F	
Approach Delay (s)		579.0			172.8			104.7			269.7	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM Average Control Delay			329.2			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.93									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			174.5%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.86	1.00	0.97	0.86	0.97	0.88
Frbp, ped/bikes		1.00	0.94	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	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		4047	940	2168	4047	2168	1760
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		4047	940	2168	4047	2168	1760
Volume (vph)	0	2205	263	523	1632	402	1177
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2273	271	539	1682	414	1213
RTOR Reduction (vph)	0	0	67	0	0	0	680
Lane Group Flow (vph)	0	2273	204	539	1682	414	533
Conf. Peds. (#/hr)			60	60		1	4
Conf. Bikes (#/hr)			23				4
Turn Type	Prot		pm+ov	Prot			Over
Protected Phases	1	6	4	3	2 3	4	3
Permitted Phases			6				
Actuated Green, G (s)		47.2	73.1	31.0	84.2	25.9	31.0
Effective Green, g (s)		49.2	78.0	30.0	83.2	28.8	30.0
Actuated g/C Ratio		0.41	0.65	0.25	0.69	0.24	0.25
Clearance Time (s)		6.0	6.9	3.0		6.9	3.0
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1659	642	542	2806	520	440
v/s Ratio Prot		c0.56	0.08	0.25	0.42	c0.19	c0.30
v/s Ratio Perm			0.14				
v/c Ratio		1.37	0.32	0.99	0.60	0.80	1.21
Uniform Delay, d1		35.4	9.3	44.9	9.7	42.8	45.0
Progression Factor		0.90	3.27	1.00	1.00	1.00	1.00
Incremental Delay, d2		167.7	0.1	37.0	0.3	8.3	114.4
Delay (s)		199.6	30.4	81.9	10.0	51.1	159.4
Level of Service		F	C	F	B	D	F
Approach Delay (s)		181.6			27.5	131.8	
Approach LOS		F			C	F	

Intersection Summary

HCM Average Control Delay	115.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↖		↖	↑↑↑		↖	↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88				1.00	0.91			0.95	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1504	1504	2493				1583	4550			3167	1417
Flt Permitted	0.95	0.95	1.00				0.10	1.00			1.00	1.00
Satd. Flow (perm)	1504	1504	2493				161	4550			3167	1417
Volume (vph)	604	0	665	0	0	0	157	566	0	0	1118	206
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	686	0	756	0	0	0	178	643	0	0	1270	234
RTOR Reduction (vph)	0	0	627	0	0	0	0	0	0	0	0	164
Lane Group Flow (vph)	343	343	129	0	0	0	178	643	0	0	1270	70
Turn Type	Split		custom				pm+pt			Perm		Over
Protected Phases	4	4	7 1		3		5	2			6	4
Permitted Phases							2			6		
Actuated Green, G (s)	16.5	16.5	14.8				45.3	40.3			40.3	16.5
Effective Green, g (s)	17.1	17.1	15.4				46.5	41.5			41.5	17.1
Actuated g/C Ratio	0.19	0.19	0.17				0.52	0.46			0.46	0.19
Clearance Time (s)	4.6	4.6					4.0	5.2			5.2	4.6
Vehicle Extension (s)	3.0	3.0					3.0	3.2			3.4	3.0
Lane Grp Cap (vph)	286	286	427				162	2098			1460	269
v/s Ratio Prot	c0.23	0.23	c0.05				c0.06	0.14			0.40	0.05
v/s Ratio Perm							c0.51					
v/c Ratio	1.20	1.20	0.30				1.10	0.31			0.87	0.26
Uniform Delay, d1	36.5	36.5	32.6				17.6	15.2			21.8	31.1
Progression Factor	1.02	1.02	5.60				2.25	1.10			1.00	1.00
Incremental Delay, d2	116.2	116.2	0.4				83.7	0.2			7.3	2.3
Delay (s)	153.2	153.2	183.0				123.2	16.9			29.1	33.4
Level of Service	F	F	F				F	B			C	C
Approach Delay (s)		168.8			0.0			40.0			29.8	
Approach LOS		F			A			D			C	

Intersection Summary

HCM Average Control Delay	85.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑	↑↑↑		↑↑	↑↑	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		0.91	1.00		0.86		0.97	0.91		0.97	0.95	0.88
Frt		1.00	0.85		0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		4550	1417		5638		3072	4512		3072	3167	2493
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		4550	1417		5638		3072	4512		3072	3167	2493
Volume (vph)	0	2902	488	0	2503	312	5	867	51	376	506	270
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2992	503	0	2580	322	5	894	53	388	522	278
RTOR Reduction (vph)	0	0	61	0	24	0	0	1	0	0	0	183
Lane Group Flow (vph)	0	2992	442	0	2878	0	5	946	0	388	522	95
Turn Type		pm+ov					Prot			Prot		Perm
Protected Phases		6	3		2		3	8		7	4	
Permitted Phases		6										4
Actuated Green, G (s)		38.5	45.8		38.5		7.3	27.7		9.0	29.4	29.4
Effective Green, g (s)		40.0	47.3		40.0		7.3	29.0		9.0	30.7	30.7
Actuated g/C Ratio		0.44	0.53		0.44		0.08	0.32		0.10	0.34	0.34
Clearance Time (s)		5.5	4.0		5.5		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)		4.9	3.0		5.2		3.0	5.1		3.0	5.1	5.1
Lane Grp Cap (vph)		2022	808		2506		249	1454		307	1080	850
v/s Ratio Prot		c0.66	0.04		0.51		0.00	c0.21		c0.13	0.16	
v/s Ratio Perm			0.27									0.04
v/c Ratio		1.48	0.55		1.15		0.02	0.65		1.26	0.48	0.11
Uniform Delay, d1		25.0	14.2		25.0		38.1	26.2		40.5	23.4	20.3
Progression Factor		1.00	1.00		0.89		1.00	1.00		1.26	1.03	2.86
Incremental Delay, d2		218.6	0.8		67.2		0.0	2.3		132.7	0.4	0.1
Delay (s)		243.6	15.0		89.4		38.1	28.4		183.8	24.5	58.1
Level of Service		F	B		F		D	C		F	C	E
Approach Delay (s)		210.7			89.4		28.5			84.4		
Approach LOS		F			F		C			F		

Intersection Summary

HCM Average Control Delay	131.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⬇	↑↑↑	↗	↘↘	↑↑↑	↘↘↘	↗↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	0.97	0.91	0.94	0.88
Frbp, 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	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1118	4047	1000	2168	3212	3152	1760
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1118	4047	1000	2168	3212	3152	1760
Volume (vph)	16	1893	495	303	1720	832	566
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	16	1912	500	306	1737	840	572
RTOR Reduction (vph)	0	0	297	0	0	0	452
Lane Group Flow (vph)	16	1912	203	306	1737	840	120
Conf. Peds. (#/hr)			86	86		1	228
Conf. Bikes (#/hr)			19				3
Turn Type	Prot		Over	Prot			Over
Protected Phases	1	6	8	5	2	8	5
Permitted Phases							
Actuated Green, G (s)	2.3	47.2	30.1	25.1	69.0	30.1	25.1
Effective Green, g (s)	3.3	49.9	33.0	25.1	71.7	33.0	25.1
Actuated g/C Ratio	0.03	0.42	0.28	0.21	0.60	0.28	0.21
Clearance Time (s)	5.0	6.7	6.9	4.0	6.7	6.9	4.0
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	31	1683	275	453	1919	867	368
v/s Ratio Prot	0.01	c0.47	0.20	0.14	c0.54	c0.27	0.07
v/s Ratio Perm							
v/c Ratio	0.52	1.14	0.74	0.68	0.91	0.97	0.33
Uniform Delay, d1	57.6	35.0	39.6	43.7	21.2	43.0	40.3
Progression Factor	0.88	1.52	2.17	0.88	0.71	1.00	1.00
Incremental Delay, d2	1.3	62.0	1.0	3.1	6.0	22.9	0.5
Delay (s)	51.8	115.4	86.9	41.5	21.0	65.9	40.8
Level of Service	D	F	F	D	C	E	D
Approach Delay (s)		109.1			24.1	55.7	
Approach LOS		F			C	E	
Intersection Summary							
HCM Average Control Delay			66.8		HCM Level of Service		E
HCM Volume to Capacity ratio			1.01				
Actuated Cycle Length (s)			120.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization			92.2%		ICU Level of Service		F
Analysis Period (min)			15				
c Critical Lane Group							



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↘↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.89	1.00	1.00	0.86	1.00	1.00	0.87	1.00	0.92	
Flpb, ped/bikes	0.99	1.00	1.00	0.97	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	0.95	
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)	1568	3167	1260	1528	3167	1215	3072	4550	1231	3072	3950	
Flt Permitted	0.27	1.00	1.00	0.31	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	454	3167	1260	501	3167	1215	3072	4550	1231	3072	3950	
Volume (vph)	45	748	493	278	611	432	265	620	154	220	818	445
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	49	813	536	302	664	470	288	674	167	239	889	484
RTOR Reduction (vph)	0	0	1	0	0	174	0	0	47	0	106	0
Lane Group Flow (vph)	49	813	535	302	664	296	288	674	120	239	1267	0
Confl. Peds. (#/hr)	136		119	119		136	177		101	101		177
Confl. Bikes (#/hr)			4			5			4			3
Turn Type	pm+pt		pm+ov	Perm		Perm	Prot		Perm	Prot		
Protected Phases	1	6	3		2		3	8		7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	42.3	42.3	48.3	35.5	35.5	35.5	6.0	21.0	21.0	12.7	27.7	
Effective Green, g (s)	43.8	43.8	49.8	37.0	37.0	37.0	6.0	21.5	21.5	12.7	28.2	
Actuated g/C Ratio	0.49	0.49	0.55	0.41	0.41	0.41	0.07	0.24	0.24	0.14	0.31	
Clearance Time (s)	3.5	5.5	4.0	5.5	5.5	5.5	4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	3.0	4.0	2.0	4.0	4.0	4.0	2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	256	1541	753	206	1302	500	205	1087	294	433	1238	
v/s Ratio Prot	0.01	0.26	c0.05		0.21		c0.09	0.15		0.08	c0.32	
v/s Ratio Perm	0.09		0.38	c0.60		0.24			0.10			
v/c Ratio	0.19	0.53	0.71	1.47	0.51	0.59	1.40	0.62	0.41	0.55	1.05dr	
Uniform Delay, d1	13.2	16.0	14.8	26.5	19.7	20.6	42.0	30.6	28.9	36.0	30.9	
Progression Factor	0.98	0.97	0.93	1.07	1.08	1.23	1.03	1.15	1.19	1.00	1.00	
Incremental Delay, d2	0.4	0.4	2.6	234.1	0.4	2.2	208.5	2.6	4.1	0.9	31.7	
Delay (s)	13.3	16.0	16.4	262.5	21.8	27.4	251.7	37.9	38.3	36.9	62.6	
Level of Service	B	B	B	F	C	C	F	D	D	D	E	
Approach Delay (s)		16.0			74.2			92.5			58.8	
Approach LOS		B			E			F			E	

Intersection Summary

HCM Average Control Delay	58.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↘	↑↑↑	↗	↘	↑↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor					1.00	1.00	1.00	0.91	1.00	1.00	0.91	
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1583	1417	1583	4550	1417	1583	4550	
Flt Permitted					0.76	1.00	0.10	1.00	1.00	0.36	1.00	
Satd. Flow (perm)					1262	1417	158	4550	1417	604	4550	
Volume (vph)	0	0	0	125	0	165	1	669	95	125	1687	0
Peak-hour factor, PHF	0.92	0.92	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	136	0	179	1	727	103	136	1834	0
RTOR Reduction (vph)	0	0	0	0	0	146	0	0	28	0	0	0
Lane Group Flow (vph)	0	0	0	0	136	33	1	727	75	136	1834	0
Turn Type	Perm			Perm			Perm	Perm	Perm		Perm	
Protected Phases	4			4			4		2		2	
Permitted Phases	4			4			2		2		2	
Actuated Green, G (s)				15.5			15.5	64.5	64.5	64.5	64.5	64.5
Effective Green, g (s)				16.5			16.5	65.5	65.5	65.5	65.5	65.5
Actuated g/C Ratio				0.18			0.18	0.73	0.73	0.73	0.73	0.73
Clearance Time (s)				5.0			5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)				3.0			3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				231			260	115	3311	1031	440	3311
v/s Ratio Prot							0.16				c0.40	
v/s Ratio Perm				c0.11			0.02	0.01	0.05		0.23	
v/c Ratio				0.59			0.13	0.01	0.22	0.07	0.31	0.55
Uniform Delay, d1				33.6			30.7	3.4	4.0	3.5	4.3	5.6
Progression Factor				1.00			1.00	2.04	1.62	3.81	1.12	1.22
Incremental Delay, d2				3.8			0.2	0.1	0.1	0.1	0.9	0.3
Delay (s)				37.4			30.9	7.0	6.6	13.5	5.7	7.1
Level of Service				D			C	A	A	B	A	A
Approach Delay (s)	0.0			33.8			7.4				7.0	
Approach LOS	A			C			A				A	

Intersection Summary

HCM Average Control Delay	9.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕	↗	↖	↕↕↕		↖↖	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	0.95	1.00	0.91		0.97	0.91	
Frt		0.96			0.96	0.85	1.00	0.96		1.00	1.00	
Flt Protected		0.97			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2961			1501	1346	1583	4387		3072	4541	
Flt Permitted		0.80			0.90	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2424			1366	1346	1583	4387		3072	4541	
Volume (vph)	84	31	42	10	16	69	11	623	195	132	1635	22
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	86	32	43	10	16	70	11	636	199	135	1668	22
RTOR Reduction (vph)	0	36	0	0	8	33	0	32	0	0	1	0
Lane Group Flow (vph)	0	125	0	0	27	28	11	803	0	135	1689	0
Turn Type		Perm		Perm		pm+ov		Prot			Prot	
Protected Phases		8		4	4	5	1	6		5	2	
Permitted Phases		8		4		4						
Actuated Green, G (s)		12.6			12.6	20.7	1.4	55.1		8.1	61.8	
Effective Green, g (s)		14.1			14.1	22.2	1.4	55.8		8.1	62.5	
Actuated g/C Ratio		0.16			0.16	0.25	0.02	0.62		0.09	0.69	
Clearance Time (s)		5.5			5.5	4.0	4.0	4.7		4.0	4.7	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		380			214	392	25	2720		276	3153	
v/s Ratio Prot						0.01	0.01	0.18		c0.04	c0.37	
v/s Ratio Perm		c0.05			0.02	0.01						
v/c Ratio		0.33			0.13	0.07	0.44	0.30		0.49	0.54	
Uniform Delay, d1		33.7			32.7	26.0	43.9	8.0		39.0	6.7	
Progression Factor		1.00			1.00	1.00	0.70	2.00		0.99	0.93	
Incremental Delay, d2		0.5			0.3	0.1	11.5	0.3		1.1	0.6	
Delay (s)		34.2			32.9	26.1	42.2	16.2		39.6	6.8	
Level of Service		C			C	C	D	B		D	A	
Approach Delay (s)		34.2			28.6			16.5			9.2	
Approach LOS		C			C			B			A	

Intersection Summary

HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔	↔		↔	↔↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3072		1417	1583		1417	3072	4520		1583	4544	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3072		1417	1583		1417	3072	4520		1583	4544	
Volume (vph)	128	0	179	15	0	74	19	656	30	82	1538	15
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	141	0	197	16	0	81	21	721	33	90	1690	16
RTOR Reduction (vph)	0	0	154	0	0	61	0	4	0	0	1	0
Lane Group Flow (vph)	141	0	43	16	0	20	21	750	0	90	1705	0
Turn Type	Prot		custom	Prot		custom	Prot			Prot		
Protected Phases	3		3 5	4		1 4	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.2		19.4	9.9		22.9	6.2	40.9		8.1	42.8	
Effective Green, g (s)	14.1		19.5	10.8		22.1	5.4	41.8		7.3	43.7	
Actuated g/C Ratio	0.16		0.22	0.12		0.25	0.06	0.46		0.08	0.49	
Clearance Time (s)	4.9			4.9			3.2	4.9		3.2	4.9	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	481		307	190		348	184	2099		128	2206	
v/s Ratio Prot	c0.05		0.03	c0.01		0.01	0.01	0.17		c0.06	c0.38	
v/s Ratio Perm												
v/c Ratio	0.29		0.14	0.08		0.06	0.11	0.36		0.70	0.77	
Uniform Delay, d1	33.5		28.5	35.2		26.0	40.0	15.5		40.3	19.1	
Progression Factor	1.00		1.00	1.00		1.00	1.37	0.41		0.84	1.16	
Incremental Delay, d2	0.3		0.2	0.2		0.1	0.0	0.0		14.4	2.4	
Delay (s)	33.9		28.7	35.4		26.0	54.8	6.4		48.5	24.6	
Level of Service	C		C	D		C	D	A		D	C	
Approach Delay (s)		30.9			27.6			7.7			25.8	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM Average Control Delay			21.7									HCM Level of Service C
HCM Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			59.3%									ICU Level of Service B
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑↑	↑↑↑		↔↔	↔↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.91	0.91		0.97	0.88
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)	3072	4550	4479		3072	2493
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3072	4550	4479		3072	2493
Volume (vph)	477	1852	1728	200	553	1125
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	518	2013	1878	217	601	1223
RTOR Reduction (vph)	0	0	16	0	0	340
Lane Group Flow (vph)	518	2013	2079	0	601	883
Turn Type	Prot					Prot
Protected Phases	5	2 5	6		4	4
Permitted Phases						
Actuated Green, G (s)	12.0	49.5	32.5		30.0	30.0
Effective Green, g (s)	13.0	51.0	34.0		31.0	31.0
Actuated g/C Ratio	0.14	0.57	0.38		0.34	0.34
Clearance Time (s)	5.0		5.5		5.0	5.0
Vehicle Extension (s)	2.0		3.0		3.0	3.0
Lane Grp Cap (vph)	444	2578	1692		1058	859
v/s Ratio Prot	c0.17	0.44	c0.46		0.20	c0.35
v/s Ratio Perm						
v/c Ratio	1.17	0.78	1.23		0.57	1.03
Uniform Delay, d1	38.5	15.2	28.0		24.0	29.5
Progression Factor	1.00	1.00	1.00		1.24	1.46
Incremental Delay, d2	97.0	2.4	108.5		0.5	32.7
Delay (s)	135.5	17.6	136.5		30.3	75.8
Level of Service	F	B	F		C	E
Approach Delay (s)		41.7	136.5		60.8	
Approach LOS		D	F		E	

Intersection Summary

HCM Average Control Delay	77.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	0.91
Frbp, 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	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3212	1000	2168	3212	2168	910
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3212	1000	2168	3212	2168	910
Volume (vph)	2245	315	129	2453	739	280
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2314	325	133	2529	762	289
RTOR Reduction (vph)	0	127	0	0	0	205
Lane Group Flow (vph)	2314	198	133	2529	762	84
Confl. Peds. (#/hr)		145	145		56	
Confl. Bikes (#/hr)		19				
Turn Type		Over	Prot			Perm
Protected Phases	6	4	5	2	4	
Permitted Phases						4
Actuated Green, G (s)	66.4	28.1	10.4	80.8	28.1	28.1
Effective Green, g (s)	67.6	30.0	10.4	82.0	30.0	30.0
Actuated g/C Ratio	0.56	0.25	0.09	0.68	0.25	0.25
Clearance Time (s)	5.2	5.9	4.0	5.2	5.9	5.9
Vehicle Extension (s)	3.7	3.8	1.0	3.5	3.8	3.8
Lane Grp Cap (vph)	1809	250	188	2195	542	228
v/s Ratio Prot	c0.72	0.20	0.06	c0.79	c0.35	
v/s Ratio Perm						0.09
v/c Ratio	1.28	0.79	0.71	1.15	1.41	0.37
Uniform Delay, d1	26.2	42.1	53.3	19.0	45.0	37.2
Progression Factor	1.59	0.95	0.97	0.87	1.00	1.00
Incremental Delay, d2	126.0	2.4	4.5	71.2	193.5	4.6
Delay (s)	167.6	42.5	56.3	87.7	238.5	41.7
Level of Service	F	D	E	F	F	D
Approach Delay (s)	152.2			86.2	184.4	
Approach LOS	F			F	F	

Intersection Summary			
HCM Average Control Delay	129.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕	↖	↗	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	0.95	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3072	2493	3167	1417	1583	4550
Flt Permitted	0.95	1.00	1.00	1.00	0.41	1.00
Satd. Flow (perm)	3072	2493	3167	1417	686	4550
Volume (vph)	611	423	384	321	209	324
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	671	465	422	353	230	356
RTOR Reduction (vph)	0	271	0	25	0	0
Lane Group Flow (vph)	671	194	422	328	230	356
Turn Type		Perm		pm+ov	pm+pt	
Protected Phases	4		2	4	1	6
Permitted Phases		4		2	6	
Actuated Green, G (s)	37.0	37.0	35.0	72.0	43.0	43.0
Effective Green, g (s)	37.5	37.5	36.5	74.0	44.5	44.5
Actuated g/C Ratio	0.42	0.42	0.41	0.82	0.49	0.49
Clearance Time (s)	4.5	4.5	5.5	4.5	3.0	5.5
Vehicle Extension (s)	3.0	3.0	5.0	3.0	3.0	5.0
Lane Grp Cap (vph)	1280	1039	1284	1228	379	2250
v/s Ratio Prot	c0.22		0.13	0.11	c0.03	0.08
v/s Ratio Perm		0.08		0.12	c0.27	
v/c Ratio	0.52	0.19	0.33	0.27	0.61	0.16
Uniform Delay, d1	19.6	16.6	18.3	1.8	17.0	12.5
Progression Factor	0.97	3.37	1.32	0.79	1.00	1.00
Incremental Delay, d2	0.2	0.0	0.7	0.1	2.7	0.2
Delay (s)	19.3	56.1	25.0	1.5	19.7	12.6
Level of Service	B	E	C	A	B	B
Approach Delay (s)	34.3		14.3			15.4
Approach LOS	C		B			B

Intersection Summary

HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
75: Olympic Blvd & Century Park West



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔	↔↔	↔↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
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)	3072	4550	4550	1417	3072	2493
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3072	4550	4550	1417	3072	2493
Volume (vph)	169	2272	2420	97	9	846
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	172	2318	2469	99	9	863
RTOR Reduction (vph)	0	0	0	43	0	0
Lane Group Flow (vph)	172	2318	2469	56	9	863
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	10.2	53.8	39.6	39.6	26.3	26.3
Effective Green, g (s)	10.2	55.0	40.8	40.8	27.0	27.0
Actuated g/C Ratio	0.11	0.61	0.45	0.45	0.30	0.30
Clearance Time (s)	4.0	5.2	5.2	5.2	4.7	4.7
Vehicle Extension (s)	3.0	4.8	4.6	4.6	3.0	3.0
Lane Grp Cap (vph)	348	2781	2063	642	922	748
v/s Ratio Prot	0.06	c0.51	c0.54		0.00	
v/s Ratio Perm				0.04		c0.35
v/c Ratio	0.49	0.83	1.20	0.09	0.01	1.15
Uniform Delay, d1	37.5	13.9	24.6	14.0	22.1	31.5
Progression Factor	0.53	2.16	1.00	1.00	0.96	0.81
Incremental Delay, d2	0.1	0.3	93.6	0.3	0.0	83.2
Delay (s)	19.9	30.2	118.2	14.3	21.2	108.7
Level of Service	B	C	F	B	C	F
Approach Delay (s)		29.5	114.2		107.8	
Approach LOS		C	F		F	

Intersection Summary

HCM Average Control Delay	77.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑	↗	↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00		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)	1583	4550	1417	1583	4512		1583	3151		1583	3122	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.13	1.00		0.15	1.00	
Satd. Flow (perm)	1583	4550	1417	1583	4512		215	3151		247	3122	
Volume (vph)	123	2568	347	101	2241	131	200	1125	38	133	942	99
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	127	2647	358	104	2310	135	206	1160	39	137	971	102
RTOR Reduction (vph)	0	0	116	0	5	0	0	2	0	0	7	0
Lane Group Flow (vph)	127	2647	242	104	2440	0	206	1197	0	137	1066	0
Turn Type	Prot		Perm	Prot			pm+pt			Perm		
Protected Phases	1	6		5	2		3	8			4	
Permitted Phases			6				8			4		
Actuated Green, G (s)	12.7	54.4	54.4	11.6	53.3		40.0	40.0		26.0	26.0	
Effective Green, g (s)	12.7	55.4	55.4	11.6	54.3		41.0	41.0		27.0	27.0	
Actuated g/C Ratio	0.11	0.46	0.46	0.10	0.45		0.34	0.34		0.22	0.22	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		3.5	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	2101	654	153	2042		187	1077		56	702	
v/s Ratio Prot	c0.08	c0.58		0.07	0.54		0.09	c0.38			0.34	
v/s Ratio Perm			0.17				0.28			c0.55		
v/c Ratio	0.76	1.26	0.37	0.68	1.19		1.10	1.11		2.45	1.52	
Uniform Delay, d1	52.1	32.3	21.0	52.4	32.9		57.2	39.5		46.5	46.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.72	1.57		1.00	1.00	
Incremental Delay, d2	15.7	121.0	1.6	9.1	92.8		53.7	51.6		701.3	240.6	
Delay (s)	67.8	153.3	22.6	61.5	125.7		151.8	113.6		747.8	287.1	
Level of Service	E	F	C	E	F		F	F		F	F	
Approach Delay (s)		134.9			123.1			119.2			339.3	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	158.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↗	↖↗	↕	↗	↖↗	↕	↗	↖↗	↕	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Volume (vph)	82	2083	130	102	2661	440	5	1112	77	381	1314	87
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	85	2147	134	105	2743	454	5	1146	79	393	1355	90
RTOR Reduction (vph)	0	0	59	0	0	25	0	0	43	0	0	34
Lane Group Flow (vph)	85	2147	75	105	2743	429	5	1146	36	393	1355	56
Turn Type	Prot		Perm	Prot		pm+ov	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2	7	3	8		7		4
Permitted Phases			6			2			8			4
Actuated Green, G (s)	6.3	26.5	26.5	10.8	31.0	56.2	1.1	37.6	37.6	25.2	61.7	61.7
Effective Green, g (s)	6.3	28.0	28.0	10.8	32.5	57.7	1.1	40.0	40.0	25.2	64.1	64.1
Actuated g/C Ratio	0.05	0.23	0.23	0.09	0.27	0.48	0.01	0.33	0.33	0.21	0.53	0.53
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	4.0	4.0	6.4	6.4	4.0	6.4	6.4
Vehicle Extension (s)	2.0	4.5	4.5	2.0	5.2	2.0	2.0	4.7	4.7	2.0	4.7	4.7
Lane Grp Cap (vph)	114	749	233	195	870	481	20	745	333	455	1194	534
v/s Ratio Prot	0.04	c0.67		0.05	c0.85	0.19	0.00	c0.51		0.18	c0.61	
v/s Ratio Perm			0.07			0.24			0.04			0.06
v/c Ratio	0.75	2.87	0.32	0.54	3.15	0.89	0.25	1.54	0.11	0.86	1.13	0.10
Uniform Delay, d1	56.1	46.0	38.1	52.2	43.8	28.3	59.0	40.0	27.7	45.7	28.0	13.8
Progression Factor	0.97	0.45	0.14	0.94	0.93	0.87	1.00	1.00	1.00	0.63	0.73	0.23
Incremental Delay, d2	2.1	840.3	0.3	0.1	969.1	2.1	2.4	248.9	0.3	6.2	65.0	0.1
Delay (s)	56.6	861.0	5.8	49.4	1009.7	26.7	61.4	288.9	27.9	34.8	85.4	3.2
Level of Service	E	F	A	D	F	C	E	F	C	C	F	A
Approach Delay (s)		783.6			844.0			271.2			70.6	
Approach LOS		F			F			F			E	

Intersection Summary

HCM Average Control Delay	584.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	157.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	0.86		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		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)	1583	4550	1417	1583	5711		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00	1.00	0.11	1.00		0.15	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	183	4550	1417	188	5711		252	3167	1417	219	3167	1417
Volume (vph)	358	2280	149	198	3144	84	57	801	81	204	1092	294
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	369	2351	154	204	3241	87	59	826	84	210	1126	303
RTOR Reduction (vph)	0	0	21	0	4	0	0	0	6	0	0	0
Lane Group Flow (vph)	369	2351	133	204	3324	0	59	826	78	210	1126	303
Turn Type	pm+pt		Perm	pm+pt		Perm		pm+ov	pm+pt		pm+ov	
Protected Phases	1	6		5	2			8	5	7	4	1
Permitted Phases	6		6	2		8	8	8	4			4
Actuated Green, G (s)	43.0	36.0	36.0	41.0	35.0	25.0	25.0	31.0	34.0	34.0	41.0	
Effective Green, g (s)	43.5	36.5	36.5	41.5	35.5	26.5	26.5	32.5	35.5	35.5	42.5	
Actuated g/C Ratio	0.48	0.41	0.41	0.46	0.39	0.29	0.29	0.36	0.39	0.39	0.47	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5	5.5	5.5	4.0	4.0	5.5	4.0	
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0	5.0	5.0	3.0	3.0	5.0	3.0	
Lane Grp Cap (vph)	197	1845	575	180	2253	74	933	575	162	1249	732	
v/s Ratio Prot	c0.15	0.52		0.08	0.58		0.26	0.01	c0.07	0.36	0.03	
v/s Ratio Perm	c0.76		0.09	0.45		0.23		0.05	c0.44		0.18	
v/c Ratio	1.87	1.27	0.23	1.13	1.48	0.80	0.89	0.14	1.30	0.90	0.41	
Uniform Delay, d1	43.7	26.8	17.5	44.2	27.2	29.3	30.3	19.3	24.7	25.6	15.6	
Progression Factor	2.19	0.69	0.79	1.69	1.47	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	394.6	123.8	0.1	66.9	214.1	48.2	10.8	0.1	171.2	9.7	0.4	
Delay (s)	490.4	142.2	14.0	141.4	254.1	77.5	41.1	19.4	195.9	35.3	16.0	
Level of Service	F	F	B	F	F	E	D	B	F	D	B	
Approach Delay (s)		180.0			247.6		41.4				52.3	
Approach LOS		F			F		D				D	

Intersection Summary

HCM Average Control Delay	168.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	130.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖		↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	0.97		1.00	1.00		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1583	3069		1583	3156		1504	1583	1417		1614	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1583	3069		1583	3156		1504	1583	1417		1614	
Volume (vph)	10	1148	299	178	950	21	358	643	764	27	296	85
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	1196	311	185	990	22	373	670	796	28	308	89
RTOR Reduction (vph)	0	19	0	0	1	0	0	0	236	0	0	0
Lane Group Flow (vph)	10	1488	0	185	1011	0	373	670	560	0	425	0
Turn Type	Prot		Prot		Split		pm+ov		Split			
Protected Phases	1	6		5	2		3	3	5		4	4
Permitted Phases									3			
Actuated Green, G (s)	1.5	54.9		16.4	69.8		11.0	11.0	27.4		20.0	
Effective Green, g (s)	0.5	55.7		15.4	70.6		11.9	11.9	27.3		21.0	
Actuated g/C Ratio	0.00	0.46		0.13	0.59		0.10	0.10	0.23		0.18	
Clearance Time (s)	3.0	4.8		3.0	4.8		4.9	4.9	3.0		5.0	
Vehicle Extension (s)	3.0	6.0		3.0	6.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	7	1425		203	1857		149	157	370		282	
v/s Ratio Prot	0.01	c0.48		0.12	0.32		0.25	c0.42	c0.19		c0.26	
v/s Ratio Perm									0.20			
v/c Ratio	1.43	1.04		0.91	0.54		2.50	4.27	1.51		1.51	
Uniform Delay, d1	59.8	32.1		51.6	15.0		54.0	54.0	46.4		49.5	
Progression Factor	1.12	1.08		1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	251.9	22.2		39.3	1.2		696.1	1485.2	245.1		245.8	
Delay (s)	319.1	56.9		90.9	16.1		750.1	1539.3	291.4		295.3	
Level of Service	F	E		F	B		F	F	F		F	
Approach Delay (s)		58.6			27.7			839.1			295.3	
Approach LOS		E			C			F			F	

Intersection Summary

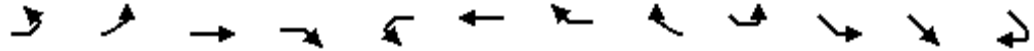
HCM Average Control Delay	359.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	133.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	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	0.89		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1504	1510	1417	1583	1483		1583	1654		1583	1667	1417
Flt Permitted	0.71	0.68	1.00	0.95	1.00		0.34	1.00		0.20	1.00	1.00
Satd. Flow (perm)	1121	1075	1417	1583	1483		573	1654		340	1667	1417
Volume (vph)	524	10	172	20	19	53	64	726	39	31	558	343
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	546	10	179	21	20	55	67	756	41	32	581	357
RTOR Reduction (vph)	0	0	153	0	50	0	0	2	0	0	0	143
Lane Group Flow (vph)	273	283	26	21	25	0	67	795	0	32	581	214
Turn Type	Perm		Perm	Split			Perm			Perm		Perm
Protected Phases		4		3	3			2			2	
Permitted Phases	4		4				2			2		2
Actuated Green, G (s)	10.0	10.0	10.0	6.0	6.0		43.6	43.6		43.6	43.6	43.6
Effective Green, g (s)	11.0	11.0	11.0	7.0	7.0		45.0	45.0		45.0	45.0	45.0
Actuated g/C Ratio	0.15	0.15	0.15	0.09	0.09		0.60	0.60		0.60	0.60	0.60
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.4	5.4		5.4	5.4	5.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	164	158	208	148	138		344	992		204	1000	850
v/s Ratio Prot				0.01	c0.02			c0.48			0.35	
v/s Ratio Perm	0.24	c0.26	0.02				0.12			0.09		0.15
v/c Ratio	1.66	1.79	0.13	0.14	0.18		0.19	0.80		0.16	0.58	0.25
Uniform Delay, d1	32.0	32.0	27.8	31.2	31.4		6.8	11.6		6.6	9.2	7.1
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	324.4	380.2	0.3	0.4	0.6		1.3	6.8		1.6	2.5	0.7
Delay (s)	356.4	412.2	28.1	31.7	32.0		8.1	18.4		8.3	11.7	7.8
Level of Service	F	F	C	C	C		A	B		A	B	A
Approach Delay (s)		297.9			31.9			17.6			10.1	
Approach LOS		F			C			B			B	

Intersection Summary

HCM Average Control Delay	92.7	HCM Level of Service	F
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	SEL2	SEL	SET	SER
Lane Configurations			↕	↗		↕↗				↘	↕↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)			4.0	4.0		4.0				4.0	4.0	
Lane Util. Factor			1.00	1.00		0.95				1.00	0.95	
Frt			1.00	0.85		0.98				1.00	0.99	
Flt Protected			0.99	1.00		0.98				0.95	1.00	
Satd. Flow (prot)			1160	1000		2162				1118	2209	
Flt Permitted			0.36	1.00		0.54				0.52	1.00	
Satd. Flow (perm)			428	1000		1194				606	2209	
Volume (vph)	11	213	570	48	317	536	53	55	11	5	558	48
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	11	222	594	50	330	558	55	57	11	5	581	50
RTOR Reduction (vph)	0	0	0	26	0	6	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	827	24	0	994	0	0	0	16	622	0
Turn Type		Perm		Perm	Perm				Perm	Perm		
Protected Phases			6			2					4	
Permitted Phases		6		6	2				4	4		
Actuated Green, G (s)			34.0	34.0		34.0				30.0	30.0	
Effective Green, g (s)			36.0	36.0		36.0				31.0	31.0	
Actuated g/C Ratio			0.48	0.48		0.48				0.41	0.41	
Clearance Time (s)			6.0	6.0		6.0				5.0	5.0	
Vehicle Extension (s)			3.0	3.0		3.0				3.0	3.0	
Lane Grp Cap (vph)			205	480		573				250	913	
v/s Ratio Prot											0.28	
v/s Ratio Perm			c1.93	0.02		0.83				0.03		
v/c Ratio			4.03	0.05		4.78dl				0.06	0.68	
Uniform Delay, d1			19.5	10.4		19.5				13.3	18.0	
Progression Factor			1.05	1.10		1.00				1.00	1.00	
Incremental Delay, d2			1366.4	0.0		338.1				0.5	4.1	
Delay (s)			1386.9	11.5		357.6				13.7	22.1	
Level of Service			F	B		F				B	C	
Approach Delay (s)			1308.5			357.6					21.9	
Approach LOS			F			F					C	

Intersection Summary

HCM Average Control Delay	445.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.69		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	188.2%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	NWL	NWT	NWR	NWR2
Lane Configurations				
Ideal Flow (vphpl)	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	
Satd. Flow (prot)	1118	1176	1000	
Flt Permitted	0.33	1.00	1.00	
Satd. Flow (perm)	392	1176	1000	
Volume (vph)	167	264	111	459
Peak-hour factor, PHF	0.96	0.96	0.96	0.96
Adj. Flow (vph)	174	275	116	478
RTOR Reduction (vph)	0	0	127	0
Lane Group Flow (vph)	174	275	467	0
Turn Type	Perm		Perm	
Protected Phases		8		
Permitted Phases	8		8	
Actuated Green, G (s)	30.0	30.0	30.0	
Effective Green, g (s)	31.0	31.0	31.0	
Actuated g/C Ratio	0.41	0.41	0.41	
Clearance Time (s)	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	
Lane Grp Cap (vph)	162	486	413	
v/s Ratio Prot		0.23		
v/s Ratio Perm	0.44		c0.47	
v/c Ratio	1.07	0.57	1.13	
Uniform Delay, d1	22.0	16.8	22.0	
Progression Factor	1.13	1.03	1.26	
Incremental Delay, d2	44.3	0.4	62.3	
Delay (s)	69.1	17.9	90.0	
Level of Service	E	B	F	
Approach Delay (s)		67.5		
Approach LOS		E		

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86			1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	1.00
Satd. Flow (prot)	2168	4027		1118	3958			1122		1118	1176	1000
Flt Permitted	0.95	1.00		0.06	1.00			0.24		0.39	1.00	1.00
Satd. Flow (perm)	2168	4027		68	3958			280		455	1176	1000
Volume (vph)	229	2394	81	133	2357	405	339	354	177	248	451	305
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	241	2520	85	140	2481	426	357	373	186	261	475	321
RTOR Reduction (vph)	0	3	0	0	20	0	0	3	0	0	0	0
Lane Group Flow (vph)	241	2602	0	140	2887	0	0	913	0	261	475	321
Turn Type	Prot		Perm			Perm			Perm		pm+ov	
Protected Phases	5	2			6			4			4	5
Permitted Phases				6			4			4		4
Actuated Green, G (s)	18.3	92.0		69.7	69.7			49.0		49.0	49.0	67.3
Effective Green, g (s)	18.3	92.0		69.7	69.7			50.0		50.0	50.0	68.3
Actuated g/C Ratio	0.12	0.61		0.46	0.46			0.33		0.33	0.33	0.46
Clearance Time (s)	4.0	4.0		4.0	4.0			5.0		5.0	5.0	4.0
Vehicle Extension (s)	1.5	4.0		4.0	4.0			3.0		3.0	3.0	1.5
Lane Grp Cap (vph)	264	2470		32	1839			93		152	392	482
v/s Ratio Prot	0.11	c0.65			0.73						0.40	0.08
v/s Ratio Perm				c2.07				c3.26		0.57		0.24
v/c Ratio	0.91	1.05		4.38	1.57			9.82		1.72	1.21	0.67
Uniform Delay, d1	65.1	29.0		40.1	40.1			50.0		50.0	50.0	31.9
Progression Factor	1.29	0.74		1.00	1.00			1.00		0.93	0.93	1.05
Incremental Delay, d2	4.8	25.3		1588.5	259.0			3990.8		333.0	104.3	1.0
Delay (s)	88.9	46.8		1628.6	299.2			4040.8		379.6	150.8	34.4
Level of Service	F	D		F	F			F		F	F	C
Approach Delay (s)		50.3			360.3			4040.8			171.9	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	651.4	HCM Level of Service	F
HCM Volume to Capacity ratio	5.93		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	202.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.96		1.00	0.98		1.00	1.00	0.55	1.00	1.00	0.79
Flpb, ped/bikes	0.94	1.00		0.98	1.00		0.92	1.00	1.00	0.67	1.00	1.00
Frt	1.00	0.97		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1488	1558		1553	1606		1463	3167	776	1053	3167	1122
Flt Permitted	0.55	1.00		0.30	1.00		0.35	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)	866	1558		486	1606		538	3167	776	595	3167	1122
Volume (vph)	48	324	79	171	286	47	132	312	155	23	553	192
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	50	338	82	178	298	49	138	325	161	24	576	200
RTOR Reduction (vph)	0	12	0	0	7	0	0	0	39	0	0	125
Lane Group Flow (vph)	50	408	0	178	340	0	138	325	122	24	576	75
Conf. Peds. (#/hr)	117		216	216		117	196		419	419		196
Conf. Bikes (#/hr)			5			6			8			20
Turn Type	Perm			pm+pt			Perm		pm+ov	Perm		Perm
Protected Phases		6		5	2			8	5		4	
Permitted Phases	6			2			8	8	4			4
Actuated Green, G (s)	27.6	27.6		37.6	37.6		27.0	27.0	33.5	27.0	27.0	27.0
Effective Green, g (s)	29.0	29.0		39.0	39.0		28.0	28.0	34.0	28.0	28.0	28.0
Actuated g/C Ratio	0.39	0.39		0.52	0.52		0.37	0.37	0.45	0.37	0.37	0.37
Clearance Time (s)	5.4	5.4		3.5	5.4		5.0	5.0	3.5	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	335	602		338	835		201	1182	393	222	1182	419
v/s Ratio Prot		c0.26		c0.04	0.21			0.10	0.02		0.18	
v/s Ratio Perm	0.06			0.23			c0.26		0.13	0.04		0.07
v/c Ratio	0.15	0.68		0.53	0.41		0.69	0.27	0.31	0.11	0.49	0.18
Uniform Delay, d1	15.0	19.1		11.4	11.0		19.8	16.4	13.0	15.3	18.0	15.8
Progression Factor	0.74	0.81		1.00	1.00		0.96	0.88	1.16	1.00	1.00	1.00
Incremental Delay, d2	0.9	5.8		1.5	1.5		15.3	0.5	0.4	1.0	1.4	0.9
Delay (s)	12.0	21.3		12.9	12.4		34.3	15.0	15.6	16.3	19.4	16.7
Level of Service	B	C		B	B		C	B	B	B	B	B
Approach Delay (s)		20.3			12.6			19.4			18.7	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↕			↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		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	0.95			0.95	1.00
Frbp, ped/bikes		1.00	1.00		0.92		1.00	0.92			1.00	0.30
Flpb, ped/bikes		0.98	1.00		0.94		0.85	1.00			0.97	1.00
Frt		1.00	0.85		0.97		1.00	0.98			1.00	0.85
Flt Protected		0.99	1.00		0.99		0.95	1.00			0.99	1.00
Satd. Flow (prot)		1613	1417		1386		1341	2879			3048	420
Flt Permitted		0.87	1.00		0.93		0.23	1.00			0.82	1.00
Satd. Flow (perm)		1411	1417		1303		322	2879			2501	420
Volume (vph)	39	163	124	67	335	128	182	480	58	96	766	61
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	40	168	128	69	345	132	188	495	60	99	790	63
RTOR Reduction (vph)	0	0	128	0	1	0	0	3	0	0	0	4
Lane Group Flow (vph)	0	208	0	0	545	0	188	552	0	0	889	59
Conf. Peds. (#/hr)	570		715	715		570	814		795	795		814
Conf. Bikes (#/hr)			9			12			43			28
Turn Type	Perm		NA	Perm			Perm			Perm		Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		2
Actuated Green, G (s)		30.5	0.0		30.5		34.1	34.1			34.1	34.1
Effective Green, g (s)		32.0	0.0		32.0		35.0	35.0			35.0	35.0
Actuated g/C Ratio		0.43	0.00		0.43		0.47	0.47			0.47	0.47
Clearance Time (s)		5.5			5.5		4.9	4.9			4.9	4.9
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		602	0		556		150	1344			1167	196
v/s Ratio Prot								0.19				
v/s Ratio Perm		0.15			c0.42		c0.58				0.36	0.14
v/c Ratio		0.35	0.00		0.98		1.25	0.41			0.76	0.30
Uniform Delay, d1		14.5	37.5		21.2		20.0	13.2			16.6	12.4
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.74	1.85
Incremental Delay, d2		1.6	0.0		33.5		157.1	0.9			4.3	3.6
Delay (s)		16.0	37.5		54.7		177.1	14.1			33.1	26.6
Level of Service		B	D		D		F	B			C	C
Approach Delay (s)		24.2			54.7			55.4			32.7	
Approach LOS		C			D			E			C	
Intersection Summary												
HCM Average Control Delay			42.8				HCM Level of Service				D	
HCM Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			75.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			114.9%				ICU Level of Service				H	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕	↗		↕↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			0.95	1.00		0.95	
Frbp, ped/bikes		0.79			0.98			1.00	0.54		0.98	
Flpb, ped/bikes		1.00			0.97			1.00	1.00		1.00	
Frt		0.90			0.99			1.00	0.85		0.99	
Flt Protected		1.00			0.98			1.00	1.00		1.00	
Satd. Flow (prot)		1577			2061			2235	540		2185	
Flt Permitted		0.91			0.53			1.00	1.00		0.95	
Satd. Flow (perm)		1443			1119			2235	540		2080	
Volume (vph)	22	196	489	290	378	30	0	874	511	5	1130	43
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	200	499	296	386	31	0	892	521	5	1153	44
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	79	0	2	0
Lane Group Flow (vph)	0	719	0	0	711	0	0	892	442	0	1200	0
Conf. Peds. (#/hr)	238		195	195		238	518		548	548		518
Conf. Bikes (#/hr)			8			5			23			18
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases		4			4			2				2
Permitted Phases	4			4			2		2	2		
Actuated Green, G (s)		61.5			61.5			78.0	78.0		78.0	
Effective Green, g (s)		63.0			63.0			79.0	79.0		79.0	
Actuated g/C Ratio		0.42			0.42			0.53	0.53		0.53	
Clearance Time (s)		5.5			5.5			5.0	5.0		5.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		606			470			1177	284		1095	
v/s Ratio Prot								0.40				
v/s Ratio Perm		0.50			c0.64				c0.82		0.58	
v/c Ratio		1.66dr			2.43dl			0.76	1.56		1.10	
Uniform Delay, d1		43.5			43.5			28.0	35.5		35.5	
Progression Factor		0.74			1.04			1.76	2.25		1.00	
Incremental Delay, d2		85.8			231.5			0.4	251.9		57.3	
Delay (s)		117.9			276.8			49.8	331.7		92.8	
Level of Service		F			F			D	F		F	
Approach Delay (s)		117.9			276.8			153.7			92.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	151.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	162.4%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.97	0.86		0.97	0.86		1.00	0.91		1.00	0.86	0.86
Frbp, ped/bikes	1.00	0.95		1.00	0.99		1.00	0.95		1.00	0.98	0.71
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.94	1.00	1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.98		1.00	0.99	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	2168	3767		2168	3987		1118	2973		1046	2950	615
Flt Permitted	0.95	1.00		0.95	1.00		0.06	1.00		0.21	1.00	1.00
Satd. Flow (perm)	2168	3767		2168	3987		76	2973		229	2950	615
Volume (vph)	249	2361	382	59	2763	88	722	1042	174	341	1291	394
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	259	2459	398	61	2878	92	752	1085	181	355	1345	410
RTOR Reduction (vph)	0	20	0	0	3	0	0	15	0	0	4	1
Lane Group Flow (vph)	259	2837	0	61	2967	0	752	1251	0	355	1427	323
Confl. Peds. (#/hr)	257		298	298		257	247		439	439		247
Confl. Bikes (#/hr)			4			3			8			8
Turn Type	Prot			Prot		pm+pt			Perm		pm+ov	
Protected Phases	5	2		1	6	3	8				4	5
Permitted Phases						8			4			4
Actuated Green, G (s)	7.0	47.5		5.0	45.5	82.1	82.1		56.1	56.1	63.1	
Effective Green, g (s)	7.0	49.0		5.0	47.0	84.0	84.0		58.0	58.0	65.0	
Actuated g/C Ratio	0.05	0.33		0.03	0.31	0.56	0.56		0.39	0.39	0.43	
Clearance Time (s)	4.0	5.5		4.0	5.5	4.0	5.9		5.9	5.9	4.0	
Vehicle Extension (s)	2.0	4.0		2.0	4.0	3.0	2.0		2.0	2.0	2.0	
Lane Grp Cap (vph)	101	1231		72	1249	195	1665		89	1141	283	
v/s Ratio Prot	0.12	c0.75		0.03	c0.74	c0.56	0.42			0.48	0.05	
v/s Ratio Perm						c1.59			1.55		0.47	
v/c Ratio	2.56	2.31		0.85	2.38	3.86	0.75		3.99	1.25	1.14	
Uniform Delay, d1	71.5	50.5		72.1	51.5	49.9	25.1		46.0	46.0	42.5	
Progression Factor	1.21	0.92		1.15	1.20	1.00	1.00		1.03	1.03	1.10	
Incremental Delay, d2	706.6	587.5		8.0	619.3	1297.7	1.7		1347.4	113.4	68.6	
Delay (s)	793.3	634.1		90.6	681.0	1347.6	26.8		1394.6	160.7	115.5	
Level of Service	F	F		F	F	F	C		F	F	F	
Approach Delay (s)		647.3			669.1		519.0			361.3		
Approach LOS		F			F		F			F		

Intersection Summary

HCM Average Control Delay	569.8	HCM Level of Service	F
HCM Volume to Capacity ratio	3.25		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	198.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	0.95		1.00	0.95	
Frt		0.94			0.95		1.00	0.98		1.00	0.98	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1086			1099		1118	2181		1118	2200	
Flt Permitted		0.63			0.71		0.15	1.00		0.15	1.00	
Satd. Flow (perm)		697			791		181	2181		181	2200	
Volume (vph)	117	68	153	350	257	339	60	1318	255	241	1279	150
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	136	79	178	407	299	394	70	1533	297	280	1487	174
RTOR Reduction (vph)	0	6	0	0	5	0	0	27	0	0	15	0
Lane Group Flow (vph)	0	387	0	0	1095	0	70	1803	0	280	1646	0
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		4		4		4		2		2		2
Permitted Phases		4		4		2		2		2		2
Actuated Green, G (s)		25.0		25.0		25.6	25.6	25.6		25.6	25.6	25.6
Effective Green, g (s)		26.0		26.0		26.0	26.0	26.0		26.0	26.0	26.0
Actuated g/C Ratio		0.43		0.43		0.43	0.43	0.43		0.43	0.43	0.43
Clearance Time (s)		5.0		5.0		4.4	4.4	4.4		4.4	4.4	4.4
Vehicle Extension (s)		3.0		3.0		3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)		302		343		78	945	78		953	78	953
v/s Ratio Prot							0.83					0.75
v/s Ratio Perm		0.56		c1.39		0.39				c1.55		
v/c Ratio		1.28		3.19		0.90	1.91			3.59	1.73	
Uniform Delay, d1		17.0		17.0		15.8	17.0			17.0	17.0	
Progression Factor		1.00		1.00		0.31	0.29			1.00	1.00	
Incremental Delay, d2		150.1		994.8		14.0	409.1			1196.5	331.8	
Delay (s)		167.1		1011.8		18.8	414.1			1213.5	348.8	
Level of Service		F		F		B	F			F	F	
Approach Delay (s)		167.1		1011.8			399.6				473.5	
Approach LOS		F		F			F				F	

Intersection Summary

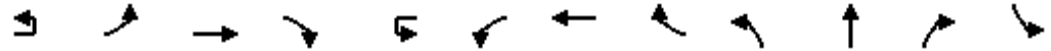
HCM Average Control Delay	535.6	HCM Level of Service	F
HCM Volume to Capacity ratio	3.38		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	215.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	1113		1118	1161		1118	2213		1118	2195	
Flt Permitted	0.44	1.00		0.16	1.00		0.15	1.00		0.15	1.00	
Satd. Flow (perm)	517	1113		188	1161		174	2213		174	2195	
Volume (vph)	155	409	229	79	324	31	91	1538	109	44	1713	235
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	158	417	234	81	331	32	93	1569	111	45	1748	240
RTOR Reduction (vph)	0	3	0	0	5	0	0	9	0	0	18	0
Lane Group Flow (vph)	158	648	0	81	358	0	93	1671	0	45	1970	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		4		4		2		2		2	
Permitted Phases	4		4		4		2		2		2	
Actuated Green, G (s)	23.4	23.4		23.4	23.4		26.5	26.5		26.5	26.5	
Effective Green, g (s)	25.0	25.0		25.0	25.0		27.0	27.0		27.0	27.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.45	0.45		0.45	0.45	
Clearance Time (s)	5.6	5.6		5.6	5.6		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)	215	464		78	484		78	996		78	988	
v/s Ratio Prot	c0.58				0.31		0.76				c0.90	
v/s Ratio Perm	0.31		0.43				0.53		0.26			
v/c Ratio	0.73	1.40		1.04	0.74		1.19	1.68		0.58	1.99	
Uniform Delay, d1	14.7	17.5		17.5	14.8		16.5	16.5		12.3	16.5	
Progression Factor	0.55	0.51		1.00	1.00		1.57	1.70		0.67	0.70	
Incremental Delay, d2	5.4	184.0		112.9	5.8		97.9	305.5		2.8	447.8	
Delay (s)	13.5	192.9		130.4	20.6		123.9	333.5		11.1	459.3	
Level of Service	B		F		C		F		B		F	
Approach Delay (s)	157.9				40.6		322.5				449.4	
Approach LOS	F				D		F				F	

Intersection Summary

HCM Average Control Delay	322.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.71		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	171.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔↔	↔↔↔	↔		↔↔	↔↔↔	↔	↔	↔↔		↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		0.97	0.91	1.00		0.97	0.91	1.00	1.00	0.95		1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		3072	4550	1417		3072	4550	1417	1583	3129		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.09	1.00		0.09
Satd. Flow (perm)		3072	4550	1417		3072	4550	1417	148	3129		147
Volume (vph)	3	308	2050	100	22	213	2032	404	175	1262	109	515
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	3	311	2071	101	22	215	2053	408	177	1275	110	520
RTOR Reduction (vph)	0	0	0	42	0	0	0	23	0	6	0	0
Lane Group Flow (vph)	0	314	2071	59	0	237	2053	385	177	1379	0	520
Turn Type	Prot	Prot		pm+ov	Prot	Prot		pm+ov	pm+pt			pm+pt
Protected Phases	1	1	6	3	5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		16.7	30.8	42.5		14.7	28.8	40.8	54.0	42.3		54.6
Effective Green, g (s)		16.7	32.3	44.0		14.7	30.3	42.3	56.7	45.0		57.3
Actuated g/C Ratio		0.14	0.27	0.37		0.12	0.25	0.35	0.47	0.38		0.48
Clearance Time (s)		4.0	5.5	4.0		4.0	5.5	4.0	4.0	6.7		4.0
Vehicle Extension (s)		3.0	5.0	3.0		3.0	5.0	3.0	3.0	4.0		3.0
Lane Grp Cap (vph)		428	1225	567		376	1149	547	210	1173		214
v/s Ratio Prot		c0.10	c0.46	0.01		0.08	0.45	0.07	0.08	0.44		c0.24
v/s Ratio Perm				0.03				0.20	0.32			c0.92
v/c Ratio		0.73	1.69	0.10		0.63	1.79	0.70	0.84	1.18		2.43
Uniform Delay, d1		49.5	43.9	25.0		50.1	44.9	33.4	31.6	37.5		56.2
Progression Factor		1.54	0.71	0.04		1.54	0.79	0.19	1.00	1.00		1.30
Incremental Delay, d2		0.6	311.1	0.0		0.3	354.4	0.4	25.2	88.4		644.7
Delay (s)		76.9	342.2	1.1		77.4	389.9	6.8	56.8	125.9		718.0
Level of Service		E	F	A		E	F	A	E	F		F
Approach Delay (s)			294.8				304.6			118.0		
Approach LOS			F				F			F		

Intersection Summary

HCM Average Control Delay	269.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	141.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	4.0
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3167	1417
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3167	1417
Volume (vph)	1581	108
Peak-hour factor, PHF	0.99	0.99
Adj. Flow (vph)	1597	109
RTOR Reduction (vph)	0	42
Lane Group Flow (vph)	1597	67
Turn Type		Perm
Protected Phases	4	
Permitted Phases		4
Actuated Green, G (s)	42.6	42.6
Effective Green, g (s)	45.3	45.3
Actuated g/C Ratio	0.38	0.38
Clearance Time (s)	6.7	6.7
Vehicle Extension (s)	4.0	4.0
Lane Grp Cap (vph)	1196	535
v/s Ratio Prot	0.50	
v/s Ratio Perm		0.05
v/c Ratio	1.34	0.12
Uniform Delay, d1	37.4	24.4
Progression Factor	1.06	1.17
Incremental Delay, d2	151.4	0.0
Delay (s)	191.0	28.5
Level of Service	F	C
Approach Delay (s)	306.1	
Approach LOS	F	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4520		1583	5681		1583	3136		1583	3137	
Flt Permitted	0.14	1.00		0.12	1.00		0.15	1.00		0.13	1.00	
Satd. Flow (perm)	230	4520		202	5681		247	3136		215	3137	
Volume (vph)	53	2228	104	201	3103	200	79	1277	89	290	1465	98
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	55	2321	108	209	3232	208	82	1330	93	302	1526	102
RTOR Reduction (vph)	0	5	0	0	11	0	0	6	0	0	0	0
Lane Group Flow (vph)	55	2424	0	209	3429	0	82	1417	0	302	1628	0
Turn Type	Perm		pm+pt			Perm			pm+pt			
Protected Phases	2		1			6			8			
Permitted Phases	2		6			8			4			
Actuated Green, G (s)	28.0	28.0		41.0	41.0		25.6	25.6		38.6	38.6	
Effective Green, g (s)	29.0	29.0		42.0	42.0		27.0	27.0		40.0	40.0	
Actuated g/C Ratio	0.32	0.32		0.47	0.47		0.30	0.30		0.44	0.44	
Clearance Time (s)	5.0	5.0		3.5	5.0		5.4	5.4		3.5	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1456		232	2651		74	941		232	1394	
v/s Ratio Prot	c0.54		0.09			c0.60			c0.45			
v/s Ratio Perm	0.24		0.33			0.33			0.45			
v/c Ratio	0.74	1.66		0.90	1.29		1.11	1.51		1.30	1.17	
Uniform Delay, d1	27.2	30.5		42.0	24.0		31.5	31.5		42.7	25.0	
Progression Factor	1.77	1.73		2.16	0.56		0.97	0.95		1.00	1.00	
Incremental Delay, d2	6.0	299.3		4.8	132.4		118.1	231.6		163.6	83.7	
Delay (s)	54.1	352.1		95.4	145.8		148.8	261.6		206.3	108.7	
Level of Service	D	F		F	F		F	F		F	F	
Approach Delay (s)	345.5		142.9			255.4			123.9			
Approach LOS	F		F			F			F			

Intersection Summary

HCM Average Control Delay	209.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	137.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	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	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4550	1417	1583	3167	1417	1583	3131	3131
Flt Permitted	0.13	1.00	1.00	0.13	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	224	4550	1417	224	4550	1417	1583	3167	1417	1583	3131	3131
Volume (vph)	226	1893	314	346	2277	432	239	759	85	326	1143	93
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	228	1912	317	349	2300	436	241	767	86	329	1155	94
RTOR Reduction (vph)	0	0	7	0	0	44	0	0	0	0	7	0
Lane Group Flow (vph)	228	1912	310	349	2300	392	241	767	86	329	1242	0
Turn Type	pm+pt		pm+ov	pm+pt		pm+ov	Prot		pm+ov		Prot	
Protected Phases	1	6	3	5	2	7	3	8	5	7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	34.4	27.9	35.6	34.4	27.9	34.4	7.7	31.0	37.5	6.5	29.8	
Effective Green, g (s)	35.8	29.8	37.0	35.8	29.8	35.8	7.2	32.2	38.2	6.0	31.0	
Actuated g/C Ratio	0.40	0.33	0.41	0.40	0.33	0.40	0.08	0.36	0.42	0.07	0.34	
Clearance Time (s)	3.5	5.9	3.5	3.5	5.9	3.5	3.5	5.2	3.5	3.5	5.2	
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	3.0	3.0	5.0	
Lane Grp Cap (vph)	180	1507	583	180	1507	627	127	1133	664	106	1078	
v/s Ratio Prot	0.08	0.42	0.04	c0.13	0.51	0.04	c0.15	0.24	0.01	c0.21	c0.40	
v/s Ratio Perm	0.42		0.18	c0.64		0.24			0.05			
v/c Ratio	1.27	1.27	0.53	1.94	1.53	0.63	1.90	0.68	0.13	3.10	1.15	
Uniform Delay, d1	25.8	30.1	20.0	25.8	30.1	21.7	41.4	24.5	15.8	42.0	29.5	
Progression Factor	1.16	0.67	0.65	1.00	1.00	1.00	1.00	1.00	1.00	1.27	1.10	
Incremental Delay, d2	124.1	121.4	0.1	442.2	240.2	2.0	432.0	2.1	0.1	948.9	69.8	
Delay (s)	153.9	141.5	13.0	468.0	270.3	23.7	473.4	26.6	15.9	1002.2	102.3	
Level of Service	F	F	B	F	F	C	F	C	B	F	F	
Approach Delay (s)		126.1			257.8			124.2			289.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	206.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	129.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖	↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.95		1.00	1.00	0.75	1.00	0.86		1.00	0.99	
Flpb, ped/bikes	0.84	1.00		0.66	1.00	1.00	0.94	1.00		0.89	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.92		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1324	1560		1045	1667	1062	1489	2487		1405	3124	
Flt Permitted	0.53	1.00		0.70	1.00	1.00	0.21	1.00		0.45	1.00	
Satd. Flow (perm)	741	1560		765	1667	1062	333	2487		660	3124	
Volume (vph)	9	79	10	287	198	84	111	213	277	139	983	26
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	84	11	305	211	89	118	227	295	148	1046	28
RTOR Reduction (vph)	0	6	0	0	0	64	0	37	0	0	2	0
Lane Group Flow (vph)	10	89	0	305	211	25	118	485	0	148	1072	0
Confl. Peds. (#/hr)	212		207	207		212	177		203	203		177
Confl. Bikes (#/hr)			13			9			15			12
Turn Type	Perm			Perm		Perm	Perm			Perm		
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2			2		
Actuated Green, G (s)	20.2	20.2		20.2	20.2	20.2	45.3	45.3		45.3	45.3	
Effective Green, g (s)	21.0	21.0		21.0	21.0	21.0	46.0	46.0		46.0	46.0	
Actuated g/C Ratio	0.28	0.28		0.28	0.28	0.28	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.8	4.8		4.8	4.8	4.8	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	207	437		214	467	297	204	1525		405	1916	
v/s Ratio Prot		0.06			0.13			0.20			0.34	
v/s Ratio Perm	0.01			c0.40		0.02	c0.35			0.22		
v/c Ratio	0.05	0.20		1.43	0.45	0.08	0.58	0.32		0.37	0.56	
Uniform Delay, d1	19.7	20.6		27.0	22.3	19.9	8.7	7.0		7.2	8.5	
Progression Factor	1.00	1.00		1.03	1.02	1.27	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.0		214.1	2.8	0.5	11.4	0.5		2.5	1.2	
Delay (s)	20.1	21.7		241.8	25.5	25.7	20.1	7.5		9.8	9.7	
Level of Service	C	C		F	C	C	C	A		A	A	
Approach Delay (s)		21.5			134.6			9.8			9.7	
Approach LOS		C			F			A			A	

Intersection Summary

HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕	↕	↕	↕↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes		0.99		1.00	0.85		1.00	1.00	0.72	1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		0.98	1.00	1.00	0.94	1.00	
Frt		0.93		1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1069		1118	853		1090	2235	722	1045	2234	
Flt Permitted		0.99		0.76	1.00		0.19	1.00	1.00	0.26	1.00	
Satd. Flow (perm)		1069		888	853		221	2235	722	284	2234	
Volume (vph)	1	1	2	239	8	202	3	837	155	521	1000	2
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1	1	2	244	8	206	3	854	158	532	1020	2
RTOR Reduction (vph)	0	2	0	0	143	0	0	0	78	0	0	0
Lane Group Flow (vph)	0	2	0	244	71	0	3	854	80	532	1022	0
Confl. Peds. (#/hr)	82						82	77		239	239	77
Confl. Bikes (#/hr)			2			6			9			5
Turn Type	Split		Perm			Perm		Perm custom				
Protected Phases	3	3			4			6				
Permitted Phases				4			6		6	2	2	
Actuated Green, G (s)		1.3		21.8	21.8		37.3	37.3	37.3	37.3	37.3	
Effective Green, g (s)		2.3		22.8	22.8		37.9	37.9	37.9	37.9	37.9	
Actuated g/C Ratio		0.03		0.30	0.30		0.51	0.51	0.51	0.51	0.51	
Clearance Time (s)		5.0		5.0	5.0		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		33		270	259		112	1129	365	144	1129	
v/s Ratio Prot		c0.00			0.08			0.38				
v/s Ratio Perm				c0.27			0.01		0.11	c1.87	0.46	
v/c Ratio		0.06		0.90	0.27		0.03	0.76	0.22	3.69	0.91	
Uniform Delay, d1		35.3		25.0	19.8		9.3	14.9	10.3	18.6	16.9	
Progression Factor		1.00		1.95	5.04		0.99	1.25	2.21	1.00	1.00	
Incremental Delay, d2		0.8		4.3	0.1		0.0	0.4	0.1	1229.4	11.9	
Delay (s)		36.1		53.2	99.9		9.3	18.9	23.0	1248.0	28.8	
Level of Service		D		D	F		A	B	C	F	C	
Approach Delay (s)		36.1			75.0			19.5			446.2	
Approach LOS		D			E			B			F	

Intersection Summary			
HCM Average Control Delay	246.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.56		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		1.00	0.86		1.00	0.95	1.00	1.00	1.00	0.88
Frbp, ped/bikes	1.00	0.96		1.00	0.98		1.00	1.00	0.69	1.00	1.00	0.79
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00	1.00	0.80	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3863		1111	3901		1118	2235	685	895	1176	1398
Flt Permitted	0.95	1.00		0.06	1.00		0.10	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	2168	3863		75	3901		115	2235	685	530	1176	1398
Volume (vph)	346	2619	177	44	3483	295	351	299	83	252	495	524
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	360	2728	184	46	3628	307	366	311	86	262	516	546
RTOR Reduction (vph)	0	7	0	0	9	0	0	0	0	0	0	0
Lane Group Flow (vph)	360	2905	0	46	3926	0	366	311	86	262	516	546
Conf. Peds. (#/hr)	193		289	289		193	327		230	230		327
Conf. Bikes (#/hr)			4			9			6			5
Turn Type	Prot			Perm			pm+pt		Perm	Perm		pm+ov
Protected Phases	1	6			2		3	8			4	1
Permitted Phases				2			8		8	4		4
Actuated Green, G (s)	25.0	90.0		61.0	61.0		49.2	49.2	49.2	35.2	35.2	60.2
Effective Green, g (s)	25.0	91.0		62.0	62.0		51.0	51.0	51.0	37.0	37.0	62.0
Actuated g/C Ratio	0.17	0.61		0.41	0.41		0.34	0.34	0.34	0.25	0.25	0.41
Clearance Time (s)	4.0	5.0		5.0	5.0		4.0	5.8	5.8	5.8	5.8	4.0
Vehicle Extension (s)	2.0	4.0		4.0	4.0		2.0	3.0	3.0	3.0	3.0	2.0
Lane Grp Cap (vph)	361	2344		31	1612		106	760	233	131	290	615
v/s Ratio Prot	0.17	c0.75			c1.01		c0.23	0.14			0.44	0.15
v/s Ratio Perm				0.61			c0.95		0.13	0.49		0.24
v/c Ratio	1.00	1.24		1.48	2.44		3.45	0.41	0.37	2.00	1.78	0.89
Uniform Delay, d1	62.5	29.5		44.0	44.0		72.2	38.0	37.4	56.5	56.5	40.8
Progression Factor	0.84	1.50		0.49	0.51		1.00	1.00	1.00	0.93	0.93	1.06
Incremental Delay, d2	13.5	108.1		232.7	646.2		1127.2	0.4	1.0	465.3	358.7	8.9
Delay (s)	65.8	152.5		254.1	668.5		1199.4	38.3	38.3	517.6	411.0	52.0
Level of Service	E	F		F	F		F	D	D	F	F	D
Approach Delay (s)		142.9			663.7			595.3			284.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	421.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.57		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	189.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑		↖		↖		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0		4.0			
Lane Util. Factor		0.95		1.00	0.95		1.00		1.00			
Frt		0.99		1.00	1.00		1.00		0.85			
Flt Protected		1.00		0.95	1.00		0.95		1.00			
Satd. Flow (prot)		3122		1583	3167		1583		1417			
Flt Permitted		1.00		0.09	1.00		0.76		1.00			
Satd. Flow (perm)		3122		148	3167		1262		1417			
Volume (vph)	0	1506	156	708	1672	0	382	0	904	0	0	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1553	161	730	1724	0	394	0	932	0	0	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	324	0	0	0
Lane Group Flow (vph)	0	1707	0	730	1724	0	394	0	608	0	0	0
Turn Type				pm+pt		custom		Over	Perm			
Protected Phases		2		1	6			1			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		40.0		81.0	81.0		30.0		37.0			
Effective Green, g (s)		41.0		82.0	82.0		30.0		37.0			
Actuated g/C Ratio		0.34		0.68	0.68		0.25		0.31			
Clearance Time (s)		5.0		4.0	5.0		4.0		4.0			
Vehicle Extension (s)		4.0		3.0	3.0		3.0		3.0			
Lane Grp Cap (vph)		1067		544	2164		316		437			
v/s Ratio Prot		c0.55		0.41	0.54				c0.43			
v/s Ratio Perm				0.50			c0.31					
v/c Ratio		1.60		1.34	0.80		1.25		1.39			
Uniform Delay, d1		39.5		43.7	13.2		45.0		41.5			
Progression Factor		1.00		0.94	0.90		1.00		1.00			
Incremental Delay, d2		274.5		163.1	2.4		134.8		189.3			
Delay (s)		314.0		204.2	14.3		179.8		230.8			
Level of Service		F		F	B		F		F			
Approach Delay (s)		314.0			70.8			215.6			0.0	
Approach LOS		F			E			F			A	

Intersection Summary

HCM Average Control Delay	181.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	129.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑		↔	↑↑	↔	↔	↑↑	↔↔
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.86		0.97	0.86		1.00	0.95	1.00	1.00	0.95	0.88
Frbp, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00	0.86	1.00	1.00	0.91
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.98	1.00	1.00
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3935		2168	3917		1118	2235	859	1093	2235	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.09	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	2168	3935		2168	3917		110	2235	859	166	2235	1599
Volume (vph)	292	2907	231	16	3571	715	256	834	283	149	745	1103
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	317	3160	251	17	3882	777	278	907	308	162	810	1199
RTOR Reduction (vph)	0	8	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	317	3403	0	17	4648	0	278	907	308	162	810	1199
Conf. Peds. (#/hr)	16		74	74		16	73		83	83		73
Conf. Bikes (#/hr)			14			12			27			14
Turn Type	Prot			Prot		pm+pt		pm+ov	Perm		pm+ov	
Protected Phases	5	2		1	6	3		8	1		4	5
Permitted Phases						8		8	4		4	4
Actuated Green, G (s)	19.0	80.5		5.0	66.5	48.1		48.1	53.1		39.1	58.1
Effective Green, g (s)	19.0	82.0		5.0	68.0	51.0		51.0	56.0		42.0	61.0
Actuated g/C Ratio	0.13	0.55		0.03	0.45	0.34		0.34	0.37		0.28	0.41
Clearance Time (s)	4.0	5.5		4.0	5.5	4.0		6.9	4.0		6.9	4.0
Vehicle Extension (s)	1.0	4.0		1.0	4.0	3.0		2.0	1.0		2.0	1.0
Lane Grp Cap (vph)	275	2151		72	1776	71		760	344		46	650
v/s Ratio Prot	0.15	0.86		0.01	c1.19	c0.13		0.41	0.03		0.36	c0.23
v/s Ratio Perm						c1.20			0.33		0.98	0.52
v/c Ratio	1.15	1.58		0.24	2.62	3.92		1.19	0.90		3.52	1.84
Uniform Delay, d1	65.5	34.0		70.6	41.0	46.6		49.5	44.2		54.0	44.5
Progression Factor	0.65	0.32		1.31	0.46	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	72.9	262.1		0.1	727.7	1345.2		99.8	23.8		1187.0	386.0
Delay (s)	115.2	272.8		92.8	746.6	1391.8		149.3	68.1		1241.0	430.5
Level of Service	F	F		F	F	F		F	E		F	F
Approach Delay (s)		259.4			744.2			363.9			404.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	486.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.95		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	199.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑		↔	↑↑	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86		0.97	0.81		1.00	0.95		1.00	0.95	
Fr _t	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.99	
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	4006		2168	4707		1118	2168		1118	2205	
Fl _t Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1118	4006		2168	4707		1118	2168		1118	2205	
Volume (vph)	119	2531	182	520	3049	267	69	1164	295	290	1036	105
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	124	2636	190	542	3176	278	72	1212	307	302	1079	109
RTOR Reduction (vph)	0	7	0	0	10	0	0	15	0	0	5	0
Lane Group Flow (vph)	124	2819	0	542	3444	0	72	1504	0	302	1183	0
Turn Type	Prot		Prot		Prot		Prot		Prot			
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	12.0	63.9		21.0	72.9		12.3	33.0		12.6	33.3	
Effective Green, g (s)	12.0	65.4		21.0	74.4		12.3	35.0		12.6	35.3	
Actuated g/C Ratio	0.08	0.44		0.14	0.50		0.08	0.23		0.08	0.24	
Clearance Time (s)	4.0	5.5		4.0	5.5		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	1.0	4.0		1.0	4.0		1.0	4.0		1.0	4.0	
Lane Grp Cap (vph)	89	1747		304	2335		92	506		94	519	
v/s Ratio Prot	0.11	c0.70		c0.25	0.73		0.06	c0.69		c0.27	0.54	
v/s Ratio Perm												
v/c Ratio	1.39	1.61		1.78	1.47		0.78	2.97		3.21	2.28	
Uniform Delay, d ₁	69.0	42.3		64.5	37.8		67.5	57.5		68.7	57.4	
Progression Factor	1.05	0.90		0.76	0.58		1.00	1.00		1.00	1.00	
Incremental Delay, d ₂	183.2	276.3		353.5	213.9		31.9	892.6		1022.8	582.2	
Delay (s)	255.6	314.5		402.3	235.9		99.4	950.1		1091.5	639.5	
Level of Service	F	F		F	F		F	F		F	F	
Approach Delay (s)		312.0			258.5			911.6			731.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	448.1	HCM Level of Service	F
HCM Volume to Capacity ratio	2.15		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	191.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕	↖	↖	↕↕	↖	↖	↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4492		1583	4550	1417	1583	3167	1417	1583	3126	
Flt Permitted	0.12	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.11	1.00	
Satd. Flow (perm)	208	4492		1583	4550	1417	185	3167	1417	185	3126	
Volume (vph)	120	2161	200	147	3138	194	36	1450	78	92	1188	113
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	122	2205	204	150	3202	198	37	1480	80	94	1212	115
RTOR Reduction (vph)	0	12	0	0	0	3	0	0	20	0	0	0
Lane Group Flow (vph)	122	2397	0	150	3202	195	37	1480	60	94	1327	0
Turn Type	Perm			Prot		Perm	Perm		Perm	Perm		
Protected Phases	8			7	4			6			2	
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	31.1	31.1		10.4	45.0	45.0	35.0	35.0	35.0	35.0	35.0	
Effective Green, g (s)	32.1	32.1		9.9	46.0	46.0	36.0	36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.36	0.36		0.11	0.51	0.51	0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)	5.0	5.0		3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	74	1602		174	2326	724	74	1267	567	74	1250	
v/s Ratio Prot		0.53		0.09	c0.70			0.47			0.42	
v/s Ratio Perm	c0.59					0.14	0.20		0.04	c0.51		
v/c Ratio	1.65	1.50		0.86	1.38	0.27	0.50	1.17	0.11	1.27	1.06	
Uniform Delay, d1	28.9	28.9		39.4	22.0	12.5	20.2	27.0	16.9	27.0	27.0	
Progression Factor	0.82	0.81		1.08	0.55	0.21	1.04	0.97	1.25	1.00	1.00	
Incremental Delay, d2	333.8	225.8		4.2	169.7	0.1	2.2	76.5	0.0	193.5	43.5	
Delay (s)	357.6	249.2		46.7	181.8	2.7	23.3	102.8	21.2	220.5	70.5	
Level of Service	F			D	F	A	C	F	C	F	E	
Approach Delay (s)	254.4			166.1				96.9		80.4		
Approach LOS	F			F				F		F		

Intersection Summary

HCM Average Control Delay	165.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	142.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑		↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4550	1417	1583	4474		1583	3121		1583	3167	1417
Flt Permitted	0.16	1.00	1.00	0.14	1.00		0.95	1.00		0.12	1.00	1.00
Satd. Flow (perm)	267	4550	1417	230	4474		1583	3121		202	3167	1417
Volume (vph)	67	1867	225	222	1796	225	562	1571	166	158	1453	109
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	68	1886	227	224	1814	227	568	1587	168	160	1468	110
RTOR Reduction (vph)	0	0	5	0	13	0	0	9	0	0	0	1
Lane Group Flow (vph)	68	1886	222	224	2028	0	568	1746	0	160	1468	109
Turn Type	Perm		pm+ov	pm+pt			Prot			Perm		Perm
Protected Phases		6	3	5	2		3	8			4	
Permitted Phases	6		6	2						4		4
Actuated Green, G (s)	23.5	23.5	36.0	31.5	31.5		12.5	48.5		32.5	32.5	32.5
Effective Green, g (s)	25.0	25.0	37.0	33.0	33.0		12.0	49.0		33.0	33.0	33.0
Actuated g/C Ratio	0.28	0.28	0.41	0.37	0.37		0.13	0.54		0.37	0.37	0.37
Clearance Time (s)	5.5	5.5	3.5	3.0	5.5		3.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	1264	646	144	1640		211	1699		74	1161	520
v/s Ratio Prot		0.41	0.05	0.07	c0.45		c0.36	0.56			0.46	
v/s Ratio Perm	0.26		0.11	c0.50						c0.79		0.08
v/c Ratio	0.92	1.49	0.34	1.56	1.24		2.69	1.03		2.16	1.26	0.21
Uniform Delay, d1	31.5	32.5	18.2	45.2	28.5		39.0	20.5		28.5	28.5	19.5
Progression Factor	1.00	1.00	1.00	1.89	1.71		1.00	1.00		1.43	1.43	1.49
Incremental Delay, d2	83.7	225.7	0.1	253.1	106.9		774.7	29.2		533.8	120.8	0.2
Delay (s)	115.2	258.2	18.3	338.5	155.6		813.7	49.7		574.5	161.5	29.3
Level of Service	F	F	B	F	F		F	D		F	F	C
Approach Delay (s)		228.8			173.7			236.5			191.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	208.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.96		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	147.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3164		1583	3153			1631			1620	
Flt Permitted	0.15	1.00		0.13	1.00			0.99			0.89	
Satd. Flow (perm)	257	3164		222	3153			1614			1444	
Volume (vph)	159	1830	10	49	1073	32	13	409	73	41	209	46
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	166	1906	10	51	1118	33	14	426	76	43	218	48
RTOR Reduction (vph)	0	1	0	0	3	0	0	3	0	0	11	0
Lane Group Flow (vph)	166	1916	0	51	1148	0	0	513	0	0	298	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	29.7	29.7		29.7	29.7			21.1			21.1	
Effective Green, g (s)	30.0	30.0		30.0	30.0			22.0			22.0	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.37			0.37	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	129	1582		111	1577			592			529	
v/s Ratio Prot		0.61			0.36							
v/s Ratio Perm	c0.65			0.23				c0.32			0.21	
v/c Ratio	1.29	1.21		0.46	0.73			0.87			0.56	
Uniform Delay, d1	15.0	15.0		9.7	11.8			17.6			15.2	
Progression Factor	1.92	2.03		1.00	1.00			1.00			1.00	
Incremental Delay, d2	134.5	95.4		13.1	3.0			12.7			1.4	
Delay (s)	163.3	125.9		22.8	14.8			30.4			16.5	
Level of Service	F	F		C	B			C			B	
Approach Delay (s)		128.9			15.1			30.4			16.5	
Approach LOS		F			B			C			B	

Intersection Summary			
HCM Average Control Delay	74.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			0.99		1.00	1.00	
Flpb, ped/bikes					0.99			1.00		1.00	1.00	
Frt					0.91			0.99		1.00	1.00	
Flt Protected					0.98			1.00		0.95	1.00	
Satd. Flow (prot)					1475			3110		1583	3167	
Flt Permitted					0.90			1.00		0.06	1.00	
Satd. Flow (perm)					1350			3110		108	3167	
Volume (vph)	0	0	0	82	0	176	0	1817	95	124	1552	0
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	94	0	202	0	2089	109	143	1784	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	290	0	0	2194	0	143	1784	0
Confl. Peds. (#/hr)			20	20			47		58	58		47
Confl. Bikes (#/hr)			1						7			1
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					29.5			62.0		62.0	62.0	
Effective Green, g (s)					30.0			62.0		62.0	62.0	
Actuated g/C Ratio					0.30			0.62		0.62	0.62	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					405			1928		67	1964	
v/s Ratio Prot								0.71			0.56	
v/s Ratio Perm					c0.22					c1.33		
v/c Ratio					0.72			1.14		2.13	0.91	
Uniform Delay, d1					31.2			19.0		19.0	16.5	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					10.4			69.1		556.8	7.7	
Delay (s)					41.6			88.1		575.8	24.2	
Level of Service					D			F		F	C	
Approach Delay (s)		0.0			41.6			88.1			65.1	
Approach LOS		A			D			F			E	

Intersection Summary			
HCM Average Control Delay	75.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↗	↑↑	↗	↗	↑↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.74	1.00	1.00		1.00	1.00	0.79	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	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1048	3072	3165		1583	3167	1113	1583	4404	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3072	3167	1048	3072	3165		153	3167	1113	168	4404	
Volume (vph)	191	1604	54	461	748	1	393	1785	478	12	1410	115
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	201	1688	57	485	787	1	414	1879	503	13	1484	121
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	74	0	8	0
Lane Group Flow (vph)	201	1688	57	485	788	0	414	1879	429	13	1597	0
Conf. Peds. (#/hr)	102		193	193		102	173		149	149		173
Conf. Bikes (#/hr)			6			6			9			5
Turn Type	Prot		pm+ov	Prot			pm+pt		pm+ov		pm+pt	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2				8		8		4	
Actuated Green, G (s)	8.0	48.0	55.0	8.0	48.0		49.3	42.6	50.6	41.0	38.3	
Effective Green, g (s)	8.0	49.3	56.3	8.0	49.3		50.7	44.0	52.0	42.4	39.7	
Actuated g/C Ratio	0.07	0.41	0.47	0.07	0.41		0.42	0.37	0.43	0.35	0.33	
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3		4.0	5.4	4.0	4.0	5.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	205	1301	527	205	1300		148	1161	519	91	1457	
v/s Ratio Prot	0.07	c0.53	0.01	c0.16	0.25		c0.16	0.59	0.06	0.00	0.36	
v/s Ratio Perm			0.05				c1.02		0.33	0.05		
v/c Ratio	0.98	1.30	0.11	2.37	0.61		2.80	1.62	0.83	0.14	1.10	
Uniform Delay, d1	55.9	35.4	17.8	56.0	27.7		29.7	38.0	30.0	31.9	40.1	
Progression Factor	0.91	0.84	0.80	1.06	0.73		1.18	1.12	1.80	1.00	1.00	
Incremental Delay, d2	14.5	134.4	0.0	625.6	1.5		810.5	278.7	1.0	0.7	54.4	
Delay (s)	65.3	164.1	14.2	684.7	21.7		845.6	321.1	55.2	32.6	94.6	
Level of Service	E	F	B	F	C		F	F	E	C	F	
Approach Delay (s)		149.5			274.3			350.9			94.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	232.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	136.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↑↑	↗	↘	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3029		1583	3167	1417	1583	3116	
Flt Permitted	0.20	1.00	1.00	0.07	1.00		0.11	1.00	1.00	0.13	1.00	
Satd. Flow (perm)	335	3167	1417	113	3029		183	3167	1417	211	3116	
Volume (vph)	174	1508	159	117	635	259	163	1025	230	196	959	116
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	185	1604	169	124	676	276	173	1090	245	209	1020	123
RTOR Reduction (vph)	0	0	25	0	20	0	0	0	7	0	8	0
Lane Group Flow (vph)	185	1604	144	124	932	0	173	1090	238	209	1135	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8	4		
Actuated Green, G (s)	57.1	57.1	57.1	57.1	57.1		51.5	51.5	51.5	51.5	51.5	
Effective Green, g (s)	59.0	59.0	59.0	59.0	59.0		53.0	53.0	53.0	53.0	53.0	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49		0.44	0.44	0.44	0.44	0.44	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	165	1557	697	56	1489		81	1399	626	93	1376	
v/s Ratio Prot		0.51			0.31			0.34			0.36	
v/s Ratio Perm	0.55		0.10	c1.10			0.95		0.17	c0.99		
v/c Ratio	1.12	1.03	0.21	2.21	0.63		2.14	0.78	0.38	2.25	0.82	
Uniform Delay, d1	30.5	30.5	17.3	30.5	22.4		33.5	28.5	22.5	33.5	29.4	
Progression Factor	1.24	1.25	1.33	0.71	0.70		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	62.5	16.5	0.1	551.7	0.2		549.9	4.3	1.8	594.2	5.7	
Delay (s)	100.4	54.6	23.0	573.3	15.9		583.4	32.9	24.2	627.7	35.2	
Level of Service	F	D	C	F	B		F	C	C	F	D	
Approach Delay (s)		56.2			80.2			94.6			126.8	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	86.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.24		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕	↗	↗	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3152		1583	3071		1583	1667	1417	1583	1634	
Flt Permitted	0.20	1.00		0.20	1.00		0.18	1.00	1.00	0.29	1.00	
Satd. Flow (perm)	327	3152		327	3071		292	1667	1417	481	1634	
Volume (vph)	99	1483	48	91	670	168	74	586	181	89	637	95
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	103	1545	50	95	698	175	77	610	189	93	664	99
RTOR Reduction (vph)	0	4	0	0	37	0	0	0	1	0	9	0
Lane Group Flow (vph)	103	1591	0	95	836	0	77	610	188	93	754	0
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases	6			2			8		8		4	
Permitted Phases	6			2			8		8		4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1072		111	1044		154	878	746	253	861	
v/s Ratio Prot	c0.50			0.27			0.37			c0.46		
v/s Ratio Perm	0.32			0.29			0.26		0.13	0.19		
v/c Ratio	0.93	1.48		0.86	0.80		0.50	0.69	0.25	0.37	0.88	
Uniform Delay, d1	19.1	19.8		18.4	18.0		9.1	10.6	7.8	8.3	12.5	
Progression Factor	1.00	1.00		1.06	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	67.7	222.9		25.7	2.5		11.1	4.5	0.8	4.1	12.1	
Delay (s)	86.7	242.7		45.2	20.4		20.3	15.1	8.6	12.4	24.6	
Level of Service	F	F		D	C		C	B	A	B	C	
Approach Delay (s)	233.3			22.9			14.2			23.3		
Approach LOS	F			C			B			C		

Intersection Summary

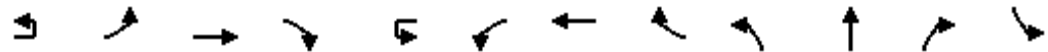
HCM Average Control Delay	102.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	121.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	1.00		1.00	1.00			1.00			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.99			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1583	1662		1583	1660			1635			1620	
Flt Permitted	0.16	1.00		0.16	1.00			0.65			0.98	
Satd. Flow (perm)	267	1662		267	1660			1076			1594	
Volume (vph)	155	633	10	118	740	10	112	545	44	17	740	139
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	161	659	10	123	771	10	117	568	46	18	771	145
RTOR Reduction (vph)	0	1	0	0	1	0	0	4	0	0	11	0
Lane Group Flow (vph)	161	668	0	123	780	0	0	727	0	0	923	0
Conf. Peds. (#/hr)	66		13	13		66	21		26	26		21
Conf. Bikes (#/hr)			27			8						6
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		2		2		4		4		4	
Permitted Phases	2		2		4		4		4		4	
Actuated Green, G (s)	25.0	25.0		25.0	25.0			27.0			27.0	
Effective Green, g (s)	25.0	25.0		25.0	25.0			27.0			27.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.45			0.45	
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)	111	693		111	692			484			717	
v/s Ratio Prot		0.40			0.47							
v/s Ratio Perm	c0.60		0.46		c0.68		0.58					
v/c Ratio	1.45	0.96		1.11	1.13			1.50			1.29	
Uniform Delay, d1	17.5	17.1		17.5	17.5			16.5			16.5	
Progression Factor	1.00	1.00		1.03	1.04			2.00			1.00	
Incremental Delay, d2	245.8	26.4		84.8	65.2			234.3			139.7	
Delay (s)	263.3	43.4		102.9	83.4			267.2			156.2	
Level of Service	F	D		F	F			F			F	
Approach Delay (s)		86.1			86.1			267.2			156.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	144.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	163.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations		↔	↑↑↑	↗		↔	↑↑↑	↗	↖	↖		↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	1.00	1.00		1.00
Frt		1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.96		1.00
Flt Protected		0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95
Satd. Flow (prot)		1583	4550	1417		1583	4550	1417	1583	1606		1583
Flt Permitted		0.95	1.00	1.00		0.95	1.00	1.00	0.11	1.00		0.25
Satd. Flow (perm)		1583	4550	1417		1583	4550	1417	191	1606		416
Volume (vph)	31	206	1929	45	14	83	2347	200	95	275	88	365
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	31	208	1948	45	14	84	2371	202	96	278	89	369
RTOR Reduction (vph)	0	0	0	19	0	0	0	79	0	10	0	0
Lane Group Flow (vph)	0	239	1948	26	0	98	2371	123	96	357	0	369
Turn Type	Prot	Prot		Perm	Prot	Prot		pm+ov	pm+pt			pm+pt
Protected Phases	1	1	6		5	5	2	7	3	8		7
Permitted Phases				6				2	8			4
Actuated Green, G (s)		19.0	43.4	43.4		12.7	37.1	49.1	42.6	32.9		47.2
Effective Green, g (s)		19.0	44.4	44.4		12.7	38.1	50.1	44.6	34.9		49.2
Actuated g/C Ratio		0.16	0.37	0.37		0.11	0.32	0.42	0.37	0.29		0.41
Clearance Time (s)		4.0	5.0	5.0		4.0	5.0	4.0	4.0	6.0		4.0
Vehicle Extension (s)		3.0	4.4	4.4		3.0	4.3	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		251	1684	524		168	1445	639	184	467		287
v/s Ratio Prot		c0.15	0.43			0.06	c0.52	0.02	0.04	0.22		c0.13
v/s Ratio Perm				0.02				0.07	0.15			c0.40
v/c Ratio		0.95	1.16	0.05		0.58	1.64	0.19	0.52	0.76		1.29
Uniform Delay, d1		50.0	37.8	24.3		51.1	41.0	22.1	29.2	38.8		32.3
Progression Factor		1.00	1.00	1.00		0.82	1.70	3.59	1.00	1.00		1.08
Incremental Delay, d2		43.5	77.7	0.2		0.5	288.7	0.0	2.7	7.3		131.1
Delay (s)		93.5	115.5	24.4		42.3	358.4	79.4	31.9	46.1		165.9
Level of Service		F	F	C		D	F	E	C	D		F
Approach Delay (s)			111.3				325.7			43.2		
Approach LOS			F				F			D		

Intersection Summary

HCM Average Control Delay	197.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



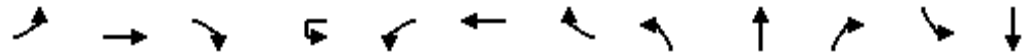
Movement	SBT	SBR
Lane Configurations	↘	
Ideal Flow (vphpl)	1700	1700
Total Lost time (s)	4.0	
Lane Util. Factor	1.00	
Frt	0.99	
Flt Protected	1.00	
Satd. Flow (prot)	1643	
Flt Permitted	1.00	
Satd. Flow (perm)	1643	
Volume (vph)	492	50
Peak-hour factor, PHF	0.99	0.99
Adj. Flow (vph)	497	51
RTOR Reduction (vph)	3	0
Lane Group Flow (vph)	545	0
Turn Type		
Protected Phases	4	
Permitted Phases		
Actuated Green, G (s)	35.2	
Effective Green, g (s)	37.2	
Actuated g/C Ratio	0.31	
Clearance Time (s)	6.0	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	509	
v/s Ratio Prot	0.33	
v/s Ratio Perm		
v/c Ratio	1.07	
Uniform Delay, d1	41.4	
Progression Factor	1.06	
Incremental Delay, d2	36.3	
Delay (s)	80.1	
Level of Service	F	
Approach Delay (s)	114.7	
Approach LOS	F	
Intersection Summary		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↕		↗	↘	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frbp, 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		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	1649		1564	1649		1583	3054		1583	3011	
Flt Permitted	0.18	1.00		0.32	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	298	1649		531	1649		180	3054		180	3011	
Volume (vph)	354	483	25	284	652	36	157	1236	250	7	1193	299
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	361	493	26	290	665	37	160	1261	255	7	1217	305
RTOR Reduction (vph)	0	2	0	0	2	0	0	19	0	0	25	0
Lane Group Flow (vph)	361	517	0	290	700	0	160	1497	0	7	1497	0
Conf. Peds. (#/hr)	29		30	30		29	48		28	28		48
Conf. Bikes (#/hr)			26			9			4			2
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	44.0	44.0		44.0	44.0		36.1	36.1		36.1	36.1	
Effective Green, g (s)	45.0	45.0		45.0	45.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.41	0.41		0.41	0.41	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	149	825		266	825		74	1256		74	1238	
v/s Ratio Prot		0.31			0.42			0.49			0.50	
v/s Ratio Perm	c1.21			0.55			c0.89			0.04		
v/c Ratio	2.42	0.63		1.09	0.85		2.16	1.19		0.09	1.21	
Uniform Delay, d1	22.5	16.4		22.5	19.5		26.5	26.5		16.2	26.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	660.2	3.6		81.4	10.6		564.9	94.5		2.5	102.0	
Delay (s)	682.7	20.0		103.9	30.1		591.4	121.0		18.8	128.5	
Level of Service	F	B		F	C		F	F		B	F	
Approach Delay (s)		291.8			51.7			165.9			128.0	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	154.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	134.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↘	↑↑↑	↗		↘	↑↑↑	↗	↘	↑↑	↗	↘	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00
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)	1583	4550	1417		1583	4550	1417	1583	3167	1417	1583	3167
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.11	1.00
Satd. Flow (perm)	1583	4550	1417		1583	4550	1417	180	3167	1417	180	3167
Volume (vph)	208	1464	293	30	48	1742	295	174	984	219	163	1214
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	221	1557	312	32	51	1853	314	185	1047	233	173	1291
RTOR Reduction (vph)	0	0	108	0	0	0	165	0	0	152	0	0
Lane Group Flow (vph)	221	1557	204	0	83	1853	149	185	1047	81	173	1291
Turn Type	Prot		pm+ov	Prot	Prot		Perm	pm+pt		Perm	pm+pt	
Protected Phases	1	6	3	5	5	2		3	8		7	4
Permitted Phases			6				2	8		8		4
Actuated Green, G (s)	18.8	36.3	45.3		9.4	26.9	26.9	43.8	34.8	34.8	43.8	34.8
Effective Green, g (s)	18.8	37.6	47.6		9.4	28.2	28.2	47.0	37.0	37.0	47.0	37.0
Actuated g/C Ratio	0.17	0.34	0.43		0.09	0.26	0.26	0.43	0.34	0.34	0.43	0.34
Clearance Time (s)	4.0	5.3	5.0		4.0	5.3	5.3	5.0	6.2	6.2	5.0	6.2
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	3.0	4.2	4.2	3.0	3.6
Lane Grp Cap (vph)	271	1555	665		135	1166	363	204	1065	477	204	1065
v/s Ratio Prot	0.14	c0.34	0.03		0.05	c0.41		c0.08	0.33		0.08	c0.41
v/s Ratio Perm			0.12				0.11	0.30		0.06	0.28	
v/c Ratio	0.82	1.00	0.31		0.61	1.59	0.41	0.91	0.98	0.17	0.85	1.21
Uniform Delay, d1	43.9	36.2	20.4		48.6	40.9	34.0	51.5	36.2	25.7	24.9	36.5
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.0	23.1	0.3		8.1	269.2	3.4	37.9	23.4	0.3	26.4	104.3
Delay (s)	60.9	59.3	20.7		56.6	310.1	37.4	89.4	59.6	25.9	51.4	140.8
Level of Service	E	E	C		E	F	D	F	E	C	D	F
Approach Delay (s)		53.7				262.7			58.0			118.8
Approach LOS		D				F			E			F

Intersection Summary

HCM Average Control Delay	132.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	152
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	162
RTOR Reduction (vph)	23
Lane Group Flow (vph)	139
Turn Type	pm+ov
Protected Phases	1
Permitted Phases	4
Actuated Green, G (s)	53.6
Effective Green, g (s)	55.8
Actuated g/C Ratio	0.51
Clearance Time (s)	4.0
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	719
v/s Ratio Prot	0.03
v/s Ratio Perm	0.07
v/c Ratio	0.19
Uniform Delay, d1	14.8
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	14.9
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑			↑↑↑	↔	↔	↔↔↔	↔			
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.86	0.81	0.86			
Frt	1.00	1.00			1.00	0.85	1.00	0.97	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	3072	4550			5733	1417	1362	3893	1218			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	3072	4550			5733	1417	1362	3893	1218			
Volume (vph)	882	1697	0	0	1479	587	808	916	757	0	0	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	948	1825	0	0	1590	631	869	985	814	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	9	0	11	11	0	0	0
Lane Group Flow (vph)	948	1825	0	0	1590	622	538	1620	488	0	0	0
Turn Type	Prot				Perm		Split	Perm				
Protected Phases	1	6			2		4	4				
Permitted Phases					2						4	
Actuated Green, G (s)	25.0	70.0			41.0	41.0	39.2	39.2	39.2			
Effective Green, g (s)	25.0	71.0			42.0	42.0	41.0	41.0	41.0			
Actuated g/C Ratio	0.21	0.59			0.35	0.35	0.34	0.34	0.34			
Clearance Time (s)	4.0	5.0			5.0	5.0	5.8	5.8	5.8			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	640	2692			2007	496	465	1330	416			
v/s Ratio Prot	c0.31	0.40			0.28		0.40	c0.42				
v/s Ratio Perm					c0.44						0.40	
v/c Ratio	1.48	0.68			0.79	1.25	1.16	1.22	1.17			
Uniform Delay, d1	47.5	16.7			35.1	39.0	39.5	39.5	39.5			
Progression Factor	1.04	1.45			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	221.3	0.8			3.3	130.0	92.4	105.3	101.0			
Delay (s)	270.8	25.0			38.4	169.0	131.9	144.8	140.5			
Level of Service	F	C			D	F	F	F	F			
Approach Delay (s)	109.0				75.5		141.4				0.0	
Approach LOS	F				E		F				A	

Intersection Summary

HCM Average Control Delay	110.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑		↔↔	↑↑↑					↔	↔↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.81		0.97	0.91					0.91	0.86	0.91
Frt		0.98		1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (prot)		6603		3072	4550					1441	2814	1289
Flt Permitted		1.00		0.95	1.00					0.95	0.98	1.00
Satd. Flow (perm)		6603		3072	4550					1441	2814	1289
Volume (vph)	0	1891	322	638	1818	0	0	0	0	509	366	254
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1970	335	665	1894	0	0	0	0	530	381	265
RTOR Reduction (vph)	0	25	0	0	0	0	0	0	0	0	0	14
Lane Group Flow (vph)	0	2280	0	665	1894	0	0	0	0	305	606	251
Turn Type				Prot						Split		Perm
Protected Phases		2		1	6					4	4	
Permitted Phases												4
Actuated Green, G (s)		43.6		29.9	78.0					32.3	32.3	32.3
Effective Green, g (s)		44.3		30.4	78.7					33.3	33.3	33.3
Actuated g/C Ratio		0.37		0.25	0.66					0.28	0.28	0.28
Clearance Time (s)		4.7		4.5	4.7					5.0	5.0	5.0
Vehicle Extension (s)		3.0		4.0	3.0					4.0	4.0	4.0
Lane Grp Cap (vph)		2438		778	2984					400	781	358
v/s Ratio Prot		c0.35		c0.22	0.42					0.21	c0.22	
v/s Ratio Perm												0.19
v/c Ratio		0.94		0.85	0.63					0.76	0.78	0.70
Uniform Delay, d1		36.5		42.7	12.2					39.7	39.9	38.9
Progression Factor		1.00		0.52	1.53					1.00	1.00	1.00
Incremental Delay, d2		8.3		4.3	0.4					8.9	5.1	6.5
Delay (s)		44.8		26.5	19.1					48.6	45.1	45.4
Level of Service		D		C	B					D	D	D
Approach Delay (s)		44.8			21.0			0.0			46.1	
Approach LOS		D			C			A			D	
Intersection Summary												
HCM Average Control Delay			35.0			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			112.1%			ICU Level of Service				H		
Analysis Period (min)			15									
c	Critical Lane Group											



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	
Frbp, ped/bikes	1.00	0.97		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	
Frt	1.00	0.95		1.00	1.00			0.96			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1577	1544		1583	1662			1529			1630	
Flt Permitted	0.19	1.00		0.15	1.00			0.58			0.93	
Satd. Flow (perm)	309	1544		247	1662			912			1522	
Volume (vph)	13	651	286	377	608	8	417	120	233	32	296	32
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	14	693	304	401	647	9	444	128	248	34	315	34
RTOR Reduction (vph)	0	26	0	0	1	0	0	26	0	0	6	0
Lane Group Flow (vph)	14	971	0	401	655	0	0	794	0	0	377	0
Conf. Peds. (#/hr)	10		27	27		10	17		16	16		17
Conf. Bikes (#/hr)			30			16			3			10
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	27.0	27.0		27.0	27.0			25.0			25.0	
Effective Green, g (s)	27.0	27.0		27.0	27.0			25.0			25.0	
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.42			0.42	
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)	139	695		111	748			380			634	
v/s Ratio Prot		0.63			0.39							
v/s Ratio Perm	0.05			c1.62				c0.87			0.25	
v/c Ratio	0.10	1.40		3.61	0.88			2.09			0.59	
Uniform Delay, d1	9.5	16.5		16.5	15.0			17.5			13.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.4	187.1		1197.7	13.6			498.9			1.5	
Delay (s)	11.0	203.6		1214.2	28.6			516.4			15.1	
Level of Service	B	F		F	C			F			B	
Approach Delay (s)		201.0			478.4			516.4			15.1	
Approach LOS		F			F			F			B	

Intersection Summary

HCM Average Control Delay	347.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.88		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	166.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑↑	↖		↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	1.00
Frt	1.00	0.98		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		1.00	1.00
Satd. Flow (prot)	1583	4439		1583	4540			3144	1417		3154	1417
Flt Permitted	0.12	1.00		0.95	1.00			0.55	1.00		0.69	1.00
Satd. Flow (perm)	196	4439		1583	4540			1743	1417		2195	1417
Volume (vph)	122	1484	288	75	1724	26	130	766	128	76	891	555
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	128	1562	303	79	1815	27	137	806	135	80	938	584
RTOR Reduction (vph)	0	32	0	0	2	0	0	0	77	0	0	3
Lane Group Flow (vph)	128	1833	0	79	1840	0	0	943	59	0	1018	581
Turn Type	Perm		Prot		Perm		Perm	Perm	Perm	Perm		Perm
Protected Phases	6		5	2			8	8	4	4		4
Permitted Phases	6						8	8	4			4
Actuated Green, G (s)	34.0	34.0		5.0	43.0			38.5	38.5		38.5	38.5
Effective Green, g (s)	34.0	34.0		5.0	43.0			39.0	39.0		39.0	39.0
Actuated g/C Ratio	0.38	0.38		0.06	0.48			0.43	0.43		0.43	0.43
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	74	1677		88	2169			755	614		951	614
v/s Ratio Prot		0.41		0.05	c0.41							
v/s Ratio Perm	c0.65						c0.54	0.04		0.46	0.41	
v/c Ratio	1.73	1.09		0.90	0.85			1.25	0.10		1.07	0.95
Uniform Delay, d1	28.0	28.0		42.2	20.6			25.5	15.1		25.5	24.5
Progression Factor	1.50	1.52		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	353.6	47.2		62.7	4.4			123.0	0.3		50.0	25.1
Delay (s)	395.6	89.9		104.9	25.0			148.5	15.4		75.5	49.6
Level of Service	F	F		F	C			F	B		E	D
Approach Delay (s)	109.5		28.3		131.8		66.0					
Approach LOS	F		C		F		E					

Intersection Summary

HCM Average Control Delay	78.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	117.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: 6th St & Western Ave

2/23/2010

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00
Frbp, ped/bikes		1.00			0.98			1.00			1.00	0.83
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.99			0.99			0.99			1.00	0.85
Flt Protected		1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)		3128			3074			3134			3167	1171
Flt Permitted		1.00			1.00			1.00			1.00	1.00
Satd. Flow (perm)		3128			3074			3134			3167	1171
Volume (vph)	0	1077	59	0	1107	107	0	1377	52	0	1724	113
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1088	60	0	1118	108	0	1391	53	0	1741	114
RTOR Reduction (vph)	0	2	0	0	5	0	0	3	0	0	0	14
Lane Group Flow (vph)	0	1146	0	0	1221	0	0	1441	0	0	1741	100
Conf. Peds. (#/hr)	76		47	47		76	70		83	83		70
Conf. Bikes (#/hr)			7			7			12			9
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1425			1400			1428			1443	533
v/s Ratio Prot		0.37			0.40			0.46			0.55	
v/s Ratio Perm												0.09
v/c Ratio		0.80			0.87			1.01			1.21	0.19
Uniform Delay, d1		21.1			22.1			24.5			24.5	14.6
Progression Factor		1.00			1.00			0.59			1.00	1.00
Incremental Delay, d2		4.9			7.7			9.5			99.7	0.8
Delay (s)		26.0			29.8			24.0			124.2	15.4
Level of Service		C			C			C			F	B
Approach Delay (s)		26.0			29.8			24.0			117.5	
Approach LOS		C			C			C			F	

Intersection Summary

HCM Average Control Delay	56.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	110.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↗		↖	↕↕↗		↖	↕↗		↖	↕↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4468		1583	4477		1583	3133		1583	3006	
Flt Permitted	0.14	1.00		0.14	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	229	4468		230	4477		230	3133		230	3006	
Volume (vph)	203	1331	71	141	1720	53	271	1087	24	198	1319	227
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	218	1431	76	152	1849	57	291	1169	26	213	1418	244
RTOR Reduction (vph)	0	6	0	0	3	0	0	2	0	0	16	0
Lane Group Flow (vph)	218	1501	0	152	1903	0	291	1193	0	213	1646	0
Conf. Peds. (#/hr)	529		124	124		529	153		349	349		153
Conf. Bikes (#/hr)			4			6			8			9
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.7	27.7		35.5	27.6		35.8	27.8		35.8	27.8	
Effective Green, g (s)	37.1	29.1		36.9	29.0		37.0	29.0		37.0	29.0	
Actuated g/C Ratio	0.41	0.32		0.41	0.32		0.41	0.32		0.41	0.32	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1445		213	1443		215	1010		215	969	
v/s Ratio Prot	c0.09	0.34		0.06	c0.42		c0.12	0.38		0.09	c0.55	
v/s Ratio Perm	0.33			0.23			0.44			0.32		
v/c Ratio	1.01	1.04		0.71	1.32		1.35	1.18		0.99	1.70	
Uniform Delay, d1	43.2	30.4		20.7	30.5		43.2	30.5		23.2	30.5	
Progression Factor	1.87	0.92		0.99	0.87		1.16	1.18		1.61	1.45	
Incremental Delay, d2	44.6	27.0		4.8	145.5		168.0	84.8		16.2	315.0	
Delay (s)	125.5	55.1		25.3	172.0		218.3	120.8		53.4	359.2	
Level of Service	F	E		C	F		F	F		D	F	
Approach Delay (s)		64.0			161.1			139.9			324.5	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	176.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	131.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3121		1583	3067		1583	3157		1583	3156	
Flt Permitted	0.31	1.00		0.29	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	525	3121		491	3067		163	3157		163	3156	
Volume (vph)	57	579	61	64	479	126	52	1308	27	135	1519	34
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	64	651	69	72	538	142	58	1470	30	152	1707	38
RTOR Reduction (vph)	0	3	0	0	7	0	0	2	0	0	2	0
Lane Group Flow (vph)	64	717	0	72	673	0	58	1498	0	152	1743	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	40.4	40.4		40.4	40.4		40.3	40.3		40.3	40.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	239	1422		224	1397		74	1438		74	1438	
v/s Ratio Prot	c0.23			0.22			0.47			0.55		
v/s Ratio Perm	0.12			0.15			0.36			c0.93		
v/c Ratio	0.27	0.50		0.32	0.48		0.78	1.04		2.05	1.21	
Uniform Delay, d1	15.2	17.3		15.6	17.1		20.7	24.5		24.5	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.65	0.66	
Incremental Delay, d2	2.7	1.3		3.8	1.2		56.0	35.4		478.6	96.2	
Delay (s)	17.9	18.6		19.4	18.3		76.7	59.9		494.5	112.4	
Level of Service	B			B			E			F		
Approach Delay (s)	18.5			18.4			60.6			143.0		
Approach LOS	B			B			E			F		

Intersection Summary

HCM Average Control Delay	78.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗↖↗	↖	↗	↗↖↗	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4505		1583	4497		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00		0.11	1.00		0.12	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	182	4505		192	4497		197	3167	1417	188	3167	1417
Volume (vph)	71	1919	134	29	1782	150	80	1115	44	134	1331	149
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	73	1978	138	30	1837	155	82	1149	45	138	1372	154
RTOR Reduction (vph)	0	8	0	0	10	0	0	0	27	0	0	51
Lane Group Flow (vph)	73	2108	0	30	1982	0	82	1149	18	138	1372	103
Turn Type	pm+pt		pm+pt		pm+pt		pm+ov		pm+pt	pm+ov		
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	43.1	35.7		39.3	33.8		39.2	32.9	38.4	42.4	34.5	41.9
Effective Green, g (s)	44.1	36.7		40.3	34.8		40.2	33.9	39.4	43.4	35.5	42.9
Actuated g/C Ratio	0.44	0.37		0.40	0.35		0.40	0.34	0.39	0.43	0.36	0.43
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	184	1653		154	1565		167	1074	615	192	1124	665
v/s Ratio Prot	c0.03	c0.47		0.01	0.44		0.03	0.36	0.00	c0.06	c0.43	0.01
v/s Ratio Perm	0.15			0.07			0.17		0.01	0.26		0.06
v/c Ratio	0.40	1.28		0.19	1.27		0.49	1.07	0.03	0.72	1.22	0.15
Uniform Delay, d1	23.1	31.6		45.5	32.6		24.6	33.0	18.6	22.9	32.2	17.5
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	1.4	128.8		0.6	125.2		2.3	48.2	0.0	12.1	107.5	0.1
Delay (s)	24.5	160.5		46.1	157.8		26.9	81.2	18.6	35.0	139.7	17.6
Level of Service	C	F		D	F		C	F	B	C	F	B
Approach Delay (s)		155.9			156.1			75.5			119.7	
Approach LOS		F			F			E			F	

Intersection Summary

HCM Average Control Delay	133.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4513		1583	4514		1583	3141		1583	3062	
Flt Permitted	0.09	1.00		0.09	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	145	4513		145	4514		185	3141		185	3062	
Volume (vph)	164	1784	104	153	2103	118	103	1088	63	89	1201	340
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	173	1878	109	161	2214	124	108	1145	66	94	1264	358
RTOR Reduction (vph)	0	7	0	0	7	0	0	4	0	0	2	0
Lane Group Flow (vph)	173	1980	0	161	2331	0	108	1207	0	94	1620	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
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)	74	2307		74	2307		74	1256		74	1225	
v/s Ratio Prot		0.44			0.52			0.38			0.53	
v/s Ratio Perm	c1.19			1.11			c0.58			0.51		
v/c Ratio	2.34	0.86		2.18	1.01		1.46	0.96		1.27	1.32	
Uniform Delay, d1	22.0	19.2		22.0	22.0		27.0	26.3		27.0	27.0	
Progression Factor	1.48	1.53		1.23	1.23		1.00	1.00		1.00	1.00	
Incremental Delay, d2	626.9	2.8		533.1	8.5		266.7	17.6		193.5	151.0	
Delay (s)	659.4	32.1		560.2	35.6		293.7	43.9		220.5	178.0	
Level of Service	F	C		F	D		F	D		F	F	
Approach Delay (s)		82.3			69.4			64.4			180.3	
Approach LOS		F			E			E			F	

Intersection Summary

HCM Average Control Delay	96.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.95		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	129.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1583	4535		1583	4526			1638	1417		1575	
Flt Permitted	0.07	1.00		0.07	1.00			0.64	1.00		0.97	
Satd. Flow (perm)	110	4535		110	4526			1072	1417		1537	
Volume (vph)	31	1870	42	82	2472	91	66	123	148	13	112	79
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	39	2367	53	104	3129	115	84	156	187	16	142	100
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	3	0	0	0
Lane Group Flow (vph)	39	2418	0	104	3241	0	0	240	184	0	258	0
Turn Type	Perm		Perm		Perm		Perm		Perm	Perm		
Protected Phases	6		2		2		8		8	4		
Permitted Phases	6		2		8		8		8	4		
Actuated Green, G (s)	60.5	60.5		60.5	60.5			21.0	21.0		21.0	
Effective Green, g (s)	60.5	60.5		60.5	60.5			21.5	21.5		21.5	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24	0.24		0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	74	3049		74	3042			256	339		367	
v/s Ratio Prot	0.53		0.72									
v/s Ratio Perm	0.35		c0.94				c0.22		0.13	0.17		
v/c Ratio	0.53		0.79		1.41		1.07		0.94	0.54		0.70
Uniform Delay, d1	7.5		10.4		14.8		14.8		33.6	30.0		31.3
Progression Factor	1.00		1.00		1.08		1.13		1.00	1.00		1.00
Incremental Delay, d2	24.3		2.2		217.0		33.5		39.2	1.8		6.0
Delay (s)	31.8		12.6		232.8		50.1		72.7	31.7		37.3
Level of Service	C		B		F		D		E	C		D
Approach Delay (s)			12.9		55.8		54.8			37.3		
Approach LOS			B		E		D			D		

Intersection Summary

HCM Average Control Delay	38.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.98		1.00	1.00	0.97	0.90
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	0.97	0.85
Flt Protected	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	4347		1583	4550	2914	1155
Flt Permitted	1.00		0.09	1.00	0.96	1.00
Satd. Flow (perm)	4347		149	4550	2914	1155
Volume (vph)	1414	241	639	1831	679	573
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1473	251	666	1907	707	597
RTOR Reduction (vph)	26	0	0	0	25	2
Lane Group Flow (vph)	1698	0	666	1907	854	423
Conf. Peds. (#/hr)		151	151			98
Conf. Bikes (#/hr)						2
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	39.8		52.8	52.8	27.5	36.5
Effective Green, g (s)	40.8		53.8	53.8	28.2	37.2
Actuated g/C Ratio	0.45		0.60	0.60	0.31	0.41
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	1971		232	2720	913	529
v/s Ratio Prot	0.39		c0.29	0.42	c0.29	0.08
v/s Ratio Perm			c1.43			0.29
v/c Ratio	0.86		2.87	0.70	0.94	0.80
Uniform Delay, d1	22.1		24.6	12.5	30.0	23.1
Progression Factor	1.00		1.00	1.00	0.46	0.30
Incremental Delay, d2	5.2		853.6	1.5	13.6	6.3
Delay (s)	27.3		878.1	14.1	27.3	13.2
Level of Service	C		F	B	C	B
Approach Delay (s)	27.3			237.7	22.7	
Approach LOS	C			F	C	

Intersection Summary

HCM Average Control Delay	122.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.15		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖	↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3150		1583	1667	1417	1583	3108		1583	3163	
Flt Permitted	0.36	1.00		0.49	1.00	1.00	0.28	1.00		0.15	1.00	
Satd. Flow (perm)	608	3150		809	1667	1417	473	3108		247	3163	
Volume (vph)	7	317	12	214	307	105	110	1083	153	26	816	7
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	7	330	12	223	320	109	115	1128	159	27	850	7
RTOR Reduction (vph)	0	0	0	0	0	66	0	12	0	0	1	0
Lane Group Flow (vph)	7	342	0	223	320	43	115	1275	0	27	856	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	8			4			4	6		2		
Permitted Phases	8			4			4	6		2		
Actuated Green, G (s)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	182	945		243	500	425	289	1899		151	1933	
v/s Ratio Prot		0.11			0.19			c0.41			0.27	
v/s Ratio Perm	0.01			c0.28		0.03	0.24			0.11		
v/c Ratio	0.04	0.36		0.92	0.64	0.10	0.40	0.67		0.18	0.44	
Uniform Delay, d1	22.3	24.7		30.4	27.3	22.7	9.0	11.5		7.6	9.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.61	1.88		0.26	0.39	
Incremental Delay, d2	0.4	1.1		39.8	6.2	0.5	0.4	0.2		0.2	0.1	
Delay (s)	22.7	25.8		70.2	33.5	23.2	14.8	21.9		2.3	3.7	
Level of Service	C	C		E	C	C	B	C		A	A	
Approach Delay (s)		25.7			44.3			21.3			3.7	
Approach LOS		C			D			C			A	

Intersection Summary

HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4504		1583	4536		1583	3152		1583	3167	1417
Flt Permitted	0.15	1.00		0.95	1.00		0.14	1.00		0.16	1.00	1.00
Satd. Flow (perm)	248	4504		1583	4536		228	3152		265	3167	1417
Volume (vph)	69	1719	126	140	2676	55	221	1244	40	59	1133	149
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	76	1889	138	154	2941	60	243	1367	44	65	1245	164
RTOR Reduction (vph)	0	9	0	0	2	0	0	3	0	0	0	112
Lane Group Flow (vph)	76	2018	0	154	2999	0	243	1408	0	65	1245	52
Turn Type	pm+pt		Prot		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2					4				8		8
Actuated Green, G (s)	31.3	26.0		11.1	30.9		39.5	29.5		30.2	24.2	24.2
Effective Green, g (s)	32.6	26.9		10.6	31.8		40.5	30.5		31.2	25.2	25.2
Actuated g/C Ratio	0.36	0.30		0.12	0.35		0.45	0.34		0.35	0.28	0.28
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1346		186	1603		273	1068		180	887	397
v/s Ratio Prot	0.03	0.45		c0.10	c0.66		c0.11	c0.45		0.02	0.39	
v/s Ratio Perm	0.13						0.29			0.10		0.04
v/c Ratio	0.44	1.50		0.83	1.87		0.89	1.32		0.36	1.40	0.13
Uniform Delay, d1	23.2	31.6		38.8	29.1		40.6	29.8		40.9	32.4	24.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.85	0.77	0.51
Incremental Delay, d2	1.8	228.6		25.1	394.3		28.1	150.1		1.2	188.0	0.6
Delay (s)	25.0	260.1		63.9	423.4		68.7	179.8		35.8	212.9	13.1
Level of Service	C	F		E	F		E	F		D	F	B
Approach Delay (s)	251.6			405.9			163.5			182.8		
Approach LOS	F			F			F			F		

Intersection Summary

HCM Average Control Delay	280.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	125.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↖	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			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			0.97	1.00		0.99	1.00
Satd. Flow (prot)	1583	4523		1583	4538			1625	1417		1650	1417
Flt Permitted	0.09	1.00		0.09	1.00			0.97	1.00		0.99	1.00
Satd. Flow (perm)	145	4523		145	4538			1625	1417		1650	1417
Volume (vph)	23	1574	64	51	2268	40	142	132	20	34	137	10
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	24	1623	66	53	2338	41	146	136	21	35	141	10
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	16	0	0	9
Lane Group Flow (vph)	24	1689	0	53	2377	0	0	282	5	0	176	1
Turn Type	Perm		Perm		Split		Perm		Split		Perm	
Protected Phases	6		2		4		4		3		3	
Permitted Phases	6		2				4				3	
Actuated Green, G (s)	44.1	44.1		44.1	44.1			19.0	19.0		10.0	10.0
Effective Green, g (s)	46.0	46.0		46.0	46.0			20.5	20.5		11.5	11.5
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.23	0.23		0.13	0.13
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	2312		74	2319			370	323		211	181
v/s Ratio Prot		0.37			c0.52			c0.17			c0.11	
v/s Ratio Perm	0.17			0.37				0.00				0.00
v/c Ratio	0.32	0.73		0.72	1.03			0.76	0.01		0.83	0.01
Uniform Delay, d1	12.9	17.2		17.0	22.0			32.5	26.9		38.3	34.3
Progression Factor	0.64	0.55		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	8.0	1.5		45.3	25.4			9.0	0.0		23.7	0.0
Delay (s)	16.3	10.9		62.3	47.4			41.4	26.9		62.0	34.3
Level of Service	B	B		E	D			D	C		E	C
Approach Delay (s)		11.0			47.7			40.4			60.5	
Approach LOS		B			D			D			E	

Intersection Summary

HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.98			0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	1.00
Satd. Flow (prot)	1583	4521		1583	4475			1617			1603	1417
Flt Permitted	0.10	1.00		0.12	1.00			0.99			0.96	1.00
Satd. Flow (perm)	159	4521		196	4475			1617			1603	1417
Volume (vph)	91	1303	57	19	2031	250	40	124	28	316	84	332
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	93	1330	58	19	2072	255	41	127	29	322	86	339
RTOR Reduction (vph)	0	5	0	0	17	0	0	7	0	0	0	102
Lane Group Flow (vph)	93	1383	0	19	2310	0	0	190	0	0	408	237
Turn Type	Perm			Perm			Split			Split		Perm
Protected Phases	6			2			3	3		4	4	
Permitted Phases	6			2								4
Actuated Green, G (s)	40.4	40.4		40.4	40.4			9.6			24.1	24.1
Effective Green, g (s)	41.9	41.9		41.9	41.9			11.0			25.1	25.1
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.12			0.28	0.28
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	74	2105		91	2083			198			447	395
v/s Ratio Prot		0.31			0.52			c0.12			c0.25	
v/s Ratio Perm	c0.58			0.10								0.17
v/c Ratio	1.26	0.66		0.21	1.11			0.96			0.91	0.60
Uniform Delay, d1	24.1	18.5		14.2	24.1			39.3			31.4	28.1
Progression Factor	1.00	1.00		1.41	1.19			1.00			1.00	1.00
Incremental Delay, d2	188.5	1.6		0.5	49.9			51.7			22.8	2.6
Delay (s)	212.6	20.1		20.6	78.6			90.9			54.2	30.7
Level of Service	F	C		C	E			F			D	C
Approach Delay (s)		32.2			78.1			90.9			43.5	
Approach LOS		C			E			F			D	

Intersection Summary

HCM Average Control Delay	59.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑		
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00		
Frbp, ped/bikes		0.99		1.00	1.00			0.99			0.99		
Flpb, ped/bikes		1.00		0.99	1.00			1.00			1.00		
Frt		0.99		1.00	1.00			0.95			0.96		
Flt Protected		1.00		0.95	1.00			0.98			1.00		
Satd. Flow (prot)		4229		1477	4265			1438			1489		
Flt Permitted		1.00		0.14	1.00			0.66			0.98		
Satd. Flow (perm)		4229		223	4265			976			1468		
Volume (vph)	0	1353	68	42	2033	37	55	21	43	9	107	52	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	0	1439	72	45	2163	39	59	22	46	10	114	55	
RTOR Reduction (vph)	0	4	0	0	1	0	0	26	0	0	4	0	
Lane Group Flow (vph)	0	1507	0	45	2201	0	0	101	0	0	175	0	
Conf. Peds. (#/hr)	25		36	36		25	8		5	5		8	
Conf. Bikes (#/hr)			5			4							
Turn Type				Perm		Perm			Perm				
Protected Phases		6			2			8			4		
Permitted Phases				2			8			4			
Actuated Green, G (s)		66.2		66.2	66.2			16.3			16.3		
Effective Green, g (s)		65.7		65.7	65.7			16.3			16.3		
Actuated g/C Ratio		0.73		0.73	0.73			0.18			0.18		
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		3087		163	3113			177			266		
v/s Ratio Prot		0.36			c0.52								
v/s Ratio Perm				0.20				0.10			c0.12		
v/c Ratio		0.49		0.28	0.71			0.57			0.66		
Uniform Delay, d1		5.1		4.1	6.8			33.6			34.3		
Progression Factor		0.31		1.00	1.00			1.00			1.00		
Incremental Delay, d2		0.1		4.2	1.4			4.2			5.8		
Delay (s)		1.6		8.3	8.2			37.8			40.0		
Level of Service		A		A	A			D			D		
Approach Delay (s)		1.6			8.2			37.8			40.0		
Approach LOS		A			A			D			D		
Intersection Summary													
HCM Average Control Delay			8.1									HCM Level of Service	A
HCM Volume to Capacity ratio			0.70										
Actuated Cycle Length (s)			90.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			80.5%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑	↔	↔	↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00		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)	1490	2980	1333	1490	2973		1490	4262		1490	4213	
Flt Permitted	0.13	1.00	1.00	0.12	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	202	2980	1333	193	2973		216	4262		213	4213	
Volume (vph)	65	1006	97	168	1665	28	90	1662	55	121	2242	271
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	68	1059	102	177	1753	29	95	1749	58	127	2360	285
RTOR Reduction (vph)	0	0	20	0	1	0	0	4	0	0	17	0
Lane Group Flow (vph)	68	1059	82	177	1781	0	95	1803	0	127	2628	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	35.5	30.0	36.5	38.5	31.5		34.5	28.0		35.5	28.5	
Effective Green, g (s)	36.5	31.0	37.5	39.5	32.5		35.5	29.0		36.5	29.5	
Actuated g/C Ratio	0.41	0.34	0.42	0.44	0.36		0.39	0.32		0.41	0.33	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	161	1026	615	186	1074		177	1373		186	1381	
v/s Ratio Prot	0.03	0.36	0.01	c0.07	c0.60		0.04	0.42		c0.05	c0.62	
v/s Ratio Perm	0.15		0.05	0.34			0.17			0.22		
v/c Ratio	0.42	1.03	0.13	0.95	1.66		0.54	1.31		0.68	1.90	
Uniform Delay, d1	41.6	29.5	16.2	20.3	28.8		41.4	30.5		41.8	30.2	
Progression Factor	0.56	0.72	0.53	1.00	1.00		1.55	0.36		1.76	1.50	
Incremental Delay, d2	1.2	31.3	0.1	51.8	300.3		0.3	141.4		0.9	406.6	
Delay (s)	24.4	52.6	8.7	72.1	329.0		64.2	152.4		74.6	451.9	
Level of Service	C	D	A	E	F		E	F		E	F	
Approach Delay (s)		47.4			305.8			148.0			434.7	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	272.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	137.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2980	1333	1490	2971		1490	4253		1490	4280	
Flt Permitted	0.11	1.00	1.00	0.10	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	179	2980	1333	161	2971		161	4253		161	4280	
Volume (vph)	24	1091	169	162	1509	32	91	1928	93	85	2288	10
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	24	1113	172	165	1540	33	93	1967	95	87	2335	10
RTOR Reduction (vph)	0	0	7	0	1	0	0	6	0	0	1	0
Lane Group Flow (vph)	24	1113	165	165	1572	0	93	2056	0	87	2344	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm		Perm		
Protected Phases		8		7	4		6		6		2	
Permitted Phases	8		8	4		6		2				
Actuated Green, G (s)	34.0	34.0	34.0	42.0	42.0	38.0	38.0	38.0	38.0	38.0	38.0	
Effective Green, g (s)	35.0	35.0	35.0	43.0	43.0	39.0	39.0	39.0	39.0	39.0	39.0	
Actuated g/C Ratio	0.39	0.39	0.39	0.48	0.48	0.43	0.43	0.43	0.43	0.43	0.43	
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	70	1159	518	136	1419	70	1843		70	1855		
v/s Ratio Prot		0.37		0.05	c0.53		0.48			0.55		
v/s Ratio Perm	0.13		0.12	c0.53		c0.58		0.54				
v/c Ratio	0.34	0.96	0.32	1.21	1.11	1.33	1.12	1.24	1.26			
Uniform Delay, d1	19.4	26.8	19.2	21.8	23.5	25.5	25.5	25.5	25.5			
Progression Factor	0.85	0.91	0.80	1.00	1.00	1.00	1.00	2.02	2.00			
Incremental Delay, d2	8.7	14.0	1.1	145.6	59.2	218.3	60.2	120.1	119.1			
Delay (s)	25.1	38.3	16.3	167.4	82.7	243.8	85.7	171.7	170.2			
Level of Service	C	D	B	F	F	F	F	F	F			
Approach Delay (s)		35.2			90.7		92.6		170.3			
Approach LOS		D			F		F		F			

Intersection Summary

HCM Average Control Delay	107.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	133.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.99			0.99		1.00	1.00		1.00	0.99	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2942			2944		1490	4275		1490	4233	
Flt Permitted		1.00			1.00		0.19	1.00		0.19	1.00	
Satd. Flow (perm)		2942			2944		299	4275		299	4233	
Volume (vph)	0	736	69	0	1209	108	59	1971	22	184	2190	182
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	743	70	0	1221	109	60	1991	22	186	2212	184
RTOR Reduction (vph)	0	0	0	0	0	0	0	2	0	0	16	0
Lane Group Flow (vph)	0	813	0	0	1330	0	60	2011	0	186	2380	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		8		4		4		6		6		2
Permitted Phases		8		4		4		6		6		2
Actuated Green, G (s)		30.1		30.1		30.1		20.3	20.3	20.3		20.3
Effective Green, g (s)		31.0		31.0		31.0		21.0	21.0	21.0		21.0
Actuated g/C Ratio		0.52		0.52		0.52		0.35	0.35	0.35		0.35
Clearance Time (s)		4.9		4.9		4.9		4.7	4.7	4.7		4.7
Vehicle Extension (s)		3.0		3.0		3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		1520		1521		1521		105	1496	105	1482	
v/s Ratio Prot		0.28		c0.45		c0.45		0.47	0.47	0.47		0.56
v/s Ratio Perm								0.20	0.20	0.20		c0.62
v/c Ratio		0.53		0.87		0.87		0.57	1.34	0.57		1.61
Uniform Delay, d1		9.7		12.8		12.8		15.8	19.5	15.8		19.5
Progression Factor		1.00		1.00		1.00		1.00	1.00	1.00		1.00
Incremental Delay, d2		0.4		5.9		5.9		20.6	159.5	20.6		159.5
Delay (s)		10.0		18.7		18.7		36.5	179.0	36.5		179.0
Level of Service		B		B		B		D	F	D		F
Approach Delay (s)		10.0		18.7		18.7		174.9	174.9	174.9		303.2
Approach LOS		B		B		B		F	F	F		F

Intersection Summary

HCM Average Control Delay	173.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		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	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4122		1489	4242		1490	4225		1490	4143	
Flt Permitted	0.14	1.00		0.13	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	216	4122		206	4242		202	4225		1490	4143	
Volume (vph)	97	1227	177	141	1882	68	147	1809	114	199	1741	248
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	98	1239	179	142	1901	69	148	1827	115	201	1759	251
RTOR Reduction (vph)	0	21	0	0	4	0	0	8	0	0	21	0
Lane Group Flow (vph)	98	1397	0	142	1966	0	148	1934	0	201	1989	0
Conf. Peds. (#/hr)	95		120	120		95	89		57	57		89
Conf. Bikes (#/hr)			8			5			3			4
Turn Type	pm+pt			pm+pt			pm+pt			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					
Actuated Green, G (s)	35.0	29.0		38.0	30.5		38.5	31.0		7.5	31.0	
Effective Green, g (s)	34.5	29.0		37.5	30.5		38.0	31.0		7.0	31.0	
Actuated g/C Ratio	0.38	0.32		0.42	0.34		0.42	0.34		0.08	0.34	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	161	1328		186	1438		185	1455		116	1427	
v/s Ratio Prot	0.04	0.34		c0.06	c0.46		0.06	0.46		c0.13	c0.48	
v/s Ratio Perm	0.20			0.26			0.27					
v/c Ratio	0.61	1.05		0.76	1.37		0.80	1.33		1.73	1.39	
Uniform Delay, d1	42.5	30.5		20.3	29.8		42.5	29.5		41.5	29.5	
Progression Factor	1.38	0.69		1.39	0.82		1.81	0.90		1.00	1.00	
Incremental Delay, d2	6.0	38.9		12.2	168.4		12.6	150.9		363.1	181.6	
Delay (s)	64.8	60.1		40.4	192.7		89.7	177.4		404.6	211.1	
Level of Service	E	E		D	F		F	F		F	F	
Approach Delay (s)		60.4			182.5			171.2			228.7	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	169.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	122.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			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		0.94			0.98		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1453			1515		1490	4271		1490	4269	
Flt Permitted		0.92			0.89		0.08	1.00		0.08	1.00	
Satd. Flow (perm)		1347			1369		119	4271		119	4269	
Volume (vph)	24	59	58	84	213	46	74	1988	26	9	2041	35
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	25	61	60	87	220	47	76	2049	27	9	2104	36
RTOR Reduction (vph)	0	1	0	0	1	0	0	1	0	0	2	0
Lane Group Flow (vph)	0	145	0	0	353	0	76	2075	0	9	2138	0
Conf. Peds. (#/hr)	6		10	10		6	21		10	10		5
Conf. Bikes (#/hr)			2			2			2			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		28.1			28.1		52.4	52.4		52.4	52.4	
Effective Green, g (s)		29.1			29.1		52.9	52.9		52.9	52.9	
Actuated g/C Ratio		0.32			0.32		0.59	0.59		0.59	0.59	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		436			443		70	2510		70	2509	
v/s Ratio Prot								0.49			0.50	
v/s Ratio Perm		0.11			c0.26		c0.64			0.08		
v/c Ratio		0.33			0.80		1.09	0.83		0.13	0.85	
Uniform Delay, d1		23.1			27.7		18.6	14.9		8.3	15.3	
Progression Factor		1.00			1.00		1.00	1.00		0.46	0.76	
Incremental Delay, d2		0.5			9.6		133.0	3.3		0.3	0.4	
Delay (s)		23.5			37.3		151.6	18.2		4.1	12.0	
Level of Service		C			D		F	B		A	B	
Approach Delay (s)		23.5			37.3			22.9			12.0	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4255		1490	4253		1490	4265		1490	4213	
Flt Permitted	0.12	1.00		0.11	1.00		0.95	1.00		0.12	1.00	
Satd. Flow (perm)	190	4255		169	4253		1490	4265		191	4213	
Volume (vph)	120	1395	61	95	1748	85	101	1908	53	147	1962	238
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	128	1484	65	101	1860	90	107	2030	56	156	2087	253
RTOR Reduction (vph)	0	5	0	0	5	0	0	3	0	0	15	0
Lane Group Flow (vph)	128	1544	0	101	1945	0	107	2083	0	156	2325	0
Turn Type	Perm		pm+pt			Prot		pm+pt				
Protected Phases	8		7		4		5		1			6
Permitted Phases	8		4					2		6		
Actuated Green, G (s)	31.7	31.7	43.6		43.6	10.1		29.5	43.6		31.5	
Effective Green, g (s)	33.1	33.1	45.0		45.0	10.1		30.9	45.0		32.9	
Actuated g/C Ratio	0.33	0.33	0.45		0.45	0.10		0.31	0.45		0.33	
Clearance Time (s)	5.4	5.4	4.0		5.4	4.0		5.4	4.0		5.4	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	4.0		3.0	
Lane Grp Cap (vph)	63	1408	180		1914	150		1318	243		1386	
v/s Ratio Prot	c0.68		0.36		0.04	c0.46		0.07	c0.08		c0.55	
v/s Ratio Perm	c0.68		0.21					0.49	0.21			
v/c Ratio	2.03	1.10	0.56		1.02	0.71		1.58	0.64		1.68	
Uniform Delay, d1	33.5	33.5	21.5		27.5	43.5		34.5	22.3		33.5	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	515.0	55.0	4.0		24.7	14.8		264.9	6.3		308.1	
Delay (s)	548.5	88.5	25.5		52.2	58.4		299.5	28.6		341.7	
Level of Service	F		C			D		E		F		F
Approach Delay (s)	123.6		50.9			287.7		322.1				
Approach LOS	F		D			F		F				

Intersection Summary

HCM Average Control Delay	207.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	122.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↘	↑↑↑			↑↑↑			↑	↗		↕		
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0		
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00		
Frbp, ped/bikes	1.00	1.00			0.99			1.00	0.97		0.98		
Flpb, ped/bikes	0.99	1.00			1.00			1.00	1.00		0.99		
Frt	1.00	1.00			1.00			1.00	0.85		0.94		
Flt Protected	0.95	1.00			1.00			0.99	1.00		0.99		
Satd. Flow (prot)	1478	4247			4208			1556	1287		1428		
Flt Permitted	0.06	1.00			1.00			0.96	1.00		0.90		
Satd. Flow (perm)	97	4247			4208			1506	1287		1298		
Volume (vph)	86	1223	35	0	2119	71	10	73	40	47	51	71	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	89	1261	36	0	2185	73	10	75	41	48	53	73	
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	33	0	2	0	
Lane Group Flow (vph)	89	1295	0	0	2255	0	0	85	8	0	172	0	
Conf. Peds. (#/hr)	151		56	56		151	25		19	19		25	
Conf. Bikes (#/hr)			4			7			1			1	
Turn Type	Perm			Perm			Perm		Perm		Perm		
Protected Phases	6			2			8		8		4		
Permitted Phases	6						8		8		4		
Actuated Green, G (s)	64.8	64.8			64.8			17.7	17.7		17.7		
Effective Green, g (s)	64.3	64.3			64.3			17.7	17.7		17.7		
Actuated g/C Ratio	0.71	0.71			0.71			0.20	0.20		0.20		
Clearance Time (s)	3.5	3.5			3.5			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	3034			3006			296	253		255		
v/s Ratio Prot		0.30			0.54								
v/s Ratio Perm	c0.92						0.06		0.01		c0.13		
v/c Ratio	1.29	0.43			0.75			0.29	0.03		0.67		
Uniform Delay, d1	12.9	5.3			7.9			30.8	29.2		33.5		
Progression Factor	1.49	1.13			1.02			1.00	1.00		1.00		
Incremental Delay, d2	188.4	0.3			0.2			0.5	0.1		6.8		
Delay (s)	207.5	6.3			8.2			31.3	29.3		40.3		
Level of Service	F	A			A			C	C		D		
Approach Delay (s)		19.2			8.2			30.7			40.3		
Approach LOS		B			A			C			D		
Intersection Summary													
HCM Average Control Delay			14.2									HCM Level of Service	B
HCM Volume to Capacity ratio			1.15										
Actuated Cycle Length (s)			90.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			89.1%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.94			0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1583	4543		1583	4300	1218		1560			1556	
Flt Permitted	0.08	1.00		0.13	1.00	1.00		0.90			0.74	
Satd. Flow (perm)	133	4543		214	4300	1218		1409			1157	
Volume (vph)	44	1246	12	68	1788	136	26	177	164	108	251	277
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	51	1432	14	78	2055	156	30	203	189	124	289	318
RTOR Reduction (vph)	0	1	0	0	0	69	0	22	0	0	5	0
Lane Group Flow (vph)	51	1445	0	78	2055	87	0	400	0	0	726	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	6			2			2	8			4	
Permitted Phases	6			2			2	8			4	
Actuated Green, G (s)	50.0	50.0		50.0	50.0	50.0		32.0			32.0	
Effective Green, g (s)	50.0	50.0		50.0	50.0	50.0		32.0			32.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56		0.36			0.36	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	74	2524		119	2389	677		501			411	
v/s Ratio Prot	0.32			c0.48								
v/s Ratio Perm	0.38			0.37		0.07		0.28			c0.63	
v/c Ratio	0.69	0.57		0.66	0.86	0.13		0.80			1.77	
Uniform Delay, d1	14.4	13.0		14.0	17.0	9.6		26.1			29.0	
Progression Factor	1.82	1.97		0.95	1.01	1.29		1.00			1.00	
Incremental Delay, d2	39.2	0.9		17.0	2.9	0.3		8.7			355.2	
Delay (s)	65.5	26.6		30.3	20.2	12.6		34.8			384.2	
Level of Service	E	C		C	C	B		C			F	
Approach Delay (s)	27.9			20.0				34.8			384.2	
Approach LOS	C			B				C			F	

Intersection Summary

























HCM Average Control Delay	77.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.90	
Flt Protected	1.00		0.95	1.00	0.99	
Satd. Flow (prot)	4537		1583	4550	1483	
Flt Permitted	1.00		0.17	1.00	0.99	
Satd. Flow (perm)	4537		280	4550	1483	
Volume (vph)	1220	23	106	2191	10	28
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1284	24	112	2306	11	29
RTOR Reduction (vph)	2	0	0	0	20	0
Lane Group Flow (vph)	1306	0	112	2306	20	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2788		172	2796	440	
v/s Ratio Prot	0.29			c0.51	c0.01	
v/s Ratio Perm			0.40			
v/c Ratio	0.47		0.65	0.82	0.04	
Uniform Delay, d1	9.4		11.2	13.6	22.6	
Progression Factor	1.00		1.23	1.32	1.00	
Incremental Delay, d2	0.6		5.3	0.8	0.0	
Delay (s)	10.0		19.0	18.7	22.6	
Level of Service	A		B	B	C	
Approach Delay (s)	10.0			18.7	22.6	
Approach LOS	A			B	C	

Intersection Summary

HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3126	3126
Flt Permitted	0.13	1.00	1.00	0.11	1.00	1.00	0.14	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	215	3167	1417	190	3167	1417	238	3167	1417	208	3126	3126
Volume (vph)	67	943	103	214	1555	143	87	941	114	87	1430	133
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	68	962	105	218	1587	146	89	960	116	89	1459	136
RTOR Reduction (vph)	0	0	28	0	0	7	0	0	80	0	8	0
Lane Group Flow (vph)	68	962	77	218	1587	139	89	960	36	89	1587	0
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt		
Protected Phases		6		5		2	7		8		7	4
Permitted Phases	6		6	2		2	8		8		4	
Actuated Green, G (s)	30.0	30.0	30.0	43.0	43.0	48.7	28.1	28.1	28.1	37.0	37.0	37.0
Effective Green, g (s)	31.0	31.0	31.0	44.0	44.0	50.0	28.0	28.0	28.0	38.0	38.0	38.0
Actuated g/C Ratio	0.34	0.34	0.34	0.49	0.49	0.56	0.31	0.31	0.31	0.42	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	5.0
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	4.5
Lane Grp Cap (vph)	74	1091	488	232	1548	850	74	985	441	179	1320	1320
v/s Ratio Prot		0.30		0.09	c0.50	0.01		0.30		0.03	c0.51	
v/s Ratio Perm	0.32		0.05	0.36		0.09	0.37		0.03	0.18		
v/c Ratio	0.92	0.88	0.16	0.94	1.03	0.16	1.20	0.97	0.08	0.50	1.20	1.20
Uniform Delay, d1	28.3	27.8	20.4	21.1	23.0	9.8	31.0	30.6	21.9	19.5	26.0	26.0
Progression Factor	1.00	1.00	1.00	1.95	0.31	0.37	0.50	0.49	0.14	0.55	0.45	0.45
Incremental Delay, d2	83.7	10.3	0.7	7.6	14.6	0.0	102.7	4.5	0.0	0.2	91.9	91.9
Delay (s)	112.0	38.1	21.1	48.7	21.7	3.6	118.3	19.6	3.0	11.0	103.5	103.5
Level of Service	F	D	C	D	C	A	F	B	A	B	F	F
Approach Delay (s)		40.9			23.4			25.5			98.6	
Approach LOS		D			C			C			F	
Intersection Summary												
HCM Average Control Delay	48.5			HCM Level of Service				D				
HCM Volume to Capacity ratio	1.11											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)				8.0				
Intersection Capacity Utilization	127.0%			ICU Level of Service				H				
Analysis Period (min)	15											
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕	↔	↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Fr _t	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Fl _t Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3146		1583	3167	1417	1583	3116		1583	3144	
Fl _t Permitted	0.11	1.00		0.24	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	190	3146		400	3167	1417	230	3116		202	3144	
Volume (vph)	105	657	30	136	1625	178	74	1021	121	210	1436	73
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	117	730	33	151	1806	198	82	1134	134	233	1596	81
RTOR Reduction (vph)	0	4	0	0	0	28	0	10	0	0	4	0
Lane Group Flow (vph)	117	759	0	151	1806	170	82	1258	0	233	1673	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	38.9	33.1		38.9	33.1	38.9	27.1	27.1		36.1	36.1	
Effective Green, g (s)	40.0	35.0		40.0	35.0	40.0	29.0	29.0		38.0	38.0	
Actuated g/C Ratio	0.44	0.39		0.44	0.39	0.44	0.32	0.32		0.42	0.42	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	162	1223		244	1232	693	74	1004		162	1327	
v/s Ratio Prot	c0.04	0.24		0.03	c0.57	0.01		0.40		0.08	c0.53	
v/s Ratio Perm	0.28			0.24		0.11	0.36			c0.53		
v/c Ratio	0.72	0.62		0.62	1.47	0.25	1.11	1.25		1.44	1.26	
Uniform Delay, d ₁	43.3	22.2		16.8	27.5	15.6	30.5	30.5		44.7	26.0	
Progression Factor	1.00	1.00		0.62	0.82	0.73	1.46	1.47		0.93	0.52	
Incremental Delay, d ₂	14.7	2.4		2.3	211.9	0.1	134.4	121.7		200.5	117.9	
Delay (s)	58.0	24.5		12.7	234.3	11.5	179.1	166.6		242.0	131.5	
Level of Service	E	C		B	F	B	F	F		F	F	
Approach Delay (s)		29.0			198.3			167.3			145.0	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	151.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗↘	↖	↗	↗	↖↖	↗	↗	↖↘	↖↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.94	1.00	1.00	0.91	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1551	1631		3072	1667	1337	1583	3167	1287	1554	3081	
Flt Permitted	0.41	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	675	1631		3072	1667	1337	142	3167	1287	411	3081	
Volume (vph)	20	268	37	348	477	111	10	837	91	53	1370	137
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	21	279	39	362	497	116	10	872	95	55	1427	143
RTOR Reduction (vph)	0	5	0	0	0	61	0	0	0	0	9	0
Lane Group Flow (vph)	21	313	0	362	497	56	10	872	95	55	1561	0
Conf. Peds. (#/hr)	28		6	6		28	43		36	36		43
Conf. Bikes (#/hr)			4			1			5			7
Turn Type	Perm			Prot		Perm	Perm		pm+ov		Perm	
Protected Phases		8		7	4			6	7			2
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	20.2	20.2		10.0	34.2	34.2	46.2	46.2	56.2	46.2	46.2	
Effective Green, g (s)	21.0	21.0		10.0	35.0	35.0	47.0	47.0	57.0	47.0	47.0	
Actuated g/C Ratio	0.23	0.23		0.11	0.39	0.39	0.52	0.52	0.63	0.52	0.52	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	158	381		341	648	520	74	1654	872	215	1609	
v/s Ratio Prot		0.19		c0.12	c0.30			0.28	0.01		c0.51	
v/s Ratio Perm	0.03					0.04	0.07		0.06	0.13		
v/c Ratio	0.13	0.82		1.06	0.77	0.11	0.14	0.53	0.11	0.26	0.97	
Uniform Delay, d1	27.3	32.7		40.0	23.9	17.5	11.1	14.2	6.5	11.9	20.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.28	0.25	0.21	0.19	0.41	
Incremental Delay, d2	1.7	17.7		65.9	8.5	0.4	0.3	0.1	0.0	0.3	2.7	
Delay (s)	29.0	50.4		105.9	32.4	17.9	3.5	3.6	1.4	2.5	11.3	
Level of Service	C	D		F	C	B	A	A	A	A	B	
Approach Delay (s)		49.1			58.0			3.4			11.0	
Approach LOS		D			E			A			B	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕↕↕		↘	↕↕↕		↘	↕↕		↘	↕↕	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.98		1.00	1.00	0.84
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4497		1579	4503		1583	3077		1583	3167	1190
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	238	4497		238	4503		222	3077		1583	3167	1190
Volume (vph)	138	1032	37	114	1916	43	216	1151	71	163	1622	286
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	147	1098	39	121	2038	46	230	1224	76	173	1726	304
RTOR Reduction (vph)	0	4	0	0	3	0	0	5	0	0	0	121
Lane Group Flow (vph)	147	1133	0	121	2081	0	230	1295	0	173	1726	183
Conf. Peds. (#/hr)	227		147	147		227	137		176	176		137
Conf. Bikes (#/hr)			2			6			8			6
Turn Type	pm+pt			pm+pt			pm+pt			Prot		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					4
Actuated Green, G (s)	33.8	27.0		33.8	27.0		35.8	29.0		10.8	33.0	33.0
Effective Green, g (s)	34.0	28.0		34.0	28.0		36.0	30.0		10.0	34.0	34.0
Actuated g/C Ratio	0.38	0.31		0.38	0.31		0.40	0.33		0.11	0.38	0.38
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	180	1399		179	1401		180	1026		176	1196	450
v/s Ratio Prot	c0.05	0.25		0.04	c0.46		c0.09	0.42		0.11	c0.55	
v/s Ratio Perm	0.25			0.21			0.43					0.15
v/c Ratio	0.82	0.81		0.68	1.49		1.28	1.26		0.98	1.44	0.41
Uniform Delay, d1	43.2	28.5		20.4	31.0		44.2	30.0		39.9	28.0	20.6
Progression Factor	1.16	1.15		1.00	1.00		1.52	0.86		0.82	1.30	1.94
Incremental Delay, d2	18.6	3.8		9.7	222.4		154.2	124.1		45.2	202.1	1.5
Delay (s)	68.8	36.6		30.1	253.4		221.7	150.1		77.9	238.4	41.3
Level of Service	E	D		C	F		F	F		E	F	D
Approach Delay (s)		40.3			241.1			160.8			198.6	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	175.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.98	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Frt			0.86	1.00	0.93	0.85		0.98		1.00	1.00	
Flt Protected			1.00	0.95	0.98	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1412	1502	1347	1303		3073		1583	3167	
Flt Permitted			1.00	0.95	0.98	1.00		1.00		0.12	1.00	
Satd. Flow (perm)			1412	1502	1347	1303		3073		202	3167	
Volume (vph)	0	0	17	187	0	218	0	1159	176	117	1248	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	18	197	0	229	0	1220	185	123	1314	0
RTOR Reduction (vph)	0	0	17	0	40	125	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	1	126	100	35	0	1394	0	123	1314	0
Conf. Peds. (#/hr)	11		1	1		11	8		23	23		8
Conf. Bikes (#/hr)						5			5			1
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			2.2	18.7	18.7	18.7		54.7		54.7	54.7	
Effective Green, g (s)			3.1	19.6	19.6	19.6		55.3		55.3	55.3	
Actuated g/C Ratio			0.03	0.22	0.22	0.22		0.61		0.61	0.61	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			49	327	293	284		1888		124	1946	
v/s Ratio Prot								0.45			0.41	
v/s Ratio Perm			c0.00	c0.08	0.07	0.03				c0.61		
v/c Ratio			0.01	0.39	0.34	0.12		0.74		0.99	0.68	
Uniform Delay, d1			42.0	30.1	29.7	28.3		12.2		17.1	11.4	
Progression Factor			1.00	1.00	1.00	1.00		1.00		1.50	0.92	
Incremental Delay, d2			0.1	0.8	0.7	0.2		2.6		22.4	0.2	
Delay (s)			42.1	30.8	30.4	28.5		14.9		48.1	10.7	
Level of Service			D	C	C	C		B		D	B	
Approach Delay (s)		42.1			29.8			14.9			13.9	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM Average Control Delay			16.5									HCM Level of Service B
HCM Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			75.9%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↔	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.99			0.96		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4492			4368		1583	5733			5733	
Flt Permitted		1.00			1.00		0.17	1.00			1.00	
Satd. Flow (perm)		4492			4368		284	5733			5733	
Volume (vph)	0	1452	134	0	1829	667	192	1469	0	0	1430	0
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1467	135	0	1847	674	194	1484	0	0	1444	0
RTOR Reduction (vph)	0	11	0	0	65	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1591	0	0	2456	0	194	1484	0	0	1444	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1033			1005		67	1347			1347	
v/s Ratio Prot		0.35			c0.56			0.26			0.25	
v/s Ratio Perm							c0.68					
v/c Ratio		1.54			2.44		2.90	1.10			1.07	
Uniform Delay, d1		38.5			38.5		38.2	38.2			38.2	
Progression Factor		0.69			1.00		1.00	1.00			0.61	
Incremental Delay, d2		243.6			652.5		892.2	57.3			34.1	
Delay (s)		270.2			691.0		930.5	95.6			57.3	
Level of Service		F			F		F	F			E	
Approach Delay (s)		270.2			691.0			192.1			57.3	
Approach LOS		F			F			F			E	
Intersection Summary												
HCM Average Control Delay		356.1					HCM Level of Service				F	
HCM Volume to Capacity ratio		2.68										
Actuated Cycle Length (s)		100.0					Sum of lost time (s)			53.5		
Intersection Capacity Utilization		101.2%					ICU Level of Service			G		
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↗		↘	↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3166		1583	3139	
Flt Permitted	0.17	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	284	5733	1417		4550	1417		3166		1583	3139	
Volume (vph)	112	1124	40	0	1829	340	0	903	2	262	1241	78
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	115	1159	41	0	1886	351	0	931	2	270	1279	80
RTOR Reduction (vph)	0	0	31	0	0	201	0	0	0	0	5	0
Lane Group Flow (vph)	115	1159	10	0	1886	150	0	933	0	270	1354	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	67	1347	333		1069	333		1029		79	1020	
v/s Ratio Prot	0.20				c0.41		0.29		c0.17		c0.43	
v/s Ratio Perm	0.41		0.01		0.11							
v/c Ratio	1.72	0.86	0.03		1.76	0.45		0.91		3.42	1.33	
Uniform Delay, d1	38.2	36.7	29.5		38.2	32.7		32.3		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.97	1.27		0.20		1.00	1.00	
Incremental Delay, d2	377.4	7.4	0.2		344.3	0.4		6.7		1119.3	154.3	
Delay (s)	415.6	44.1	29.6		381.3	41.8		13.1		1166.8	188.1	
Level of Service	F	D	C		F	D		B		F	F	
Approach Delay (s)	76.1				328.0		13.1				350.3	
Approach LOS	E				F		B				F	

Intersection Summary

HCM Average Control Delay	231.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	105.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4541		1583	4549		1583	3159			3034	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4541		290	4549		1583	3159			3034	
Volume (vph)	27	1555	21	46	1800	2	55	881	15	0	886	345
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	28	1587	21	47	1837	2	56	899	15	0	904	352
RTOR Reduction (vph)	0	2	0	0	0	0	0	1	0	0	41	0
Lane Group Flow (vph)	28	1606	0	47	1839	0	56	913	0	0	1215	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1044		67	1046		79	1027			986	
v/s Ratio Prot		0.35			c0.40		c0.04	0.29			c0.40	
v/s Ratio Perm	0.10			0.16								
v/c Ratio	0.42	1.54		0.70	1.76		0.71	0.89			1.23	
Uniform Delay, d1	32.8	38.5		35.3	38.5		46.8	32.0			33.8	
Progression Factor	1.00	1.00		0.70	0.69		1.00	1.00			0.29	
Incremental Delay, d2	18.0	247.3		5.5	341.5		25.1	11.4			105.3	
Delay (s)	50.8	285.8		30.3	368.0		71.9	43.4			115.1	
Level of Service	D	F		C	F		E	D			F	
Approach Delay (s)		281.7			359.6			45.1			115.1	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	230.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↗	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3123		1583	3150		1583	3167	1417	1583	3167	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	222	3123		222	3150		1583	3167	1417	1583	3167	1417
Volume (vph)	70	917	93	125	1559	58	148	928	139	43	856	169
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	72	945	96	129	1607	60	153	957	143	44	882	174
RTOR Reduction (vph)	0	9	0	0	3	0	0	0	75	0	0	27
Lane Group Flow (vph)	72	1032	0	129	1664	0	153	957	68	44	882	147
Turn Type	Perm			Perm			Prot		Perm	Prot		Perm
Protected Phases	6			2			3	8		7		4
Permitted Phases	6			2					8			4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		10.0	41.6	41.6	5.4	37.0	37.0
Effective Green, g (s)	30.0	30.0		30.0	30.0		10.0	42.6	42.6	5.4	38.0	38.0
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.11	0.47	0.47	0.06	0.42	0.42
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	74	1041		74	1050		176	1499	671	95	1337	598
v/s Ratio Prot		0.33			0.53		c0.10	c0.30		0.03	0.28	
v/s Ratio Perm	0.32			c0.58					0.05			0.10
v/c Ratio	0.97	0.99		1.74	1.59		0.87	0.64	0.10	0.46	0.66	0.25
Uniform Delay, d1	29.6	29.9		30.0	30.0		39.4	17.9	13.1	40.9	20.8	16.8
Progression Factor	0.53	0.54		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.5	6.7		384.1	267.9		33.6	2.1	0.3	3.5	2.6	1.0
Delay (s)	41.2	22.9		414.1	297.9		73.0	20.0	13.4	44.4	23.4	17.7
Level of Service	D	C		F	F		E	B	B	D	C	B
Approach Delay (s)		24.1			306.2			25.7			23.3	
Approach LOS		C			F			C			C	

Intersection Summary

HCM Average Control Delay	120.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑			↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	1.00			0.96			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4504		1583	4542			3041			3068	
Flt Permitted	0.09	1.00		0.15	1.00			1.00			0.67	
Satd. Flow (perm)	152	4504		243	4542			3041			2053	
Volume (vph)	60	1119	81	289	2020	24	0	504	182	127	927	223
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	65	1203	87	311	2172	26	0	542	196	137	997	240
RTOR Reduction (vph)	0	9	0	0	2	0	0	23	0	0	1	0
Lane Group Flow (vph)	65	1281	0	311	2196	0	0	715	0	0	1373	0
Turn Type	Perm		Perm				Perm					
Protected Phases	6		2				8					
Permitted Phases	6		2				4					
Actuated Green, G (s)	42.3	42.3		42.3	42.3			36.0			36.0	
Effective Green, g (s)	44.0	44.0		44.0	44.0			38.0			38.0	
Actuated g/C Ratio	0.49	0.49		0.49	0.49			0.42			0.42	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	74	2202		119	2221			1284			867	
v/s Ratio Prot		0.28			0.48			0.24				
v/s Ratio Perm	0.43			c1.28							c0.67	
v/c Ratio	0.88	0.58		2.61	0.99			0.56			1.58	
Uniform Delay, d1	20.6	16.4		23.0	22.8			19.6			26.0	
Progression Factor	0.42	0.47		0.62	0.52			1.00			1.00	
Incremental Delay, d2	34.1	0.4		728.2	3.7			0.5			268.1	
Delay (s)	42.7	8.1		742.4	15.6			20.2			294.1	
Level of Service	D	A		F	B			C			F	
Approach Delay (s)		9.8			105.7			20.2			294.1	
Approach LOS		A			F			C			F	

Intersection Summary

HCM Average Control Delay	116.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	128.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4482		1583	4483		1583	4484		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	215	4482		215	4483		1583	4484		1583	4550	1417
Volume (vph)	53	1195	132	119	1693	184	515	1294	138	275	1126	186
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	57	1285	142	128	1820	198	554	1391	148	296	1211	200
RTOR Reduction (vph)	0	15	0	0	14	0	0	14	0	0	0	3
Lane Group Flow (vph)	57	1412	0	128	2004	0	554	1525	0	296	1211	197
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	29.0	29.0		29.0	29.0		14.0	31.0		15.0	31.0	31.0
Effective Green, g (s)	31.0	31.0		31.0	31.0		15.0	32.0		15.0	32.0	32.0
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.17	0.36		0.17	0.36	0.36
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1544		74	1544		264	1594		264	1618	504
v/s Ratio Prot		0.32			0.45		c0.35			0.19	0.27	
v/s Ratio Perm	0.27			c0.60			c0.34					0.14
v/c Ratio	0.77	0.91		1.73	1.30		2.10	0.96		1.12	0.75	0.39
Uniform Delay, d1	26.3	28.2		29.5	29.5		37.5	28.3		37.5	25.5	21.7
Progression Factor	1.00	1.00		0.44	0.43		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	53.7	9.9		333.5	134.4		507.0	14.3		92.0	3.2	2.3
Delay (s)	80.0	38.1		346.6	147.1		544.5	42.7		129.5	28.7	24.0
Level of Service	F	D		F	F		F	D		F	C	C
Approach Delay (s)		39.7			159.0			175.5			45.6	
Approach LOS		D			F			F			D	

Intersection Summary

HCM Average Control Delay	113.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	119.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



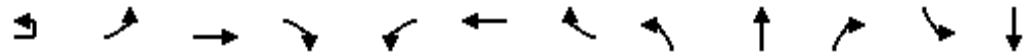
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1583	4530		1566	4522			1591			1657	1364
Flt Permitted	0.06	1.00		0.15	1.00			0.88			0.97	1.00
Satd. Flow (perm)	98	4530		252	4522			1411			1609	1364
Volume (vph)	84	1257	21	26	2012	47	33	165	48	17	200	101
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	93	1397	23	29	2236	52	37	183	53	19	222	112
RTOR Reduction (vph)	0	2	0	0	2	0	0	8	0	0	0	8
Lane Group Flow (vph)	93	1418	0	29	2286	0	0	265	0	0	241	104
Conf. Peds. (#/hr)	47		44	44		47	18		31	31		18
Conf. Bikes (#/hr)			3			2			4			1
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	67	3080		171	3075			339			386	327
v/s Ratio Prot		0.31			0.51							
v/s Ratio Perm	c0.95			0.11				c0.19			0.15	0.08
v/c Ratio	1.39	0.46		0.17	0.74			0.78			0.62	0.32
Uniform Delay, d1	16.0	7.5		5.8	10.4			35.5			34.0	31.3
Progression Factor	0.79	0.38		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	205.6	0.2		2.1	1.7			16.2			7.4	2.6
Delay (s)	218.3	3.0		7.9	12.0			51.8			41.4	33.8
Level of Service	F	A		A	B			D			D	C
Approach Delay (s)		16.2			12.0			51.8			39.0	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑↑↗		↘↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.91	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	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	0.99		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)	1583	3167	1295	1571	3113		3072	4453		3072	4457	
Flt Permitted	0.11	1.00	1.00	0.32	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	187	3167	1295	528	3113		3072	4453		3072	4457	
Volume (vph)	190	470	42	289	1326	94	176	1364	89	31	2262	203
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	511	46	314	1441	102	191	1483	97	34	2459	221
RTOR Reduction (vph)	0	0	32	0	4	0	0	6	0	0	9	0
Lane Group Flow (vph)	207	511	14	314	1539	0	191	1574	0	34	2671	0
Conf. Peds. (#/hr)	63		49	49		63	51		51	51		51
Conf. Bikes (#/hr)			3			3			6			3
Turn Type	pm+pt		Perm	pm+pt		Prot			Prot			
Protected Phases	1	6		5	2	3	8		7	4		
Permitted Phases	6		6	2								
Actuated Green, G (s)	48.8	34.2	34.2	49.6	34.6	13.6	49.0		4.4	39.8		
Effective Green, g (s)	49.2	35.6	35.6	50.0	36.0	13.6	50.0		4.4	40.8		
Actuated g/C Ratio	0.41	0.30	0.30	0.42	0.30	0.11	0.42		0.04	0.34		
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4	4.0	5.0		4.0	5.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	235	940	384	342	934	348	1855		113	1515		
v/s Ratio Prot	0.10	0.16		c0.11	c0.49	0.06	c0.35		0.01	c0.60		
v/s Ratio Perm	0.26		0.01	0.28								
v/c Ratio	0.88	0.54	0.04	0.92	1.65	0.55	0.85		0.30	1.76		
Uniform Delay, d1	31.6	35.4	30.0	29.0	42.0	50.3	31.6		56.3	39.6		
Progression Factor	1.61	0.73	0.61	1.00	1.00	0.77	0.64		1.23	0.40		
Incremental Delay, d2	25.0	0.5	0.0	28.5	296.2	1.5	4.4		0.1	343.7		
Delay (s)	75.9	26.4	18.2	57.5	338.2	40.0	24.6		69.5	359.4		
Level of Service	E	C	B	E	F	D	C		E	F		
Approach Delay (s)		39.3			290.7		26.2			355.8		
Approach LOS		D			F		C			F		

Intersection Summary			
HCM Average Control Delay	222.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	129.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97	
Frt	1.00		0.99		1.00	1.00	0.85	1.00		0.85	1.00	
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1583		4522		1583	4300	1218	1583		1417	3072	
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (perm)	1583		4522		1583	4300	1218	1583		1417	3072	
Volume (vph)	2	0	593	25	6	1649	851	13	0	13	797	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	0	638	27	6	1773	915	14	0	14	857	0
RTOR Reduction (vph)	0	0	2	0	0	0	298	0	0	13	0	0
Lane Group Flow (vph)	2	0	663	0	6	1773	617	14	0	1	857	0
Turn Type	Prot				Prot		Perm	Prot			custom	custom
Protected Phases	5		2		1	6		7				
Permitted Phases							6			7	8	
Actuated Green, G (s)	2.8		70.3		1.4	68.0	68.0	4.4		4.4	22.1	
Effective Green, g (s)	4.7		71.3		3.3	69.9	69.9	5.4		5.4	24.0	
Actuated g/C Ratio	0.04		0.59		0.03	0.58	0.58	0.05		0.05	0.20	
Clearance Time (s)	5.9		5.0		5.9	5.9	5.9	5.0		5.0	5.9	
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	62		2687		44	2505	709	71		64	614	
v/s Ratio Prot	0.00		c0.15		0.00	0.41		c0.01				
v/s Ratio Perm							c0.51			0.00	c0.28	
v/c Ratio	0.03		0.25		0.14	0.71	0.87	0.20		0.01	1.40	
Uniform Delay, d1	55.5		11.6		57.0	17.8	21.2	55.2		54.7	48.0	
Progression Factor	1.12		1.53		1.11	0.77	3.54	1.00		1.00	1.12	
Incremental Delay, d2	0.2		0.2		0.1	0.2	1.5	1.4		0.1	182.7	
Delay (s)	62.3		17.9		63.1	13.9	76.7	56.6		54.8	236.7	
Level of Service	E		B		E	B	E	E		D	F	
Approach Delay (s)			18.0			35.4		55.7				217.7
Approach LOS			B			D		E				F

Intersection Summary												
HCM Average Control Delay			77.1								HCM Level of Service	E
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			120.0								Sum of lost time (s)	12.0
Intersection Capacity Utilization			74.8%								ICU Level of Service	D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	212
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	228
RTOR Reduction (vph)	170
Lane Group Flow (vph)	58
Turn Type	custom
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	22.1
Effective Green, g (s)	24.0
Actuated g/C Ratio	0.20
Clearance Time (s)	5.9
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	283
v/s Ratio Prot	
v/s Ratio Perm	0.04
v/c Ratio	0.20
Uniform Delay, d1	40.0
Progression Factor	3.64
Incremental Delay, d2	0.7
Delay (s)	146.6
Level of Service	F
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.96	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4548			4390	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4548			4390	
Volume (vph)	0	1095	281	0	1577	310	309	1377	4	0	1943	596
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1117	287	0	1609	316	315	1405	4	0	1983	608
RTOR Reduction (vph)	0	0	2	0	0	30	0	0	0	0	2	0
Lane Group Flow (vph)	0	1117	285	0	1609	286	315	1409	0	0	2589	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		39.0	49.0		39.0	39.0	10.0	69.0			53.5	
Effective Green, g (s)		41.0	52.5		41.0	41.0	11.5	71.0			55.5	
Actuated g/C Ratio		0.34	0.44		0.34	0.34	0.10	0.59			0.46	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1959	667		1959	484	152	2691			2030	
v/s Ratio Prot		0.19	0.04		c0.28		c0.20	0.31			c0.59	
v/s Ratio Perm			0.16			0.20						
v/c Ratio		0.57	0.43		0.82	0.59	2.07	0.52			1.28	
Uniform Delay, d1		32.3	23.4		36.1	32.6	54.2	14.5			32.2	
Progression Factor		1.25	1.85		1.00	1.00	1.23	0.76			0.36	
Incremental Delay, d2		0.5	0.2		4.0	5.2	501.3	0.6			124.3	
Delay (s)		41.0	43.4		40.2	37.8	568.1	11.7			135.8	
Level of Service		D	D		D	D	F	B			F	
Approach Delay (s)		41.5			39.8			113.3			135.8	
Approach LOS		D			D			F			F	

Intersection Summary

HCM Average Control Delay	89.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	111.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.95			0.98		1.00	1.00		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1561			1617		1583	4530		1583	4465	
Flt Permitted		0.89			0.89		0.06	1.00		0.10	1.00	
Satd. Flow (perm)		1416			1467		94	4530		174	4465	
Volume (vph)	51	59	64	30	63	12	98	1582	47	62	1792	255
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	62	67	32	66	13	103	1665	49	65	1886	268
RTOR Reduction (vph)	0	17	0	0	4	0	0	2	0	0	15	0
Lane Group Flow (vph)	0	166	0	0	107	0	103	1712	0	65	2139	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		4		8		8		2		6		
Permitted Phases		4		8		2		6		6		
Actuated Green, G (s)		30.0		30.0		83.4		83.4		83.4		83.4
Effective Green, g (s)		29.0		29.0		83.0		83.0		83.0		83.0
Actuated g/C Ratio		0.24		0.24		0.69		0.69		0.69		0.69
Clearance Time (s)		3.0		3.0		3.6		3.6		3.6		3.6
Vehicle Extension (s)		3.0		3.0		5.0		5.0		5.0		5.0
Lane Grp Cap (vph)		342		355		65		3133		120		3088
v/s Ratio Prot								0.38				0.48
v/s Ratio Perm		c0.12		0.07		c1.10				0.37		
v/c Ratio		0.48		0.30		1.58		0.55		0.54		0.69
Uniform Delay, d1		39.1		37.2		18.5		9.2		9.1		10.9
Progression Factor		1.00		1.00		1.00		1.00		0.78		0.42
Incremental Delay, d2		4.8		2.2		324.0		0.7		1.6		0.1
Delay (s)		43.9		39.4		342.5		9.9		8.7		4.7
Level of Service		D		D		F		A		A		A
Approach Delay (s)		43.9		39.4		28.7				4.8		
Approach LOS		D		D		C				A		

Intersection Summary

HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		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	1.00		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4356		1583	4515		1583	4427		1583	4427	
Flt Permitted	0.11	1.00		0.12	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	190	4356		192	4515		183	4427		193	4427	
Volume (vph)	132	1139	196	117	2130	58	516	1647	219	86	1691	177
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	139	1199	206	123	2242	61	543	1734	231	91	1780	186
RTOR Reduction (vph)	0	24	0	0	3	0	0	17	0	0	12	0
Lane Group Flow (vph)	139	1381	0	123	2300	0	543	1948	0	91	1954	0
Conf. Peds. (#/hr)	90		93	93		90	90		48	48		90
Conf. Bikes (#/hr)			4			7			3			1
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.2	35.5		43.6	35.2		44.5	36.5		40.7	34.6	
Effective Green, g (s)	42.7	35.0		42.1	34.7		43.5	36.5		39.7	34.6	
Actuated g/C Ratio	0.43	0.35		0.42	0.35		0.44	0.36		0.40	0.35	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	188	1525		184	1567		178	1616		148	1532	
v/s Ratio Prot	c0.06	0.32		0.05	c0.51		c0.21	0.44		0.03	0.44	
v/s Ratio Perm	0.26			0.23			c1.12			0.21		
v/c Ratio	0.74	0.91		0.67	1.47		3.05	1.21		0.61	1.28	
Uniform Delay, d1	24.1	30.9		21.3	32.6		48.7	31.8		25.3	32.7	
Progression Factor	1.01	1.17		1.62	1.27		1.83	0.92		1.00	1.00	
Incremental Delay, d2	11.3	8.6		4.8	213.1		929.1	95.3		5.2	129.1	
Delay (s)	35.8	44.8		39.3	254.5		1018.3	124.3		30.5	161.8	
Level of Service	D	D		D	F		F	F		C	F	
Approach Delay (s)		44.0			243.5			317.9			155.9	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	208.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.26		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	142.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.96			0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes		1.00			0.99		0.99	1.00		1.00	1.00	
Frt		0.95			0.99		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1504			1587		1573	4459		1583	4336	
Flt Permitted		0.80			0.58		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1216			940		103	4459		104	4336	
Volume (vph)	58	150	128	181	302	51	125	2217	194	20	1725	231
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	158	135	191	318	54	132	2334	204	21	1816	243
RTOR Reduction (vph)	0	10	0	0	4	0	0	10	0	0	17	0
Lane Group Flow (vph)	0	344	0	0	559	0	132	2528	0	21	2042	0
Conf. Peds. (#/hr)	39		76	76		39	104		34	34		104
Conf. Bikes (#/hr)			2			2			6			4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		340			263		66	2854		67	2775	
v/s Ratio Prot								0.57			0.47	
v/s Ratio Perm		0.28			c0.59		c1.28			0.20		
v/c Ratio		1.01			2.13		2.00	0.89		0.31	0.74	
Uniform Delay, d1		36.0			36.0		18.0	15.0		8.1	12.2	
Progression Factor		1.00			1.00		1.00	1.00		1.52	1.57	
Incremental Delay, d2		51.8			519.8		499.2	4.5		1.1	0.2	
Delay (s)		87.8			555.8		517.2	19.5		13.4	19.4	
Level of Service		F			F		F	B		B	B	
Approach Delay (s)		87.8			555.8			44.1			19.3	
Approach LOS		F			F			D			B	

Intersection Summary

HCM Average Control Delay	88.5	HCM Level of Service	F
HCM Volume to Capacity ratio	2.04		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Fr't	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4485		1583	4536		1583	4532		1583	4458	
Flt Permitted	0.15	1.00		0.13	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	256	4485		222	4536		188	4532		196	4458	
Volume (vph)	261	1540	163	218	2479	52	179	2142	58	108	1654	256
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	269	1588	168	225	2556	54	185	2208	60	111	1705	264
RTOR Reduction (vph)	0	14	0	0	2	0	0	3	0	0	17	0
Lane Group Flow (vph)	269	1742	0	225	2608	0	185	2265	0	111	1952	0
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	6		5		2		3		8		7	
Permitted Phases	6		2				8				4	
Actuated Green, G (s)	25.0	25.0		36.0	36.0		41.4	34.4		38.6	33.0	
Effective Green, g (s)	26.0	26.0		37.0	37.0		42.4	35.4		39.6	34.0	
Actuated g/C Ratio	0.29	0.29		0.41	0.41		0.47	0.39		0.44	0.38	
Clearance Time (s)	5.0	5.0		3.5	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1296		197	1865		197	1783		173	1684	
v/s Ratio Prot		0.39		0.09	c0.57		c0.07	c0.50		0.04	0.44	
v/s Ratio Perm	c1.05			0.38			0.37			0.24		
v/c Ratio	3.64	1.34		1.14	1.40		0.94	1.27		0.64	1.16	
Uniform Delay, d1	32.0	32.0		43.7	26.5		21.1	27.3		21.6	28.0	
Progression Factor	0.70	0.69		1.00	1.00		1.68	0.31		1.00	1.00	
Incremental Delay, d2	1199.2	156.9		107.6	182.5		8.6	122.1		7.9	78.6	
Delay (s)	1221.6	179.2		151.3	209.0		43.9	130.6		29.5	106.6	
Level of Service	F	F		F	F		D	F		C	F	
Approach Delay (s)		317.6			204.4			124.1			102.5	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	185.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	138.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3098		1583	3129		1583	4509		1583	4486	
Flt Permitted	0.15	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	250	3098		217	3129		202	4509		230	4486	
Volume (vph)	118	892	150	129	1582	137	377	2173	140	82	1746	179
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	122	920	155	133	1631	141	389	2240	144	85	1800	185
RTOR Reduction (vph)	0	15	0	0	1	0	0	8	0	0	9	0
Lane Group Flow (vph)	122	1060	0	133	1771	0	389	2376	0	85	1976	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4				6				2	
Actuated Green, G (s)	25.7	25.7		38.0	38.0		42.0	42.0		28.0	28.0	
Effective Green, g (s)	26.7	26.7		39.0	39.0		43.0	43.0		29.0	29.0	
Actuated g/C Ratio	0.30	0.30		0.43	0.43		0.48	0.48		0.32	0.32	
Clearance Time (s)	5.0	5.0		3.0	5.0		4.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	919		220	1356		250	2154		74	1445	
v/s Ratio Prot		0.34		0.06	c0.57		c0.17	0.53			0.44	
v/s Ratio Perm	c0.49			0.21			c0.57			0.37		
v/c Ratio	1.65	1.15		0.60	1.31		1.56	1.10		1.15	1.37	
Uniform Delay, d1	31.6	31.6		20.6	25.5		42.2	23.5		30.5	30.5	
Progression Factor	1.00	1.00		0.71	0.95		1.00	1.00		1.01	0.98	
Incremental Delay, d2	344.3	81.6		0.4	138.4		268.9	54.1		80.9	165.8	
Delay (s)	376.0	113.3		15.0	162.5		311.2	77.6		111.6	195.8	
Level of Service	F	F		B	F		F	E		F	F	
Approach Delay (s)		140.0			152.2			110.4			192.4	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	146.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	140.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3154		1583	3151			1616			1612	
Flt Permitted	0.13	1.00		0.20	1.00			0.95			0.94	
Satd. Flow (perm)	222	3154		336	3151			1550			1529	
Volume (vph)	29	956	26	94	1477	50	11	86	23	62	297	86
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	986	27	97	1523	52	11	89	24	64	306	89
RTOR Reduction (vph)	0	3	0	0	4	0	0	15	0	0	4	0
Lane Group Flow (vph)	30	1011	0	97	1572	0	0	109	0	0	455	0
Turn Type	Perm		Perm		Perm			Perm				
Protected Phases	6		2		2			8				
Permitted Phases	6		2		8			4				
Actuated Green, G (s)	29.7	29.7		29.7	29.7			21.1			21.1	
Effective Green, g (s)	30.0	30.0		30.0	30.0			22.0			22.0	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.37			0.37	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	111	1577		168	1576			568			561	
v/s Ratio Prot		0.32		c0.50								
v/s Ratio Perm	0.14			0.29				0.07			c0.30	
v/c Ratio	0.27	0.64		0.58	1.00			0.19			0.81	
Uniform Delay, d1	8.7	11.0		10.5	15.0			12.9			17.1	
Progression Factor	0.83	0.77		1.00	1.00			1.00			1.00	
Incremental Delay, d2	5.4	1.8		13.7	22.0			0.2			8.7	
Delay (s)	12.6	10.4		24.2	37.0			13.1			25.8	
Level of Service	B	B		C	D			B			C	
Approach Delay (s)		10.4			36.2			13.1			25.8	
Approach LOS		B			D			B			C	

Intersection Summary

HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			1.00		1.00	1.00	
Flpb, ped/bikes					1.00			1.00		1.00	1.00	
Frt					0.95			1.00		1.00	1.00	
Flt Protected					0.97			1.00		0.95	1.00	
Satd. Flow (prot)					1535			3147		1583	3167	
Flt Permitted					0.81			1.00		0.15	1.00	
Satd. Flow (perm)					1280			3147		251	3167	
Volume (vph)	0	0	0	165	0	97	0	1178	27	68	2132	0
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	176	0	103	0	1253	29	72	2268	0
RTOR Reduction (vph)	0	0	0	0	21	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	258	0	0	1280	0	72	2268	0
Conf. Peds. (#/hr)							10		32	32		10
Conf. Bikes (#/hr)			1						2			4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					29.5			62.0		62.0	62.0	
Effective Green, g (s)					30.0			62.0		62.0	62.0	
Actuated g/C Ratio					0.30			0.62		0.62	0.62	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					384			1951		156	1964	
v/s Ratio Prot								0.41			c0.72	
v/s Ratio Perm					c0.20					0.29		
v/c Ratio					0.67			0.66		0.46	1.15	
Uniform Delay, d1					30.7			12.2		10.1	19.0	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					9.0			1.7		9.5	75.9	
Delay (s)					39.7			13.9		19.6	94.9	
Level of Service					D			B		B	F	
Approach Delay (s)		0.0			39.7			13.9			92.6	
Approach LOS		A			D			B			F	
Intersection Summary												
HCM Average Control Delay			63.0									HCM Level of Service E
HCM Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			100.0									Sum of lost time (s) 8.0
Intersection Capacity Utilization			89.4%									ICU Level of Service E
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↗	↑↑	↗	↗	↑↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.93	1.00	1.00		1.00	1.00	0.95	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	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1324	3072	3144		1583	3167	1352	1583	4431	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3072	3167	1324	3072	3144		155	3167	1352	167	4431	
Volume (vph)	83	612	59	362	1197	32	99	1144	329	19	1992	217
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	86	631	61	373	1234	33	102	1179	339	20	2054	224
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	89	0	11	0
Lane Group Flow (vph)	86	631	61	373	1265	0	102	1179	250	20	2267	0
Conf. Peds. (#/hr)	73		41	41		73	67		26	26		67
Conf. Bikes (#/hr)			3			4			1			4
Turn Type	Prot		pm+ov	Prot			pm+pt		pm+ov		pm+pt	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2				8		8		4	
Actuated Green, G (s)	6.4	48.8	54.8	8.0	50.4		47.7	41.7	49.7	41.3	38.5	
Effective Green, g (s)	6.4	50.1	56.1	8.0	51.7		49.1	43.1	51.1	42.7	39.9	
Actuated g/C Ratio	0.05	0.42	0.47	0.07	0.43		0.41	0.36	0.43	0.36	0.33	
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3		4.0	5.4	4.0	4.0	5.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	164	1322	663	205	1355		135	1137	621	92	1473	
v/s Ratio Prot	0.03	c0.20	0.00	c0.12	c0.40		c0.04	0.37	0.03	0.01	c0.51	
v/s Ratio Perm			0.04				0.27		0.16	0.07		
v/c Ratio	0.52	0.48	0.09	1.82	0.93		0.76	1.04	0.40	0.22	1.54	
Uniform Delay, d1	55.3	25.4	17.8	56.0	32.5		57.9	38.5	23.9	29.9	40.0	
Progression Factor	0.79	0.50	0.51	0.93	1.27		1.31	1.32	2.42	1.00	1.00	
Incremental Delay, d2	2.6	1.1	0.1	374.2	4.6		10.4	28.4	0.2	1.2	245.9	
Delay (s)	46.5	13.9	9.2	426.4	45.9		86.5	79.2	57.9	31.1	286.0	
Level of Service	D	B	A	F	D		F	E	E	C	F	
Approach Delay (s)		17.1			132.4			75.2			283.7	
Approach LOS		B			F			E			F	

Intersection Summary			
HCM Average Control Delay	158.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗		↘	↗↗	↘	↘	↗↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3099		1583	3167	1417	1583	3086	
Flt Permitted	0.07	1.00	1.00	0.32	1.00		0.12	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	118	3167	1417	538	3099		206	3167	1417	417	3086	
Volume (vph)	64	624	243	217	1093	182	235	761	38	173	897	183
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	657	256	228	1151	192	247	801	40	182	944	193
RTOR Reduction (vph)	0	0	38	0	11	0	0	0	22	0	15	0
Lane Group Flow (vph)	67	657	218	228	1332	0	247	801	19	182	1122	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8		4	
Actuated Green, G (s)	54.6	54.6	54.6	54.6	54.6		54.0	54.0	54.0	54.0	54.0	
Effective Green, g (s)	56.5	56.5	56.5	56.5	56.5		55.5	55.5	55.5	55.5	55.5	
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	56	1491	667	253	1459		95	1465	655	193	1427	
v/s Ratio Prot		0.21			0.43			0.25			0.36	
v/s Ratio Perm	c0.57		0.15	0.42			c1.20		0.01	0.44		
v/c Ratio	1.20	0.44	0.33	0.90	0.91		2.60	0.55	0.03	0.94	0.79	
Uniform Delay, d1	31.8	21.2	19.9	29.2	29.5		32.2	23.2	17.6	30.7	27.2	
Progression Factor	1.19	1.15	1.22	1.07	1.05		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	169.3	0.8	1.0	11.9	2.8		749.6	1.5	0.1	51.4	4.4	
Delay (s)	207.2	25.1	25.2	43.1	33.7		781.8	24.7	17.6	82.1	31.7	
Level of Service	F	C	C	D	C		F	C	B	F	C	
Approach Delay (s)		37.6			35.0			196.3			38.6	
Approach LOS		D			D			F			D	

Intersection Summary

HCM Average Control Delay	71.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↗	↕	↖	↗	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3114		1583	3077		1583	1667	1417	1583	1599	
Flt Permitted	0.20	1.00		0.20	1.00		0.13	1.00	1.00	0.39	1.00	
Satd. Flow (perm)	327	3114		327	3077		211	1667	1417	648	1599	
Volume (vph)	52	682	86	76	1231	288	55	444	91	58	567	212
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	741	93	83	1338	313	60	483	99	63	616	230
RTOR Reduction (vph)	0	16	0	0	34	0	0	0	25	0	2	0
Lane Group Flow (vph)	57	818	0	83	1617	0	60	483	74	63	844	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1059		111	1046		111	878	746	341	842	
v/s Ratio Prot		0.26			c0.53			0.29			c0.53	
v/s Ratio Perm	0.17			0.25			0.28		0.05	0.10		
v/c Ratio	0.51	0.77		0.75	1.55		0.54	0.55	0.10	0.18	1.00	
Uniform Delay, d1	15.8	17.7		17.5	19.8		9.4	9.5	7.1	7.4	14.2	
Progression Factor	1.00	1.00		0.95	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.0	5.5		4.2	246.2		17.6	2.5	0.3	1.2	31.5	
Delay (s)	31.8	23.2		20.8	265.5		27.0	11.9	7.4	8.6	45.7	
Level of Service	C	C		C	F		C	B	A	A	D	
Approach Delay (s)		23.8			253.8			12.6			43.1	
Approach LOS		C			F			B			D	

Intersection Summary

HCM Average Control Delay	121.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	120.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑	↗		↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	1.00
Frt	1.00	0.98		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1583	4446		1583	4488			3138	1417		3149	1417
Flt Permitted	0.13	1.00		0.95	1.00			0.54	1.00		0.52	1.00
Satd. Flow (perm)	225	4446		1583	4488			1723	1417		1650	1417
Volume (vph)	493	1453	260	103	1352	135	206	915	128	92	730	125
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	519	1529	274	108	1423	142	217	963	135	97	768	132
RTOR Reduction (vph)	0	28	0	0	13	0	0	0	86	0	0	20
Lane Group Flow (vph)	519	1775	0	108	1552	0	0	1180	50	0	865	112
Turn Type	Perm		Prot		Perm		Perm	Perm	Perm	Perm		Perm
Protected Phases	6		5		2		8		4		4	
Permitted Phases	6						8		4		4	
Actuated Green, G (s)	38.0	38.0		7.0	49.0			32.5	32.5		32.5	32.5
Effective Green, g (s)	38.0	38.0		7.0	49.0			33.0	33.0		33.0	33.0
Actuated g/C Ratio	0.42	0.42		0.08	0.54			0.37	0.37		0.37	0.37
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	95	1877		123	2443			632	520		605	520
v/s Ratio Prot	0.40		c0.07		0.35							
v/s Ratio Perm	c2.31						c0.68		0.03		0.52	
v/c Ratio	5.46	0.95		0.88	0.64			2.03dl	0.10		1.43	0.21
Uniform Delay, d1	26.0	25.0		41.1	14.3			28.5	18.7		28.5	19.6
Progression Factor	1.52	1.56		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	2019.5	6.3		45.6	1.3			396.2	0.4		202.8	0.9
Delay (s)	2059.1	45.3		86.7	15.5			424.7	19.1		231.3	20.5
Level of Service	F	D		F	B			F	B		F	C
Approach Delay (s)	495.4				20.1		383.1				203.4	
Approach LOS	F				C		F				F	

Intersection Summary

HCM Average Control Delay	299.8	HCM Level of Service	F
HCM Volume to Capacity ratio	3.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	136.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: 6th St & Western Ave

2/23/2010

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00
Frbp, ped/bikes		0.99			0.96			0.99			1.00	0.75
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.99			0.98			0.99			1.00	0.85
Flt Protected		1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)		3116			2981			3109			3167	1066
Flt Permitted		1.00			1.00			1.00			1.00	1.00
Satd. Flow (perm)		3116			2981			3109			3167	1066
Volume (vph)	0	1241	78	0	1187	177	0	1576	97	0	1750	115
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	1293	81	0	1236	184	0	1642	101	0	1823	120
RTOR Reduction (vph)	0	1	0	0	2	0	0	5	0	0	0	6
Lane Group Flow (vph)	0	1373	0	0	1418	0	0	1738	0	0	1823	114
Conf. Peds. (#/hr)	136		73	73		136	120		104	120		104
Conf. Bikes (#/hr)			5			7			19			15
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1420			1358			1416			1443	486
v/s Ratio Prot		0.44			c0.48			0.56			c0.58	
v/s Ratio Perm												0.11
v/c Ratio		0.97			1.04			1.23			1.26	0.23
Uniform Delay, d1		23.8			24.5			24.5			24.5	14.9
Progression Factor		1.00			1.00			0.63			1.00	1.00
Incremental Delay, d2		17.2			36.8			103.0			124.2	1.1
Delay (s)		41.0			61.3			118.5			148.7	16.1
Level of Service		D			E			F			F	B
Approach Delay (s)		41.0			61.3			118.5			140.5	
Approach LOS		D			E			F			F	

Intersection Summary

HCM Average Control Delay	96.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.97		1.00	0.96		1.00	0.96		1.00	0.92	
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	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4384		1583	4323		1583	3006		1583	2796	
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.13	1.00	
Satd. Flow (perm)	232	4384		235	4323		224	3006		214	2796	
Volume (vph)	241	1348	103	117	1580	152	112	1571	161	109	1134	348
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	262	1465	112	127	1717	165	122	1708	175	118	1233	378
RTOR Reduction (vph)	0	10	0	0	13	0	0	9	0	0	31	0
Lane Group Flow (vph)	262	1567	0	127	1869	0	122	1874	0	118	1580	0
Conf. Peds. (#/hr)	663		371	371		663	453		618	618		453
Conf. Bikes (#/hr)			12			12			20			20
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.3	27.3		34.7	27.0		35.0	28.6		37.8	30.0	
Effective Green, g (s)	36.7	28.7		36.1	28.4		36.2	29.8		39.0	31.2	
Actuated g/C Ratio	0.41	0.32		0.40	0.32		0.40	0.33		0.43	0.35	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1398		210	1364		187	995		211	969	
v/s Ratio Prot	c0.11	0.36		0.05	c0.43		0.05	c0.62		c0.05	0.57	
v/s Ratio Perm	0.39			0.19			0.22			0.19		
v/c Ratio	1.22	1.12		0.60	1.37		0.65	1.88		0.56	1.63	
Uniform Delay, d1	23.6	30.6		21.2	30.8		22.4	30.1		21.0	29.4	
Progression Factor	1.80	0.97		0.78	0.86		0.78	0.99		1.62	1.52	
Incremental Delay, d2	108.5	57.3		3.6	170.1		3.9	399.5		0.3	284.3	
Delay (s)	150.9	86.9		20.1	196.8		21.3	429.3		34.4	328.9	
Level of Service	F	F		C	F		C	F		C	F	
Approach Delay (s)		96.0			185.6			404.5			308.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	249.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	129.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3134		1583	3110		1583	3162		1583	3153	
Flt Permitted	0.26	1.00		0.32	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	427	3134		530	3110		163	3162		163	3153	
Volume (vph)	51	590	43	95	662	89	62	1446	13	105	1570	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	54	628	46	101	704	95	66	1538	14	112	1670	48
RTOR Reduction (vph)	0	4	0	0	6	0	0	1	0	0	2	0
Lane Group Flow (vph)	54	670	0	101	793	0	66	1551	0	112	1716	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	40.4	40.4		40.4	40.4		40.3	40.3		40.3	40.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	195	1428		241	1417		74	1440		74	1436	
v/s Ratio Prot		0.21			c0.25			0.49			0.54	
v/s Ratio Perm	0.13			0.19			0.41			c0.69		
v/c Ratio	0.28	0.47		0.42	0.56		0.89	1.08		1.51	1.19	
Uniform Delay, d1	15.3	17.0		16.5	17.9		22.5	24.5		24.5	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.43	0.45	
Incremental Delay, d2	3.5	1.1		5.3	1.6		77.4	47.6		237.4	88.4	
Delay (s)	18.8	18.1		21.8	19.5		99.9	72.1		248.0	99.5	
Level of Service	B	B		C	B		F	E		F	F	
Approach Delay (s)		18.1			19.8			73.2			108.6	
Approach LOS		B			B			E			F	

Intersection Summary

HCM Average Control Delay	68.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕	↖	↖	↕↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4535		1583	4489		1583	3167	1417	1583	3167	1417
Flt Permitted	0.12	1.00		0.12	1.00		0.12	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	196	4535		196	4489		193	3167	1417	193	3167	1417
Volume (vph)	74	2094	49	87	1581	154	155	1255	79	176	1364	144
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	75	2115	49	88	1597	156	157	1268	80	178	1378	145
RTOR Reduction (vph)	0	3	0	0	12	0	0	0	19	0	0	24
Lane Group Flow (vph)	75	2161	0	88	1741	0	157	1268	61	178	1378	121
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	40.4	33.0		40.6	33.1		41.5	33.5	41.0	41.5	33.5	40.9
Effective Green, g (s)	41.4	34.0		41.6	34.1		42.5	34.5	42.0	42.5	34.5	41.9
Actuated g/C Ratio	0.41	0.34		0.42	0.34		0.42	0.34	0.42	0.42	0.34	0.42
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	184	1542		186	1531		193	1093	652	193	1093	650
v/s Ratio Prot	0.03	c0.48		c0.04	0.39		0.06	0.40	0.01	c0.07	c0.44	0.01
v/s Ratio Perm	0.14			0.16			0.28		0.04	0.32		0.07
v/c Ratio	0.41	1.40		0.47	1.14		0.81	1.16	0.09	0.92	1.26	0.19
Uniform Delay, d1	23.4	33.0		45.3	33.0		47.0	32.8	17.5	47.7	32.8	18.3
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	1.5	184.7		1.9	70.3		22.4	82.5	0.1	43.2	124.8	0.1
Delay (s)	24.9	217.7		47.2	103.3		69.3	115.2	17.6	90.9	157.6	18.4
Level of Service	C	F		D	F		E	F	B	F	F	B
Approach Delay (s)		211.3			100.6			105.2			138.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	144.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	116.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↓		↔	↑↑↓		↔	↑↓		↔	↑↓	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Fr't	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4515		1583	4508		1583	3119		1583	3107	
Flt Permitted	0.09	1.00		0.09	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	145	4515		145	4508		185	3119		185	3107	
Volume (vph)	309	2096	115	112	1727	114	77	1142	127	93	1458	209
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	315	2139	117	114	1762	116	79	1165	130	95	1488	213
RTOR Reduction (vph)	0	3	0	0	8	0	0	2	0	0	6	0
Lane Group Flow (vph)	315	2253	0	114	1870	0	79	1293	0	95	1695	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	45.5	45.5		45.5	45.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	46.0	46.0		46.0	46.0		36.0	36.0		36.0	36.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
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)	74	2308		74	2304		74	1248		74	1243	
v/s Ratio Prot		0.50			0.41			0.41			c0.55	
v/s Ratio Perm	c2.17			0.79			0.43			0.51		
v/c Ratio	4.26	0.98		1.54	0.81		1.07	1.04		1.28	1.36	
Uniform Delay, d1	22.0	21.5		22.0	18.4		27.0	27.0		27.0	27.0	
Progression Factor	1.27	1.32		1.18	1.20		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1486.0	10.5		249.3	0.3		124.4	35.3		198.5	168.9	
Delay (s)	1514.0	38.8		275.3	22.4		151.4	62.3		225.5	195.9	
Level of Service	F	D		F	C		F	E		F	F	
Approach Delay (s)		219.6			36.8			67.5			197.5	
Approach LOS		F			D			E			F	

Intersection Summary

HCM Average Control Delay	140.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.98		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	133.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1583	4541		1583	4538			1646	1417		1548	
Flt Permitted	0.07	1.00		0.06	1.00			0.90	1.00		0.89	
Satd. Flow (perm)	125	4541		99	4538			1502	1417		1401	
Volume (vph)	40	2338	32	77	1842	34	27	79	70	32	37	53
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	2541	35	84	2002	37	29	86	76	35	40	58
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	2	0	8	0
Lane Group Flow (vph)	43	2575	0	84	2038	0	0	115	74	0	125	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		8		8		4			
Actuated Green, G (s)	67.5	67.5		67.5	67.5			14.0	14.0		14.0	
Effective Green, g (s)	67.5	67.5		67.5	67.5			14.5	14.5		14.5	
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.16	0.16		0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	94	3406		74	3404			242	228		226	
v/s Ratio Prot	0.57		0.45									
v/s Ratio Perm	0.35		c0.85				0.08	0.05		c0.09		
v/c Ratio	0.46	0.76		1.14	0.60			0.48	0.33		0.56	
Uniform Delay, d1	4.3	6.5		11.2	5.1			34.3	33.4		34.8	
Progression Factor	1.00	1.00		1.28	0.95			1.00	1.00		1.00	
Incremental Delay, d2	15.2	1.6		114.7	0.4			1.5	0.8		2.9	
Delay (s)	19.5	8.1		129.1	5.2			35.8	34.3		37.7	
Level of Service	B		F		A		D		C		D	
Approach Delay (s)	8.3		10.1		35.2		37.7					
Approach LOS	A		B		D		D					

Intersection Summary

HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.96		1.00	1.00	0.98	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	0.95	0.85
Flt Protected	1.00		0.95	1.00	0.97	1.00
Satd. Flow (prot)	4246		1583	4550	2931	1241
Flt Permitted	1.00		0.09	1.00	0.97	1.00
Satd. Flow (perm)	4246		150	4550	2931	1241
Volume (vph)	1850	460	572	1446	605	690
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1888	469	584	1476	617	704
RTOR Reduction (vph)	47	0	0	0	59	1
Lane Group Flow (vph)	2310	0	584	1476	831	430
Conf. Peds. (#/hr)		182	182			20
Conf. Bikes (#/hr)		4				5
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	39.5		51.5	51.5	28.8	36.8
Effective Green, g (s)	40.5		52.5	52.5	29.5	37.5
Actuated g/C Ratio	0.45		0.58	0.58	0.33	0.42
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	1911		215	2654	961	572
v/s Ratio Prot	0.54		c0.24	0.32	c0.28	0.07
v/s Ratio Perm			c1.35			0.28
v/c Ratio	1.21		2.72	0.56	0.86	0.75
Uniform Delay, d1	24.8		43.2	11.6	28.4	22.3
Progression Factor	1.00		1.00	1.00	0.67	0.33
Incremental Delay, d2	99.1		785.4	0.8	5.7	3.5
Delay (s)	123.8		828.6	12.4	24.7	10.9
Level of Service	F		F	B	C	B
Approach Delay (s)	123.8			243.8	20.2	
Approach LOS	F			F	C	

Intersection Summary

HCM Average Control Delay	143.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↖	↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3053		1583	1667	1417	1583	3116		1583	3163	
Flt Permitted	0.49	1.00		0.36	1.00	1.00	0.23	1.00		0.12	1.00	
Satd. Flow (perm)	822	3053		606	1667	1417	391	3116		192	3163	
Volume (vph)	20	361	114	184	227	59	185	1250	148	20	965	7
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	20	368	116	188	232	60	189	1276	151	20	985	7
RTOR Reduction (vph)	0	0	0	0	0	42	0	10	0	0	0	0
Lane Group Flow (vph)	20	484	0	188	232	18	189	1417	0	20	992	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	247	916		182	500	425	239	1904		117	1933	
v/s Ratio Prot		0.16			0.14			0.45			0.31	
v/s Ratio Perm	0.02			c0.31		0.01	c0.48			0.10		
v/c Ratio	0.08	0.53		1.03	0.46	0.04	0.79	0.74		0.17	0.51	
Uniform Delay, d1	22.6	26.2		31.5	25.6	22.3	13.2	12.5		7.6	9.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.60	1.71		0.34	0.43	
Incremental Delay, d2	0.6	2.2		75.6	3.1	0.2	2.5	0.2		0.3	0.1	
Delay (s)	23.2	28.4		107.1	28.7	22.5	23.6	21.6		2.8	4.4	
Level of Service	C			F		C		C		A		A
Approach Delay (s)		28.2			58.6			21.8			4.4	
Approach LOS		C			E			C			A	

Intersection Summary

HCM Average Control Delay	22.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕↕↕		↔	↕↕↕		↔	↕↕		↔	↕↕	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4481		1583	4518		1583	3130		1583	3167	1417
Flt Permitted	0.14	1.00		0.95	1.00		0.13	1.00		0.13	1.00	1.00
Satd. Flow (perm)	235	4481		1583	4518		209	3130		215	3167	1417
Volume (vph)	67	2213	251	66	1680	82	89	1466	122	73	1145	168
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	71	2329	264	69	1768	86	94	1543	128	77	1205	177
RTOR Reduction (vph)	0	15	0	0	6	0	0	6	0	0	0	113
Lane Group Flow (vph)	71	2578	0	69	1848	0	94	1665	0	77	1205	64
Turn Type	pm+pt		Prot		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	5	2		1	6		7	4		3	8	8
Permitted Phases	2					4				8		8
Actuated Green, G (s)	32.8	27.5		7.8	29.1		38.2	30.9		36.4	30.0	30.0
Effective Green, g (s)	34.1	28.4		7.3	30.0		39.2	31.9		37.4	31.0	31.0
Actuated g/C Ratio	0.38	0.32		0.08	0.33		0.44	0.35		0.42	0.34	0.34
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1414		128	1506		202	1109		187	1091	488
v/s Ratio Prot	0.03	c0.58		c0.04	0.41		c0.04	c0.53		0.03	0.38	
v/s Ratio Perm	0.13					0.16				0.14		0.04
v/c Ratio	0.41	1.82		0.54	1.23		0.47	1.50		0.41	1.10	0.13
Uniform Delay, d1	22.7	30.8		39.7	30.0		20.1	29.1		21.5	29.5	20.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.94	0.80	0.71
Incremental Delay, d2	1.6	373.2		4.3	108.3		1.7	230.2		1.3	59.0	0.5
Delay (s)	24.2	404.0		44.1	138.3		21.8	259.2		21.5	82.7	14.9
Level of Service	C	F		D	F		C	F		C	F	B
Approach Delay (s)	393.9			134.9			246.6			71.2		
Approach LOS	F			F			F			E		

Intersection Summary

HCM Average Control Delay	236.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↖	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			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			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1583	4518		1583	4535			1644	1417		1646	1417
Flt Permitted	0.09	1.00		0.09	1.00			0.99	1.00		0.99	1.00
Satd. Flow (perm)	147	4518		147	4535			1644	1417		1646	1417
Volume (vph)	40	2142	104	6	1902	44	80	210	42	63	184	36
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	44	2354	114	7	2090	48	88	231	46	69	202	40
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	36	0	0	35
Lane Group Flow (vph)	44	2468	0	7	2136	0	0	319	10	0	271	5
Turn Type	Perm		Perm		Split		Perm		Split		Perm	
Protected Phases	6		2		4		4		3		3	
Permitted Phases	6		2				4				3	
Actuated Green, G (s)	43.6	43.6		43.6	43.6			19.0	19.0		10.5	10.5
Effective Green, g (s)	45.5	45.5		45.5	45.5			20.5	20.5		12.0	12.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.23	0.23		0.13	0.13
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	2284		74	2293			374	323		219	189
v/s Ratio Prot	c0.55		0.47		c0.19		c0.16					
v/s Ratio Perm	0.30			0.05				0.01				0.00
v/c Ratio	0.59	1.08		0.09	0.93			0.85	0.03		1.24	0.03
Uniform Delay, d1	15.7	22.2		11.6	20.8			33.3	27.0		39.0	33.9
Progression Factor	0.72	0.68		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	25.8	43.5		2.5	8.4			16.9	0.0		139.6	0.1
Delay (s)	37.1	58.6		14.1	29.2			50.2	27.1		178.6	34.0
Level of Service	D	E		B	C			D	C		F	C
Approach Delay (s)	58.2		29.1		47.3		160.0					
Approach LOS	E		C		D		F					

Intersection Summary

HCM Average Control Delay	51.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	1.00
Satd. Flow (prot)	1583	4542		1583	4541			1658			1659	1417
Flt Permitted	0.13	1.00		0.08	1.00			1.00			1.00	1.00
Satd. Flow (perm)	209	4542		125	4541			1658			1659	1417
Volume (vph)	180	1864	22	23	1419	19	5	267	10	11	99	174
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	1942	23	24	1478	20	5	278	10	11	103	181
RTOR Reduction (vph)	0	1	0	0	1	0	0	2	0	0	0	153
Lane Group Flow (vph)	188	1964	0	24	1497	0	0	291	0	0	114	28
Turn Type	Perm		Perm		Split		Split		Split		Perm	
Protected Phases	6		2		3		3		4		4	
Permitted Phases	6		2								4	
Actuated Green, G (s)	51.8	51.8		51.8	51.8			9.6			12.7	12.7
Effective Green, g (s)	53.3	53.3		53.3	53.3			11.0			13.7	13.7
Actuated g/C Ratio	0.59	0.59		0.59	0.59			0.12			0.15	0.15
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	124	2690		74	2689			203			253	216
v/s Ratio Prot		0.43			0.33			c0.18			c0.07	
v/s Ratio Perm	c0.90			0.19								0.02
v/c Ratio	1.52	0.73		0.32	0.56			1.43			0.45	0.13
Uniform Delay, d1	18.4	13.2		9.3	11.2			39.5			34.7	33.0
Progression Factor	1.00	1.00		1.44	1.53			1.00			1.00	1.00
Incremental Delay, d2	269.1	1.8		4.5	0.3			221.5			1.3	0.3
Delay (s)	287.4	15.0		17.8	17.4			261.0			36.0	33.3
Level of Service	F	B		B	B			F			D	C
Approach Delay (s)		38.8			17.4			261.0			34.3	
Approach LOS		D			B			F			C	

Intersection Summary

HCM Average Control Delay	46.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		0.99		1.00	1.00			0.99			0.98	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	1.00			0.97			0.93	
Flt Protected		1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)		4231		1490	4267			1503			1431	
Flt Permitted		1.00		0.06	1.00			0.96			0.98	
Satd. Flow (perm)		4231		101	4267			1446			1405	
Volume (vph)	0	1973	71	48	1595	22	28	158	45	10	62	75
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	2168	78	53	1753	24	31	174	49	11	68	82
RTOR Reduction (vph)	0	3	0	0	1	0	0	3	0	0	12	0
Lane Group Flow (vph)	0	2243	0	53	1776	0	0	251	0	0	149	0
Conf. Peds. (#/hr)	34		71	71		34	15		9	9		15
Conf. Bikes (#/hr)			8			12			4			2
Turn Type				Perm		Perm				Perm		
Protected Phases		6			2			8			4	
Permitted Phases				2			8			4		
Actuated Green, G (s)		62.6		62.6	62.6			19.9			19.9	
Effective Green, g (s)		62.1		62.1	62.1			19.9			19.9	
Actuated g/C Ratio		0.69		0.69	0.69			0.22			0.22	
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2919		70	2944			320			311	
v/s Ratio Prot		c0.53			0.42							
v/s Ratio Perm				0.52				c0.17			0.11	
v/c Ratio		0.77		0.76	0.60			0.78			0.48	
Uniform Delay, d1		9.2		9.1	7.4			33.0			30.5	
Progression Factor		1.01		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.2		53.7	0.9			11.9			1.2	
Delay (s)		9.4		62.8	8.3			44.9			31.7	
Level of Service		A		E	A			D			C	
Approach Delay (s)		9.4			9.9			44.9			31.7	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑	↔	↔	↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1490	2980	1333	1490	2956		1490	4238		1490	4240	
Flt Permitted	0.12	1.00	1.00	0.12	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	194	2980	1333	194	2956		216	4238		216	4240	
Volume (vph)	102	1499	102	97	1348	77	123	2163	162	157	2194	156
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	105	1545	105	100	1390	79	127	2230	167	162	2262	161
RTOR Reduction (vph)	0	0	43	0	4	0	0	9	0	0	9	0
Lane Group Flow (vph)	105	1545	62	100	1465	0	127	2388	0	162	2414	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	37.0	31.4	38.4	37.0	31.4		35.0	28.0		35.0	28.0	
Effective Green, g (s)	38.0	32.4	39.4	38.0	32.4		36.0	29.0		36.0	29.0	
Actuated g/C Ratio	0.42	0.36	0.44	0.42	0.36		0.40	0.32		0.40	0.32	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	163	1073	643	163	1064		185	1366		185	1366	
v/s Ratio Prot	c0.04	c0.52	0.01	0.04	0.50		0.05	0.56		c0.07	c0.57	
v/s Ratio Perm	0.23		0.04	0.22			0.22			0.28		
v/c Ratio	0.64	1.44	0.10	0.61	1.38		0.69	1.75		0.88	1.77	
Uniform Delay, d1	22.0	28.8	14.8	21.9	28.8		41.8	30.5		42.9	30.5	
Progression Factor	0.79	0.69	0.76	1.00	1.00		1.58	1.40		1.72	1.45	
Incremental Delay, d2	0.8	198.4	0.0	6.7	175.4		1.0	336.8		4.5	345.6	
Delay (s)	18.1	218.2	11.4	28.6	204.2		67.2	379.5		78.5	389.7	
Level of Service	B	F	B	C	F		E	F		E	F	
Approach Delay (s)		193.9			193.0			363.8			370.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	298.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	133.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2980	1333	1490	2915		1490	4215		1490	4282	
Flt Permitted	0.14	1.00	1.00	0.20	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	214	2980	1333	320	2915		161	4215		161	4282	
Volume (vph)	68	780	98	152	1035	176	165	2091	246	99	2176	2
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	69	788	99	154	1045	178	167	2112	248	100	2198	2
RTOR Reduction (vph)	0	0	18	0	1	0	0	16	0	0	0	0
Lane Group Flow (vph)	69	788	81	154	1222	0	167	2344	0	100	2200	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm		Perm		
Protected Phases		8		7	4			6			2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	34.0	34.0	34.0	42.0	42.0		38.0	38.0		38.0	38.0	
Effective Green, g (s)	35.0	35.0	35.0	43.0	43.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.39	0.39	0.39	0.48	0.48		0.43	0.43		0.43	0.43	
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	83	1159	518	205	1393		70	1827		70	1856	
v/s Ratio Prot		0.26		0.03	c0.42			0.56			0.51	
v/s Ratio Perm	0.32		0.06	0.33			c1.04			0.62		
v/c Ratio	0.83	0.68	0.16	0.75	0.88		2.39	1.28		1.43	1.19	
Uniform Delay, d1	24.8	22.8	17.9	19.1	21.1		25.5	25.5		25.5	25.5	
Progression Factor	1.43	1.46	1.69	1.00	1.00		1.00	1.00		0.36	0.37	
Incremental Delay, d2	8.6	0.3	0.1	14.3	8.1		665.1	131.7		200.3	84.0	
Delay (s)	44.1	33.6	30.2	33.4	29.2		690.6	157.2		209.4	93.3	
Level of Service	D	C	C	C	C		F	F		F	F	
Approach Delay (s)		34.0			29.7			192.4			98.3	
Approach LOS		C			C			F			F	

Intersection Summary

HCM Average Control Delay	109.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.99			0.98		1.00	1.00		1.00	1.00	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2954			2915		1490	4280		1490	4264	
Flt Permitted		1.00			1.00		0.19	1.00		0.19	1.00	
Satd. Flow (perm)		2954			2915		299	4280		299	4264	
Volume (vph)	0	1258	77	0	977	168	71	2364	10	107	2223	65
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1284	79	0	997	171	72	2412	10	109	2268	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	1363	0	0	1168	0	72	2421	0	109	2329	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	8		4		4		6		2			
Permitted Phases	8		4		6		2					
Actuated Green, G (s)	30.1		30.1		20.3		20.3		20.3		20.3	
Effective Green, g (s)	31.0		31.0		21.0		21.0		21.0		21.0	
Actuated g/C Ratio	0.52		0.52		0.35		0.35		0.35		0.35	
Clearance Time (s)	4.9		4.9		4.7		4.7		4.7		4.7	
Vehicle Extension (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Lane Grp Cap (vph)	1526		1506		105		1498		105		1492	
v/s Ratio Prot	c0.46		0.40		c0.57		0.55					
v/s Ratio Perm					0.24		0.36					
v/c Ratio	0.89		0.78		0.69		1.62		1.04		1.56	
Uniform Delay, d1	13.0		11.7		16.7		19.5		19.5		19.5	
Progression Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	7.1		2.6		30.7		280.5		98.5		255.7	
Delay (s)	20.1		14.3		47.4		300.0		118.0		275.2	
Level of Service	C		B		D		F		F		F	
Approach Delay (s)	20.1		14.3		292.7		268.2					
Approach LOS	C		B		F		F					

Intersection Summary

HCM Average Control Delay	191.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
17: Wilshire Blvd & La Brea Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1489	4174		1490	4168		1490	4253		1490	4205	
Flt Permitted	0.14	1.00		0.13	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	216	4174		209	4168		202	4253		1490	4205	
Volume (vph)	158	1795	146	242	1334	121	139	2033	54	151	1971	108
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	161	1832	149	247	1361	123	142	2074	55	154	2011	110
RTOR Reduction (vph)	0	10	0	0	12	0	0	3	0	0	6	0
Lane Group Flow (vph)	161	1971	0	247	1472	0	142	2126	0	154	2115	0
Conf. Peds. (#/hr)	144		153	153		144	164		88	88		164
Conf. Bikes (#/hr)			13			8			6			17
Turn Type	pm+pt			pm+pt			pm+pt			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					
Actuated Green, G (s)	35.5	29.0		37.5	30.0		37.5	31.0		7.5	32.0	
Effective Green, g (s)	35.0	29.0		37.0	30.0		37.0	31.0		7.0	32.0	
Actuated g/C Ratio	0.39	0.32		0.41	0.33		0.41	0.34		0.08	0.36	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	169	1345		186	1389		169	1465		116	1495	
v/s Ratio Prot	0.06	c0.47		c0.10	0.35		0.06	0.50		c0.10	c0.50	
v/s Ratio Perm	0.31			0.44			0.29					
v/c Ratio	0.95	1.47		1.33	1.06		0.84	1.45		1.33	1.41	
Uniform Delay, d1	23.6	30.5		43.7	30.0		43.3	29.5		41.5	29.0	
Progression Factor	1.34	0.81		1.54	0.79		2.05	1.27		1.00	1.00	
Incremental Delay, d2	36.9	211.5		174.2	39.4		3.6	203.3		195.0	190.5	
Delay (s)	68.5	236.1		241.6	63.1		92.4	240.7		236.5	219.5	
Level of Service	E	F		F	E		F	F		F	F	
Approach Delay (s)		223.5			88.6			231.4			220.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	197.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	133.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↗↗↗		↗	↗↗↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			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		0.97			0.98		1.00	1.00		1.00	1.00	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1505			1507		1490	4263		1490	4256	
Flt Permitted		0.95			0.74		0.09	1.00		0.09	1.00	
Satd. Flow (perm)		1439			1127		146	4263		146	4256	
Volume (vph)	50	427	138	64	163	47	48	2112	40	19	2310	43
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	51	436	141	65	166	48	49	2155	41	19	2357	44
RTOR Reduction (vph)	0	1	0	0	1	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	627	0	0	278	0	49	2194	0	19	2399	0
Conf. Peds. (#/hr)	10		12	12		10	57		25	25		57
Conf. Bikes (#/hr)			2						1			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		38.0			38.0		42.5	42.5		42.5	42.5	
Effective Green, g (s)		39.0			39.0		43.0	43.0		43.0	43.0	
Actuated g/C Ratio		0.43			0.43		0.48	0.48		0.48	0.48	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		624			488		70	2037		70	2033	
v/s Ratio Prot								0.51			c0.56	
v/s Ratio Perm		c0.44			0.25		0.34			0.13		
v/c Ratio		1.01			0.57		0.70	1.08		0.27	1.18	
Uniform Delay, d1		25.5			19.2		18.4	23.5		14.1	23.5	
Progression Factor		1.00			1.00		1.00	1.00		0.37	0.54	
Incremental Delay, d2		37.4			1.5		45.0	44.3		0.9	81.5	
Delay (s)		62.9			20.7		63.4	67.8		6.0	94.3	
Level of Service		E			C		E	E		A	F	
Approach Delay (s)		62.9			20.7			67.7			93.6	
Approach LOS		E			C			E			F	
Intersection Summary												
HCM Average Control Delay			76.1				HCM Level of Service			E		
HCM Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			104.6%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4270		1490	4227		1490	4270		1490	4234	
Flt Permitted	0.12	1.00		0.10	1.00		0.95	1.00		0.10	1.00	
Satd. Flow (perm)	181	4270		163	4227		1490	4270		161	4234	
Volume (vph)	340	1951	39	45	1292	122	47	2100	43	187	2325	190
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	351	2011	40	46	1332	126	48	2165	44	193	2397	196
RTOR Reduction (vph)	0	2	0	0	11	0	0	2	0	0	9	0
Lane Group Flow (vph)	351	2049	0	46	1447	0	48	2207	0	193	2584	0
Turn Type	Perm		pm+pt			Prot		pm+pt				
Protected Phases	8		7		4		5		1			6
Permitted Phases	8		4					2		6		
Actuated Green, G (s)	33.2	33.2	42.0		42.0	5.7		34.2	46.5		37.5	
Effective Green, g (s)	34.6	34.6	43.4		43.4	5.7		35.6	47.9		38.9	
Actuated g/C Ratio	0.35	0.35	0.43		0.43	0.06		0.36	0.48		0.39	
Clearance Time (s)	5.4	5.4	4.0		5.4	4.0		5.4	4.0		5.4	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	4.0		3.0	
Lane Grp Cap (vph)	63	1477	134		1835	85		1520	197		1647	
v/s Ratio Prot	0.48		0.02		c0.34	0.03			c0.09		c0.61	
v/s Ratio Perm	c1.94		0.13					0.52	0.38			
v/c Ratio	5.57	1.39	0.34		0.79	0.56		1.45	0.98		1.57	
Uniform Delay, d1	32.7	32.7	24.0		24.3	45.9		32.2	47.6		30.6	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	2091.4	178.5	1.5		3.5	8.3		207.1	57.7		259.1	
Delay (s)	2124.1	211.2	25.5		27.9	54.3		239.3	105.3		289.7	
Level of Service	F		C			D		F	F		F	
Approach Delay (s)	490.8		27.8			235.4		276.9				
Approach LOS	F		C			F		F				

Intersection Summary

HCM Average Control Delay	282.0	HCM Level of Service	F
HCM Volume to Capacity ratio	3.19		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	131.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑↑			↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	0.97			0.99			1.00	0.96		0.99	
Flpb, ped/bikes	0.99	1.00			1.00			0.99	1.00		1.00	
Frt	1.00	0.99			0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00			1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1469	4116			4209			1525	1280		1514	
Flt Permitted	0.10	1.00			1.00			0.82	1.00		0.72	
Satd. Flow (perm)	155	4116			4209			1266	1280		1108	
Volume (vph)	246	1894	186	0	1468	65	79	203	147	42	125	17
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	273	2104	207	0	1631	72	88	226	163	47	139	19
RTOR Reduction (vph)	0	12	0	0	5	0	0	0	4	0	4	0
Lane Group Flow (vph)	273	2299	0	0	1698	0	0	314	159	0	201	0
Conf. Peds. (#/hr)	95		113	113		95	73		22	22		73
Conf. Bikes (#/hr)			13			15			3			3
Turn Type	Perm			Perm			Perm		Perm		Perm	
Protected Phases	6			2			8		8		4	
Permitted Phases	6						8		8		4	
Actuated Green, G (s)	57.8	57.8			57.8			24.7	24.7		24.7	
Effective Green, g (s)	57.3	57.3			57.3			24.7	24.7		24.7	
Actuated g/C Ratio	0.64	0.64			0.64			0.27	0.27		0.27	
Clearance Time (s)	3.5	3.5			3.5			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)	99	2621			2680			347	351		304	
v/s Ratio Prot		0.56			0.40							
v/s Ratio Perm	c1.76							c0.25	0.12		0.18	
v/c Ratio	2.76	0.88			0.63			0.90	0.45		0.66	
Uniform Delay, d1	16.4	13.5			10.0			31.5	27.1		28.9	
Progression Factor	1.31	1.27			0.23			1.00	1.00		1.00	
Incremental Delay, d2	811.4	3.4			0.1			25.8	0.9		5.3	
Delay (s)	832.8	20.5			2.4			57.4	28.0		34.2	
Level of Service	F	C			A			E	C		C	
Approach Delay (s)		106.3			2.4			47.3			34.2	
Approach LOS		F			A			D			C	

Intersection Summary			
HCM Average Control Delay	62.1	HCM Level of Service	E
HCM Volume to Capacity ratio	2.21		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1583	4537		1583	4300	1218		1599			1580	
Flt Permitted	0.10	1.00		0.08	1.00	1.00		0.90			0.73	
Satd. Flow (perm)	166	4537		128	4300	1218		1452			1170	
Volume (vph)	137	1808	35	77	1408	97	36	216	90	95	201	131
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	151	1987	38	85	1547	107	40	237	99	104	221	144
RTOR Reduction (vph)	0	2	0	0	0	45	0	7	0	0	18	0
Lane Group Flow (vph)	151	2023	0	85	1547	62	0	369	0	0	451	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	6			2			8	8			4	
Permitted Phases	6			2			8	8			4	
Actuated Green, G (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Effective Green, g (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Actuated g/C Ratio	0.58	0.58		0.58	0.58	0.58		0.33			0.33	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	96	2621		74	2484	704		484			390	
v/s Ratio Prot		0.45			0.36							
v/s Ratio Perm	c0.91			0.66		0.05		0.25			c0.39	
v/c Ratio	1.57	0.77		1.15	0.62	0.09		0.76			1.16	
Uniform Delay, d1	19.0	14.5		19.0	12.5	8.5		26.8			30.0	
Progression Factor	1.92	2.06		0.93	0.76	0.50		1.00			1.00	
Incremental Delay, d2	288.3	1.5		136.7	0.9	0.2		7.0			95.5	
Delay (s)	324.8	31.4		154.4	10.5	4.4		33.8			125.5	
Level of Service	F	C		F	B	A		C			F	
Approach Delay (s)		51.7			17.1			33.8			125.5	
Approach LOS		D			B			C			F	

Intersection Summary

HCM Average Control Delay	44.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	105.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	1.00	
Flt Protected	1.00		0.95	1.00	0.95	
Satd. Flow (prot)	4546		1583	4550	1582	
Flt Permitted	1.00		0.07	1.00	0.95	
Satd. Flow (perm)	4546		121	4550	1582	
Volume (vph)	2000	10	53	1498	76	3
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2105	11	56	1577	80	3
RTOR Reduction (vph)	0	0	0	0	1	0
Lane Group Flow (vph)	2116	0	56	1577	82	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2793		74	2796	469	
v/s Ratio Prot	c0.47			0.35	c0.05	
v/s Ratio Perm			0.46			
v/c Ratio	0.76		0.76	0.56	0.17	
Uniform Delay, d1	12.5		12.5	10.2	23.5	
Progression Factor	1.00		1.55	1.59	1.00	
Incremental Delay, d2	2.0		40.6	0.6	0.2	
Delay (s)	14.5		59.9	16.9	23.6	
Level of Service	B		E	B	C	
Approach Delay (s)	14.5			18.4	23.6	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3124	3124
Flt Permitted	0.17	1.00	1.00	0.10	1.00	1.00	0.15	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	283	3167	1417	167	3167	1417	247	3167	1417	215	3124	3124
Volume (vph)	106	1464	106	177	1129	214	121	1280	237	123	1279	128
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	110	1525	110	184	1176	223	126	1333	247	128	1332	133
RTOR Reduction (vph)	0	0	16	0	0	1	0	0	120	0	8	0
Lane Group Flow (vph)	110	1525	94	184	1176	222	126	1333	127	128	1457	0
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt		
Protected Phases		6		5		2	7		8		7	4
Permitted Phases	6		6	2		2	8		8		4	
Actuated Green, G (s)	35.0	35.0	35.0	44.0	44.0	49.7	27.1	27.1	27.1	36.0	36.0	36.0
Effective Green, g (s)	36.0	36.0	36.0	45.0	45.0	51.0	27.0	27.0	27.0	37.0	37.0	37.0
Actuated g/C Ratio	0.40	0.40	0.40	0.50	0.50	0.57	0.30	0.30	0.30	0.41	0.41	0.41
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	5.0
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	4.5
Lane Grp Cap (vph)	113	1267	567	162	1584	866	74	950	425	180	1284	1284
v/s Ratio Prot		0.48		c0.06	0.37	0.02		0.42		0.05	c0.47	
v/s Ratio Perm	0.39		0.07	c0.51		0.14	c0.51		0.09	0.25		
v/c Ratio	0.97	1.20	0.17	1.14	0.74	0.26	1.70	1.40	0.30	0.71	1.13	1.13
Uniform Delay, d1	26.5	27.0	17.4	44.7	17.9	9.9	31.5	31.5	24.2	42.6	26.5	26.5
Progression Factor	1.00	1.00	1.00	2.39	0.24	0.29	0.48	0.48	0.14	1.12	1.15	1.15
Incremental Delay, d2	77.8	99.4	0.6	68.6	0.3	0.0	321.4	182.0	0.2	8.2	67.4	67.4
Delay (s)	104.3	126.4	18.0	175.6	4.6	2.8	336.6	197.1	3.6	56.2	97.8	97.8
Level of Service	F	F	B	F	A	A	F	F	A	E	F	F
Approach Delay (s)		118.2			24.3			179.4			94.5	
Approach LOS		F			C			F			F	

Intersection Summary

HCM Average Control Delay	105.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3144		1583	3167	1417	1583	3139		1583	3128	
Flt Permitted	0.20	1.00		0.12	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	325	3144		196	3167	1417	238	3139		208	3128	
Volume (vph)	168	1375	70	128	821	196	117	1252	76	221	1374	121
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	171	1403	71	131	838	200	119	1278	78	226	1402	123
RTOR Reduction (vph)	0	4	0	0	0	36	0	5	0	0	7	0
Lane Group Flow (vph)	171	1470	0	131	838	164	119	1351	0	226	1518	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	40.1	32.3		39.7	32.1	37.9	26.1	26.1		35.1	35.1	
Effective Green, g (s)	41.2	34.2		40.8	34.0	39.0	28.0	28.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.38		0.45	0.38	0.43	0.31	0.31		0.41	0.41	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	247	1195		194	1196	677	74	977		162	1286	
v/s Ratio Prot	c0.05	c0.47		0.05	0.26	0.01		0.43		0.08	c0.49	
v/s Ratio Perm	0.26			0.26		0.10	c0.50			0.50		
v/c Ratio	0.69	1.23		0.68	0.70	0.24	1.61	1.38		1.40	1.18	
Uniform Delay, d1	16.5	27.9		21.1	23.7	16.1	31.0	31.0		44.7	26.5	
Progression Factor	1.00	1.00		1.79	1.12	0.98	1.50	1.49		0.93	0.52	
Incremental Delay, d2	8.1	111.2		0.8	0.3	0.0	320.9	177.9		186.6	83.3	
Delay (s)	24.6	139.1		38.7	26.8	15.8	367.5	224.1		228.0	97.0	
Level of Service	C	F		D	C	B	F	F		F	F	
Approach Delay (s)		127.2			26.3			235.7			113.9	
Approach LOS		F			C			F			F	

Intersection Summary

HCM Average Control Delay	130.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.98		1.00	1.00	0.75	1.00	1.00	0.65	1.00	0.98	
Flpb, ped/bikes	0.85	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1339	1625		3072	1667	1060	1583	3167	918	1503	3083	
Flt Permitted	0.57	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	798	1625		3072	1667	1060	144	3167	918	274	3083	
Volume (vph)	19	436	31	144	308	154	6	1043	293	17	1275	69
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	20	454	32	150	321	160	6	1086	305	18	1328	72
RTOR Reduction (vph)	0	3	0	0	0	17	0	0	0	0	4	0
Lane Group Flow (vph)	20	483	0	150	321	144	6	1086	305	18	1396	0
Conf. Peds. (#/hr)	152		159	159		152	117		165	165		117
Conf. Bikes (#/hr)			5			9			7			6
Turn Type	Perm			Prot		Perm	Perm		pm+ov		Perm	
Protected Phases		8		7	4			6	7			2
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	20.2	20.2		10.0	34.2	34.2	46.2	46.2	56.2	46.2	46.2	
Effective Green, g (s)	21.0	21.0		10.0	35.0	35.0	47.0	47.0	57.0	47.0	47.0	
Actuated g/C Ratio	0.23	0.23		0.11	0.39	0.39	0.52	0.52	0.63	0.52	0.52	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	186	379		341	648	412	75	1654	622	143	1610	
v/s Ratio Prot		c0.30		0.05	0.19			0.34	c0.05		c0.45	
v/s Ratio Perm	0.03					0.14	0.04		0.28		0.07	
v/c Ratio	0.11	1.27		0.44	0.50	0.35	0.08	0.66	0.49	0.13	0.87	
Uniform Delay, d1	27.1	34.5		37.4	20.8	19.4	10.7	15.6	8.8	11.0	18.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.31	0.26	0.31	0.38	0.79	
Incremental Delay, d2	1.2	142.5		0.9	2.7	2.3	0.2	0.2	0.1	0.2	0.6	
Delay (s)	28.3	177.0		38.3	23.5	21.8	3.5	4.3	2.8	4.4	15.4	
Level of Service	C	F		D	C	C	A	A	A	A	B	
Approach Delay (s)		171.1			26.6			3.9			15.3	
Approach LOS		F			C			A			B	

Intersection Summary

HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.94		1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4324		1583	4398		1583	2902		1583	3167	1163
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	230	4324		238	4398		222	2902		1583	3167	1163
Volume (vph)	312	1967	326	181	1184	113	100	1311	249	155	1579	213
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	328	2071	343	191	1246	119	105	1380	262	163	1662	224
RTOR Reduction (vph)	0	25	0	0	12	0	0	17	0	0	0	113
Lane Group Flow (vph)	328	2389	0	191	1353	0	105	1625	0	163	1662	111
Confl. Peds. (#/hr)	152		159	159		152	158		206	206		158
Turn Type	pm+pt			pm+pt			pm+pt			Prot		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					4
Actuated Green, G (s)	35.8	28.0		33.8	27.0		34.8	29.0		9.8	33.0	33.0
Effective Green, g (s)	36.0	29.0		34.0	28.0		35.0	30.0		9.0	34.0	34.0
Actuated g/C Ratio	0.40	0.32		0.38	0.31		0.39	0.33		0.10	0.38	0.38
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	197	1393		180	1368		162	967		158	1196	439
v/s Ratio Prot	c0.13	c0.55		0.07	0.31		0.04	c0.56		c0.10	c0.52	
v/s Ratio Perm	0.54			0.33			0.22					0.10
v/c Ratio	1.66	1.71		1.06	0.99		0.65	1.68		1.03	1.39	0.25
Uniform Delay, d1	23.2	30.5		44.2	30.8		43.0	30.0		40.5	28.0	19.3
Progression Factor	1.33	1.20		1.00	1.00		1.05	0.84		0.81	1.50	2.87
Incremental Delay, d2	312.4	323.6		84.2	21.8		7.1	309.7		72.1	179.5	1.1
Delay (s)	343.1	360.2		128.4	52.6		52.1	334.8		105.0	221.3	56.4
Level of Service	F	F		F	D		D	F		F	F	E
Approach Delay (s)		358.1			61.9			317.8			194.1	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	251.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	136.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.98	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Frt			0.86	1.00	0.93	0.85		0.99		1.00	1.00	
Flt Protected			1.00	0.95	0.98	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1413	1501	1344	1299		3101		1583	3167	
Flt Permitted			1.00	0.95	0.98	1.00		1.00		0.11	1.00	
Satd. Flow (perm)			1413	1501	1344	1299		3101		190	3167	
Volume (vph)	0	0	82	116	0	125	0	1342	127	192	1219	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	84	118	0	128	0	1369	130	196	1244	0
RTOR Reduction (vph)	0	0	79	0	37	72	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	5	74	51	12	0	1493	0	196	1244	0
Conf. Peds. (#/hr)	10		1	1		10	18		29	29		18
Conf. Bikes (#/hr)			1			2			3			3
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			4.8	12.4	12.4	12.4		58.4		58.4	58.4	
Effective Green, g (s)			5.7	13.3	13.3	13.3		59.0		59.0	59.0	
Actuated g/C Ratio			0.06	0.15	0.15	0.15		0.66		0.66	0.66	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			89	222	199	192		2033		125	2076	
v/s Ratio Prot								0.48			0.39	
v/s Ratio Perm			c0.00	c0.05	0.04	0.01				c1.03		
v/c Ratio			0.06	0.33	0.25	0.06		0.73		1.57	0.60	
Uniform Delay, d1			39.6	34.4	34.0	33.0		10.3		15.5	8.8	
Progression Factor			1.00	1.00	1.00	1.00		1.00		1.21	0.65	
Incremental Delay, d2			0.3	0.9	0.7	0.1		2.4		259.1	0.1	
Delay (s)			39.9	35.3	34.6	33.1		12.7		277.9	5.9	
Level of Service			D	D	C	C		B		F	A	
Approach Delay (s)		39.9			34.3			12.7			42.9	
Approach LOS		D			C			B			D	
Intersection Summary												
HCM Average Control Delay			28.3									HCM Level of Service C
HCM Volume to Capacity ratio			1.25									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			80.4%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↔	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.99			0.96		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4493			4371		1583	5733			5733	
Flt Permitted		1.00			1.00		0.17	1.00			1.00	
Satd. Flow (perm)		4493			4371		284	5733			5733	
Volume (vph)	0	2007	182	0	1238	439	77	1305	0	0	1533	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2048	186	0	1263	448	79	1332	0	0	1564	0
RTOR Reduction (vph)	0	11	0	0	64	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2223	0	0	1647	0	79	1332	0	0	1564	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1033			1005		67	1347			1347	
v/s Ratio Prot		c0.49			0.38			0.23			0.27	
v/s Ratio Perm							c0.28					
v/c Ratio		2.15			1.64		1.18	0.99			1.16	
Uniform Delay, d1		38.5			38.5		38.2	38.1			38.2	
Progression Factor		0.70			1.00		1.00	1.00			0.71	
Incremental Delay, d2		518.8			292.0		166.3	22.0			73.4	
Delay (s)		545.6			330.5		204.6	60.1			100.4	
Level of Service		F			F		F	E			F	
Approach Delay (s)		545.6			330.5			68.2			100.4	
Approach LOS		F			F			E			F	
Intersection Summary												
HCM Average Control Delay			294.5				HCM Level of Service				F	
HCM Volume to Capacity ratio			1.66									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			53.5		
Intersection Capacity Utilization			91.0%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↔		↘	↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3165		1583	3136	
Flt Permitted	0.17	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	284	5733	1417		4550	1417		3165		1583	3136	
Volume (vph)	22	1409	34	0	1380	328	0	1097	3	148	1178	80
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	1438	35	0	1408	335	0	1119	3	151	1202	82
RTOR Reduction (vph)	0	0	27	0	0	256	0	0	0	0	5	0
Lane Group Flow (vph)	22	1438	8	0	1408	79	0	1122	0	151	1279	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	67	1347	333		1069	333		1029		79	1019	
v/s Ratio Prot		0.25			c0.31			0.35		c0.10	c0.41	
v/s Ratio Perm	0.08		0.01			0.06						
v/c Ratio	0.33	1.07	0.02		1.32	0.24		1.09		1.91	1.26	
Uniform Delay, d1	31.7	38.2	29.4		38.2	31.0		33.8		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.85	1.91		0.41		1.00	1.00	
Incremental Delay, d2	12.6	44.7	0.1		143.3	0.2		42.5		453.4	123.0	
Delay (s)	44.3	83.0	29.6		175.9	59.4		56.2		500.9	156.8	
Level of Service	D	F	C		F	E		E		F	F	
Approach Delay (s)		81.2			153.5			56.2			193.0	
Approach LOS		F			F			E			F	

Intersection Summary

HCM Average Control Delay	125.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.99			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4534		1583	4545		1583	3143			3061	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4534		290	4545		1583	3143			3061	
Volume (vph)	229	2153	52	75	1222	9	34	772	41	0	930	268
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	234	2197	53	77	1247	9	35	788	42	0	949	273
RTOR Reduction (vph)	0	2	0	0	1	0	0	4	0	0	26	0
Lane Group Flow (vph)	234	2248	0	77	1255	0	35	826	0	0	1196	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1043		67	1045		79	1021			995	
v/s Ratio Prot		0.50			0.28		c0.02	0.26			c0.39	
v/s Ratio Perm	c0.81			0.27								
v/c Ratio	3.49	2.16		1.15	1.20		0.44	0.81			1.20	
Uniform Delay, d1	38.5	38.5		38.5	38.5		46.1	30.9			33.8	
Progression Factor	1.00	1.00		0.71	0.70		1.00	1.00			0.27	
Incremental Delay, d2	1158.1	523.0		82.3	91.4		3.9	6.9			91.7	
Delay (s)	1196.6	561.5		109.8	118.5		50.1	37.8			100.9	
Level of Service	F	F		F	F		D	D			F	
Approach Delay (s)		621.3			118.0			38.3			100.9	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	314.5	HCM Level of Service	F
HCM Volume to Capacity ratio	2.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕		↘	↕		↘	↕	↘	↘	↕	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Fr _t	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3144		1583	3153		1583	3167	1417	1583	3167	1417
Fl _t Permitted	0.13	1.00		0.13	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	222	3144		222	3153		1583	3167	1417	1583	3167	1417
Volume (vph)	158	1327	67	28	871	25	97	678	182	79	929	80
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	165	1382	70	29	907	26	101	706	190	82	968	83
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	61	0	0	46
Lane Group Flow (vph)	165	1448	0	29	931	0	101	706	129	82	968	37
Turn Type	Perm			Perm			Prot			Perm	Prot	Perm
Protected Phases	6			2			3		8	7		4
Permitted Phases	6			2					8			4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		7.8	39.3	39.3	7.7	39.2	39.2
Effective Green, g (s)	30.0	30.0		30.0	30.0		7.8	40.3	40.3	7.7	40.2	40.2
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.09	0.45	0.45	0.09	0.45	0.45
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	74	1048		74	1051		137	1418	635	135	1415	633
v/s Ratio Prot		0.46			0.30		c0.06	0.22		0.05	c0.31	
v/s Ratio Perm	c0.74			0.13					0.09			0.03
v/c Ratio	2.23	1.38		0.39	0.89		0.74	0.50	0.20	0.61	0.68	0.06
Uniform Delay, d ₁	30.0	30.0		23.0	28.4		40.1	17.7	15.1	39.7	19.8	14.1
Progression Factor	0.84	0.83		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	557.3	172.3		14.9	11.0		18.5	1.3	0.7	7.5	2.7	0.2
Delay (s)	582.4	197.3		37.9	39.3		58.6	18.9	15.8	47.2	22.5	14.3
Level of Service	F	F		D	D		E	B	B	D	C	B
Approach Delay (s)		236.6			39.3			22.3			23.7	
Approach LOS		F			D			C			C	

Intersection Summary			
HCM Average Control Delay	99.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑			↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	0.99			0.99			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4509		1583	4490			3131			3074	
Flt Permitted	0.12	1.00		0.09	1.00			1.00			0.77	
Satd. Flow (perm)	192	4509		149	4490			3131			2384	
Volume (vph)	131	2031	128	143	1289	123	0	1071	88	28	730	172
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	134	2072	131	146	1315	126	0	1093	90	29	745	176
RTOR Reduction (vph)	0	8	0	0	13	0	0	2	0	0	17	0
Lane Group Flow (vph)	134	2195	0	146	1428	0	0	1181	0	0	933	0
Turn Type	Perm		Perm				Perm					
Protected Phases	6		2				8					
Permitted Phases	6		2				4					
Actuated Green, G (s)	42.9	42.9		42.9	42.9			35.4			35.4	
Effective Green, g (s)	44.6	44.6		44.6	44.6			37.4			37.4	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.42			0.42	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	95	2234		74	2225			1301			991	
v/s Ratio Prot		0.49			0.32			0.38				
v/s Ratio Perm	0.70			c0.98							c0.39	
v/c Ratio	1.41	0.98		1.97	0.64			0.91			0.94	
Uniform Delay, d1	22.7	22.3		22.7	16.8			24.7			25.3	
Progression Factor	0.39	0.36		0.58	0.27			1.00			1.00	
Incremental Delay, d2	190.4	3.0		459.2	0.7			9.4			16.3	
Delay (s)	199.2	11.1		472.3	5.3			34.0			41.6	
Level of Service	F	B		F	A			C			D	
Approach Delay (s)		21.9			48.2			34.0			41.6	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	1.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4477		1583	4477		1583	4360		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	219	4477		219	4477		1583	4360		1583	4550	1417
Volume (vph)	294	1804	217	362	1188	142	62	921	354	224	1643	244
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	306	1879	226	377	1238	148	65	959	369	233	1711	254
RTOR Reduction (vph)	0	17	0	0	17	0	0	36	0	0	0	124
Lane Group Flow (vph)	306	2088	0	377	1369	0	65	1292	0	233	1711	130
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	28.4	28.4		28.4	28.4		7.1	32.1		14.5	38.5	38.5
Effective Green, g (s)	30.4	30.4		30.4	30.4		8.1	33.1		14.5	39.5	39.5
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.09	0.37		0.16	0.44	0.44
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1512		74	1512		142	1604		255	1997	622
v/s Ratio Prot		0.47			0.31		0.04			c0.15	c0.38	
v/s Ratio Perm	1.40			c1.72				0.30				0.09
v/c Ratio	4.14	1.38		5.09	0.91		0.46	0.81		0.91	0.86	0.21
Uniform Delay, d1	29.8	29.8		29.8	28.4		38.9	25.6		37.1	22.7	15.6
Progression Factor	1.00	1.00		0.43	0.38		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1442.2	175.8		1867.2	7.9		0.9	4.4		33.6	5.0	0.8
Delay (s)	1472.0	205.6		1880.0	18.9		39.7	30.0		70.7	27.7	16.4
Level of Service	F	F		F	B		D	C		E	C	B
Approach Delay (s)		366.3			416.8			30.4			31.0	
Approach LOS		F			F			C			C	

Intersection Summary

HCM Average Control Delay	222.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.92
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1561	4540		1577	4511			1585			1650	1306
Flt Permitted	0.13	1.00		0.06	1.00			0.96			0.93	1.00
Satd. Flow (perm)	221	4540		98	4511			1527			1551	1306
Volume (vph)	80	2000	14	25	1391	39	25	182	50	23	154	262
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	2128	15	27	1480	41	27	194	53	24	164	279
RTOR Reduction (vph)	0	1	0	0	3	0	0	8	0	0	0	34
Lane Group Flow (vph)	85	2142	0	27	1518	0	0	266	0	0	188	245
Confl. Peds. (#/hr)	67		64	64		67	46		45	45		46
Confl. Bikes (#/hr)			7			5			5			6
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	150	3087		67	3067			366			372	313
v/s Ratio Prot		c0.47			0.34							
v/s Ratio Perm	0.38			0.28				0.17			0.12	c0.19
v/c Ratio	0.57	0.69		0.40	0.49			0.73			0.51	0.78
Uniform Delay, d1	8.3	9.7		7.1	7.7			35.0			32.9	35.6
Progression Factor	0.70	0.45		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.4	0.1		17.1	0.6			11.9			4.8	17.5
Delay (s)	7.2	4.4		24.1	8.3			46.8			37.7	53.1
Level of Service	A	A		C	A			D			D	D
Approach Delay (s)		4.5			8.6			46.8			46.9	
Approach LOS		A			A			D			D	

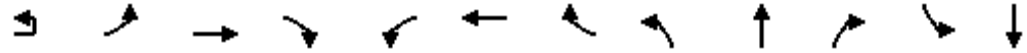
Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑↑↗		↘↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.75	1.00	0.92		1.00	0.97		1.00	0.95	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		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)	1576	3167	1061	1583	2816		3072	4399		3072	4201	
Flt Permitted	0.14	1.00	1.00	0.11	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	225	3167	1061	190	2816		3072	4399		3072	4201	
Volume (vph)	383	1152	86	256	546	178	61	2125	121	155	1551	285
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	407	1226	91	272	581	189	65	2261	129	165	1650	303
RTOR Reduction (vph)	0	0	46	0	26	0	0	5	0	0	21	0
Lane Group Flow (vph)	407	1226	45	272	744	0	65	2385	0	165	1932	0
Confl. Peds. (#/hr)	211		160	160		211	310		128	128		310
Confl. Bikes (#/hr)			10			8			9			7
Turn Type	pm+pt		Perm	pm+pt		Prot		Prot		Prot		
Protected Phases	1	6		5	2	3	8		7	4		
Permitted Phases	6		6	2								
Actuated Green, G (s)	51.6	36.6	36.6	45.6	33.6	9.6	43.8		10.2	44.4		
Effective Green, g (s)	52.0	38.0	38.0	46.0	35.0	9.6	44.8		10.2	45.4		
Actuated g/C Ratio	0.43	0.32	0.32	0.38	0.29	0.08	0.37		0.08	0.38		
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4	4.0	5.0		4.0	5.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	255	1003	336	201	821	246	1642		261	1589		
v/s Ratio Prot	c0.19	0.39		0.12	0.26	0.02	c0.54		0.05	c0.46		
v/s Ratio Perm	c0.51		0.04	0.39								
v/c Ratio	1.60	1.22	0.13	1.35	0.91	0.26	1.45		0.63	1.22		
Uniform Delay, d1	30.1	41.0	29.2	56.7	40.9	51.9	37.6		53.1	37.3		
Progression Factor	1.36	1.00	1.31	1.00	1.00	0.96	0.93		1.23	0.45		
Incremental Delay, d2	269.9	100.9	0.0	188.0	15.5	0.4	205.8		0.5	97.7		
Delay (s)	310.9	142.1	38.2	244.7	56.4	50.0	240.9		65.5	114.6		
Level of Service	F	F	D	F	E	D	F		E	F		
Approach Delay (s)		176.5			105.5		235.8			110.8		
Approach LOS		F			F		F			F		

Intersection Summary

HCM Average Control Delay	167.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	119.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0		
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97		
Frt	1.00		1.00		1.00	0.96	0.85	1.00		0.85	1.00		
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95		
Satd. Flow (prot)	1583		4538		1583	4139	1218	1583		1417	3072		
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95		
Satd. Flow (perm)	1583		4538		1583	4139	1218	1583		1417	3072		
Volume (vph)	21	0	1188	21	14	864	910	36	0	46	979	0	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	22	0	1264	22	15	919	968	38	0	49	1041	0	
RTOR Reduction (vph)	0	0	1	0	0	47	402	0	0	47	0	0	
Lane Group Flow (vph)	22	0	1285	0	15	1178	260	38	0	2	1041	0	
Turn Type	Prot				Prot		Perm	Prot			custom	custom	
Protected Phases	5		2		1		6			7			
Permitted Phases							6				7	8	
Actuated Green, G (s)	2.0		46.1		2.0	45.2	45.2	4.0		4.0	46.1		
Effective Green, g (s)	3.9		47.1		3.9	47.1	47.1	5.0		5.0	48.0		
Actuated g/C Ratio	0.03		0.39		0.03	0.39	0.39	0.04		0.04	0.40		
Clearance Time (s)	5.9		5.0		5.9	5.9	5.9	5.0		5.0	5.9		
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	51		1781		51	1625	478	66		59	1229		
v/s Ratio Prot	0.01		c0.28		0.01	c0.28		c0.02					
v/s Ratio Perm							0.21			0.00	c0.34		
v/c Ratio	0.43		0.72		0.29	0.72	0.54	0.58		0.03	0.85		
Uniform Delay, d1	57.0		30.9		56.7	30.9	28.1	56.5		55.2	32.7		
Progression Factor	1.32		1.53		1.05	1.66	8.70	1.00		1.00	1.18		
Incremental Delay, d2	0.5		0.2		1.9	1.7	2.6	11.6		0.2	3.8		
Delay (s)	75.4		47.4		61.6	52.9	247.4	68.0		55.4	42.2		
Level of Service	E		D		E	D	F	E		E	D		
Approach Delay (s)			47.9			120.7			60.9			43.0	
Approach LOS			D			F			E			D	
Intersection Summary													
HCM Average Control Delay			78.3									HCM Level of Service	E
HCM Volume to Capacity ratio			0.76										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			71.6%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	69
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	73
RTOR Reduction (vph)	44
Lane Group Flow (vph)	29
Turn Type	custom
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	46.1
Effective Green, g (s)	48.0
Actuated g/C Ratio	0.40
Clearance Time (s)	5.9
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	567
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.05
Uniform Delay, d1	22.1
Progression Factor	2.42
Incremental Delay, d2	0.1
Delay (s)	53.4
Level of Service	D
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.97	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4549			4435	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4549			4435	
Volume (vph)	0	1618	350	0	1274	380	169	2050	2	0	1716	348
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1668	361	0	1313	392	174	2113	2	0	1769	359
RTOR Reduction (vph)	0	0	3	0	0	8	0	0	0	0	26	0
Lane Group Flow (vph)	0	1668	358	0	1313	384	174	2115	0	0	2102	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		34.2	48.7		34.2	34.2	14.5	73.8			53.8	
Effective Green, g (s)		36.2	52.2		36.2	36.2	16.0	75.8			55.8	
Actuated g/C Ratio		0.30	0.44		0.30	0.30	0.13	0.63			0.46	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1729	664		1729	427	211	2873			2062	
v/s Ratio Prot		c0.29	0.07		0.23		c0.11	0.46			c0.47	
v/s Ratio Perm			0.18			0.27						
v/c Ratio		0.96	0.54		0.76	0.90	0.82	0.74			1.02	
Uniform Delay, d1		41.3	25.0		38.0	40.2	50.6	15.2			32.1	
Progression Factor		1.16	1.08		1.00	1.00	1.07	0.77			0.32	
Incremental Delay, d2		11.0	0.6		3.2	24.6	15.8	1.2			11.8	
Delay (s)		59.0	27.7		41.1	64.7	69.9	12.9			22.2	
Level of Service		E	C		D	E	E	B			C	
Approach Delay (s)		53.4			46.6			17.2			22.2	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM Average Control Delay			33.7				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			92.4%				ICU Level of Service				F	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.98			0.97		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1596			1606		1583	4529		1583	4505	
Flt Permitted		0.81			0.94		0.08	1.00		0.06	1.00	
Satd. Flow (perm)		1324			1519		141	4529		102	4505	
Volume (vph)	211	180	71	10	48	17	115	1989	64	146	1709	122
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	215	184	72	10	49	17	117	2030	65	149	1744	124
RTOR Reduction (vph)	0	5	0	0	8	0	0	3	0	0	7	0
Lane Group Flow (vph)	0	466	0	0	68	0	117	2092	0	149	1861	0
Turn Type		Perm		Perm		Perm		Perm		Perm		Perm
Protected Phases		4		8		8		2		2		6
Permitted Phases		4		8		2		2		6		6
Actuated Green, G (s)		30.0		30.0		83.4		83.4		83.4		83.4
Effective Green, g (s)		29.0		29.0		83.0		83.0		83.0		83.0
Actuated g/C Ratio		0.24		0.24		0.69		0.69		0.69		0.69
Clearance Time (s)		3.0		3.0		3.6		3.6		3.6		3.6
Vehicle Extension (s)		3.0		3.0		5.0		5.0		5.0		5.0
Lane Grp Cap (vph)		320		367		98		3133		71		3116
v/s Ratio Prot								0.46				0.41
v/s Ratio Perm		c0.35		0.04		0.83				c1.46		
v/c Ratio		1.46		0.18		1.19		0.67		2.10		0.60
Uniform Delay, d1		45.5		36.1		18.5		10.6		18.5		9.7
Progression Factor		1.00		1.00		1.00		1.00		0.67		0.32
Incremental Delay, d2		221.5		1.1		152.1		1.1		510.6		0.3
Delay (s)		267.0		37.2		170.6		11.7		523.0		3.4
Level of Service		F		D		F		B		F		A
Approach Delay (s)		267.0		37.2		20.1				41.8		
Approach LOS		F		D		C				D		

Intersection Summary

HCM Average Control Delay	53.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 39: Wilshire Blvd & La Cienega Blvd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.96		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	0.97		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4208		1583	4502		1583	4471		1583	4395	
Flt Permitted	0.12	1.00		0.12	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	194	4208		194	4502		183	4471		193	4395	
Volume (vph)	208	1937	541	184	1417	61	206	1976	130	93	1521	189
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	221	2061	576	196	1507	65	219	2102	138	99	1618	201
RTOR Reduction (vph)	0	51	0	0	5	0	0	7	0	0	16	0
Lane Group Flow (vph)	221	2586	0	196	1567	0	219	2233	0	99	1803	0
Conf. Peds. (#/hr)	63		133	133		63	103		84	84		103
Conf. Bikes (#/hr)			6			13			4			11
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.9	34.9		43.9	34.9		44.4	36.4		40.8	34.6	
Effective Green, g (s)	42.4	34.4		42.4	34.4		43.4	36.4		39.8	34.6	
Actuated g/C Ratio	0.42	0.34		0.42	0.34		0.43	0.36		0.40	0.35	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	193	1448		193	1549		177	1627		149	1521	
v/s Ratio Prot	c0.09	c0.61		0.08	0.35		c0.09	c0.50		0.03	0.41	
v/s Ratio Perm	0.39			0.35			0.45			0.23		
v/c Ratio	1.15	1.79		1.02	1.01		1.24	1.37		0.66	1.19	
Uniform Delay, d1	23.5	32.8		48.2	32.8		25.0	31.8		25.3	32.7	
Progression Factor	0.86	0.83		1.51	0.97		1.68	0.82		1.00	1.00	
Incremental Delay, d2	94.0	355.4		63.6	24.0		129.0	169.6		8.3	90.5	
Delay (s)	114.3	382.7		136.4	55.7		171.1	195.9		33.7	123.2	
Level of Service	F	F		F	E		F	F		C	F	
Approach Delay (s)		361.9			64.7			193.6			118.6	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	205.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	133.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		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	
Frt		0.95			0.99		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1503			1604		1583	4487		1583	4498	
Flt Permitted		0.88			0.32		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1333			525		104	4487		104	4498	
Volume (vph)	114	320	285	116	106	19	57	2106	116	25	2042	60
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	120	337	300	122	112	20	60	2217	122	26	2149	63
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	752	0	0	251	0	60	2333	0	26	2209	0
Confl. Peds. (#/hr)	29		64	64		29	102		42	42		102
Confl. Bikes (#/hr)			4			5			5			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		373			147		67	2872		67	2879	
v/s Ratio Prot								0.52			0.49	
v/s Ratio Perm		c0.56			0.48		c0.58			0.25		
v/c Ratio		2.02			1.71		0.90	0.81		0.39	0.77	
Uniform Delay, d1		36.0			36.0		15.2	13.5		8.6	12.7	
Progression Factor		1.00			1.00		1.00	1.00		1.23	1.10	
Incremental Delay, d2		466.6			345.9		83.2	2.6		1.5	0.2	
Delay (s)		502.6			381.9		98.3	16.1		12.1	14.2	
Level of Service		F			F		F	B		B	B	
Approach Delay (s)		502.6			381.9			18.2			14.2	
Approach LOS		F			F			B			B	

Intersection Summary			
HCM Average Control Delay	97.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	108.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4506		1583	4532		1583	4520		1583	4435	
Flt Permitted	0.14	1.00		0.12	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	230	4506		202	4532		200	4520		198	4435	
Volume (vph)	315	2496	174	81	1666	46	110	1873	87	257	1745	353
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	339	2684	187	87	1791	49	118	2014	94	276	1876	380
RTOR Reduction (vph)	0	8	0	0	3	0	0	6	0	0	34	0
Lane Group Flow (vph)	339	2863	0	87	1837	0	118	2102	0	276	2222	0
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	6		5		2		3		8		7	4
Permitted Phases	6		2		8		4					
Actuated Green, G (s)	28.0	28.0		36.7	36.7		39.0	32.3		39.6	32.6	
Effective Green, g (s)	29.0	29.0		37.7	37.7		40.0	33.3		40.6	33.6	
Actuated g/C Ratio	0.32	0.32		0.42	0.42		0.44	0.37		0.45	0.37	
Clearance Time (s)	5.0	5.0		3.5	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1452		157	1898		192	1672		197	1656	
v/s Ratio Prot		0.64		0.03	c0.41		0.05	0.47		c0.11	0.50	
v/s Ratio Perm	c1.47			0.20			0.23			c0.52		
v/c Ratio	4.58	1.97		0.55	0.97		0.61	1.26		1.40	1.34	
Uniform Delay, d1	30.5	30.5		22.1	25.6		21.2	28.4		43.7	28.2	
Progression Factor	1.43	1.42		1.00	1.00		1.47	0.45		1.00	1.00	
Incremental Delay, d2	1614.3	437.5		4.2	14.3		0.5	116.3		208.1	157.8	
Delay (s)	1657.8	480.9		26.3	39.9		31.7	129.1		251.8	186.0	
Level of Service	F	F		C	D		C	F		F	F	
Approach Delay (s)		605.2			39.3			123.9			193.2	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	281.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	135.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3092		1583	3120		1583	4466		1583	4472	
Flt Permitted	0.29	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	490	3092		222	3120		202	4466		230	4472	
Volume (vph)	217	1336	248	210	764	84	343	1781	251	123	1892	244
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	233	1437	267	226	822	90	369	1915	270	132	2034	262
RTOR Reduction (vph)	0	17	0	0	2	0	0	20	0	0	18	0
Lane Group Flow (vph)	233	1687	0	226	910	0	369	2165	0	132	2278	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4				6				2	
Actuated Green, G (s)	25.0	25.0		38.0	38.0		42.0	42.0		28.0	28.0	
Effective Green, g (s)	26.0	26.0		39.0	39.0		43.0	43.0		29.0	29.0	
Actuated g/C Ratio	0.29	0.29		0.43	0.43		0.48	0.48		0.32	0.32	
Clearance Time (s)	5.0	5.0		3.0	5.0		4.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	142	893		232	1352		250	2134		74	1441	
v/s Ratio Prot	c0.55		c0.10		0.29		c0.16		0.48		0.51	
v/s Ratio Perm	0.48		0.32				0.54				c0.57	
v/c Ratio	1.64	1.89		0.97	0.67		1.48	1.01		1.78	1.58	
Uniform Delay, d1	32.0	32.0		42.5	20.4		42.2	23.5		30.5	30.5	
Progression Factor	1.00	1.00		1.86	1.78		1.00	1.00		0.86	0.85	
Incremental Delay, d2	317.8	404.3		39.1	1.7		234.6	23.1		357.6	261.6	
Delay (s)	349.8	436.3		118.1	38.0		276.8	46.6		383.7	287.5	
Level of Service	F		F		D		F		D		F	
Approach Delay (s)	425.9				53.9		79.9				292.7	
Approach LOS	F				D		E				F	

Intersection Summary

HCM Average Control Delay	223.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	144.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↷		↶	↶↷			↷			↷	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.97			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3164		1583	3153			1607			1620	
Flt Permitted	0.15	1.00		0.13	1.00			0.99			0.88	
Satd. Flow (perm)	246	3164		221	3153			1590			1444	
Volume (vph)	164	1833	10	49	1098	32	13	351	125	41	209	46
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	171	1909	10	51	1144	33	14	366	130	43	218	48
RTOR Reduction (vph)	0	0	0	0	3	0	0	3	0	0	11	0
Lane Group Flow (vph)	171	1919	0	51	1174	0	0	507	0	0	298	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	29.9	29.9		29.9	29.9			20.9			20.9	
Effective Green, g (s)	30.2	30.2		30.2	30.2			21.8			21.8	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.36			0.36	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	124	1593		111	1587			578			525	
v/s Ratio Prot		0.61			0.37							
v/s Ratio Perm	c0.69			0.23				c0.32			0.21	
v/c Ratio	1.38	1.20		0.46	0.74			0.88			0.57	
Uniform Delay, d1	14.9	14.9		9.6	11.8			17.8			15.3	
Progression Factor	1.99	2.11		1.00	1.00			1.00			1.00	
Incremental Delay, d2	175.2	92.5		13.1	3.1			14.0			1.4	
Delay (s)	204.9	124.0		22.7	14.9			31.9			16.7	
Level of Service	F	F		C	B			C			B	
Approach Delay (s)		130.6			15.2			31.9			16.7	
Approach LOS		F			B			C			B	

Intersection Summary

HCM Average Control Delay	75.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			


























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			0.99		1.00	1.00	
Flpb, ped/bikes					0.99			1.00		1.00	1.00	
Frt					0.92			0.99		1.00	1.00	
Flt Protected					0.98			1.00		0.95	1.00	
Satd. Flow (prot)					1483			3109		1583	3167	
Flt Permitted					0.87			1.00		0.06	1.00	
Satd. Flow (perm)					1320			3109		104	3167	
Volume (vph)	0	0	0	102	0	155	0	1898	100	125	1527	0
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	117	0	178	0	2182	115	144	1755	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	289	0	0	2293	0	144	1755	0
Conf. Peds. (#/hr)			20	20			47		58	58		47
Conf. Bikes (#/hr)			1						7			1
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					27.5			64.0		64.0	64.0	
Effective Green, g (s)					28.0			64.0		64.0	64.0	
Actuated g/C Ratio					0.28			0.64		0.64	0.64	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					370			1990		67	2027	
v/s Ratio Prot								0.74			0.55	
v/s Ratio Perm					c0.22					c1.38		
v/c Ratio					0.78			1.15		2.15	0.87	
Uniform Delay, d1					33.2			18.0		18.0	14.5	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					15.1			74.8		563.3	5.3	
Delay (s)					48.3			92.8		581.3	19.8	
Level of Service					D			F		F	B	
Approach Delay (s)		0.0			48.3			92.8			62.4	
Approach LOS		A			D			F			E	
Intersection Summary												
HCM Average Control Delay			77.0									HCM Level of Service E
HCM Volume to Capacity ratio			1.74									
Actuated Cycle Length (s)			100.0									Sum of lost time (s) 8.0
Intersection Capacity Utilization			100.5%									ICU Level of Service G
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↗	↑↑	↗	↗	↑↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.74	1.00	0.99		1.00	1.00	0.79	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	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1048	3072	3094		1583	3167	1113	1583	4402	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3072	3167	1048	3072	3094		153	3167	1113	168	4402	
Volume (vph)	157	1618	53	464	714	57	392	1849	473	12	1404	116
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	165	1703	56	488	752	60	413	1946	498	13	1478	122
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	73	0	8	0
Lane Group Flow (vph)	165	1703	56	488	807	0	413	1946	425	13	1592	0
Confl. Peds. (#/hr)	102		193	193		102	173		149	149		173
Confl. Bikes (#/hr)			6			6			9			5
Turn Type	Prot		pm+ov	Prot			pm+pt		pm+ov		pm+pt	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2				8		8		4	
Actuated Green, G (s)	8.0	48.0	55.0	8.0	48.0		49.3	42.6	50.6	41.0	38.3	
Effective Green, g (s)	8.0	49.3	56.3	8.0	49.3		50.7	44.0	52.0	42.4	39.7	
Actuated g/C Ratio	0.07	0.41	0.47	0.07	0.41		0.42	0.37	0.43	0.35	0.33	
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3		4.0	5.4	4.0	4.0	5.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	205	1301	527	205	1271		148	1161	519	91	1456	
v/s Ratio Prot	0.05	c0.54	0.01	c0.16	0.26		c0.16	0.61	0.05	0.00	0.36	
v/s Ratio Perm			0.05				c1.02		0.33	0.05		
v/c Ratio	0.80	1.31	0.11	2.38	0.64		2.79	1.68	0.82	0.14	1.09	
Uniform Delay, d1	55.2	35.4	17.8	56.0	28.2		29.6	38.0	29.9	31.9	40.1	
Progression Factor	0.90	0.82	0.75	1.04	0.73		1.19	1.12	1.82	1.00	1.00	
Incremental Delay, d2	2.2	139.6	0.0	632.0	1.8		807.4	304.6	1.0	0.7	53.4	
Delay (s)	51.8	168.6	13.4	690.4	22.3		842.7	347.2	55.2	32.6	93.6	
Level of Service	D	F	B	F	C		F	F	E	C	F	
Approach Delay (s)		154.0			273.1			367.9			93.1	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	240.8	HCM Level of Service	F
HCM Volume to Capacity ratio	2.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	139.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3024		1583	3167	1417	1583	3115	
Flt Permitted	0.19	1.00	1.00	0.07	1.00		0.12	1.00	1.00	0.15	1.00	
Satd. Flow (perm)	323	3167	1417	117	3024		201	3167	1417	252	3115	
Volume (vph)	174	1485	153	117	626	268	192	982	229	212	955	116
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	185	1580	163	124	666	285	204	1045	244	226	1016	123
RTOR Reduction (vph)	0	0	29	0	27	0	0	0	6	0	8	0
Lane Group Flow (vph)	185	1580	134	124	924	0	204	1045	238	226	1131	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8				4
Permitted Phases	6		6	2			8		8		4	
Actuated Green, G (s)	55.1	55.1	55.1	55.1	55.1		53.5	53.5	53.5	53.5	53.5	
Effective Green, g (s)	57.0	57.0	57.0	57.0	57.0		55.0	55.0	55.0	55.0	55.0	
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.48		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	153	1504	673	56	1436		92	1452	649	116	1428	
v/s Ratio Prot		0.50			0.31			0.33			0.36	
v/s Ratio Perm	0.57		0.09	c1.06			c1.02		0.17	0.90		
v/c Ratio	1.21	1.05	0.20	2.21	0.64		2.22	0.72	0.37	1.95	0.79	
Uniform Delay, d1	31.5	31.5	18.3	31.5	23.8		32.5	26.3	21.2	32.5	27.6	
Progression Factor	1.19	1.20	1.31	0.75	0.74		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	99.9	24.8	0.1	551.7	0.2		581.4	3.1	1.6	456.5	4.6	
Delay (s)	137.4	62.5	23.9	575.3	17.9		613.9	29.4	22.8	489.0	32.2	
Level of Service	F	E	C	F	B		F	C	C	F	C	
Approach Delay (s)		66.4			82.2			108.2			107.9	
Approach LOS		E			F			F			F	
Intersection Summary												
HCM Average Control Delay			89.6			HCM Level of Service			F			
HCM Volume to Capacity ratio			2.22									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			113.1%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↗	↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3152		1583	3073		1583	1667	1417	1583	1634	
Flt Permitted	0.20	1.00		0.20	1.00		0.16	1.00	1.00	0.30	1.00	
Satd. Flow (perm)	327	3152		327	3073		270	1667	1417	494	1634	
Volume (vph)	97	1474	48	90	690	170	74	576	164	84	653	97
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	101	1535	50	94	719	177	77	600	171	88	680	101
RTOR Reduction (vph)	0	4	0	0	36	0	0	0	1	0	9	0
Lane Group Flow (vph)	101	1581	0	94	860	0	77	600	170	88	772	0
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases	6			2			8		8		4	
Permitted Phases	6			2			8		8		4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1072		111	1045		142	878	746	260	861	
v/s Ratio Prot	c0.50			0.28			0.36			c0.47		
v/s Ratio Perm	0.31			0.29			0.29			0.12		0.18
v/c Ratio	0.91	1.47		0.85	0.82		0.54	0.68	0.23	0.34	0.90	
Uniform Delay, d1	18.9	19.8		18.4	18.1		9.4	10.5	7.6	8.2	12.7	
Progression Factor	1.00	1.00		1.03	0.99		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	63.7	218.8		17.5	1.9		14.1	4.3	0.7	3.5	14.0	
Delay (s)	82.6	238.6		36.4	19.8		23.5	14.8	8.3	11.7	26.7	
Level of Service	F	F		D	B		C	B	A	B	C	
Approach Delay (s)	229.2			21.4			14.3			25.2		
Approach LOS	F			C			B			C		

Intersection Summary

HCM Average Control Delay	100.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑↑	↖		↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	1.00
Frt	1.00	0.97		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		1.00	1.00
Satd. Flow (prot)	1583	4413		1583	4538			3144	1417		3153	1417
Flt Permitted	0.11	1.00		0.95	1.00			0.57	1.00		0.68	1.00
Satd. Flow (perm)	190	4413		1583	4538			1791	1417		2156	1417
Volume (vph)	79	1499	378	35	1764	31	134	783	126	79	843	587
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	83	1578	398	37	1857	33	141	824	133	83	887	618
RTOR Reduction (vph)	0	47	0	0	2	0	0	0	74	0	0	2
Lane Group Flow (vph)	83	1929	0	37	1888	0	0	965	59	0	970	616
Turn Type	Perm		Prot		Perm		Perm	Perm	Perm	Perm		Perm
Protected Phases	6		5		2		8		4		4	
Permitted Phases	6						8		4		4	
Actuated Green, G (s)	35.0	35.0	3.0		42.0	39.5		39.5	39.5		39.5	39.5
Effective Green, g (s)	35.0	35.0	3.0		42.0	40.0		40.0	40.0		40.0	40.0
Actuated g/C Ratio	0.39	0.39	0.03		0.47	0.44		0.44	0.44		0.44	0.44
Clearance Time (s)	4.0	4.0	4.0		4.0	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	3.0
Lane Grp Cap (vph)	74	1716	53		2118	796		630	958		630	
v/s Ratio Prot	c0.44		0.02		c0.42							
v/s Ratio Perm	0.44					c0.54		0.04			0.45	0.43
v/c Ratio	1.12	1.12	0.70		0.89	1.21		0.09			1.01	0.98
Uniform Delay, d1	27.5	27.5	43.1		21.9	25.0		14.5			25.0	24.6
Progression Factor	1.47	1.54	1.00		1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2	114.7	60.7	33.1		6.2	107.1		0.3			32.2	30.7
Delay (s)	155.2	103.0	76.1		28.1	132.1		14.8			57.2	55.3
Level of Service	F		E		C	F		B			E	E
Approach Delay (s)	105.1				29.0	117.9					56.5	
Approach LOS	F				C	F					E	

Intersection Summary

HCM Average Control Delay	73.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	118.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
2: 6th St & Western Ave

2/23/2010

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00
Frbp, ped/bikes		1.00			0.98			0.99			1.00	0.83
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.99			0.99			0.99			1.00	0.85
Flt Protected		1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)		3128			3079			3133			3167	1171
Flt Permitted		1.00			1.00			1.00			1.00	1.00
Satd. Flow (perm)		3128			3079			3133			3167	1171
Volume (vph)	0	1083	59	0	1148	104	0	1358	53	0	1873	94
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1094	60	0	1160	105	0	1372	54	0	1892	95
RTOR Reduction (vph)	0	1	0	0	5	0	0	3	0	0	0	12
Lane Group Flow (vph)	0	1153	0	0	1260	0	0	1423	0	0	1892	83
Conf. Peds. (#/hr)	76		47	47		76	70		83	83		70
Conf. Bikes (#/hr)			7			7			12			9
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		4
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		1425			1403			1427			1443	533
v/s Ratio Prot		0.37			0.41			0.45			0.60	
v/s Ratio Perm												0.07
v/c Ratio		0.81			0.90			1.00			1.31	0.16
Uniform Delay, d1		21.1			22.6			24.4			24.5	14.4
Progression Factor		1.00			1.00			0.59			1.00	1.00
Incremental Delay, d2		5.1			9.4			6.5			145.1	0.6
Delay (s)		26.2			31.9			20.9			169.6	15.0
Level of Service		C			C			C			F	B
Approach Delay (s)		26.2			31.9			20.9			162.2	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM Average Control Delay	72.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↗		↖	↕↕↗		↖	↕↗		↖	↕↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		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	
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4494		1583	4491		1583	3109		1583	3040	
Flt Permitted	0.13	1.00		0.14	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	216	4494		230	4491		230	3109		230	3040	
Volume (vph)	179	1359	48	82	1848	46	224	1098	43	200	1492	194
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	192	1461	52	88	1987	49	241	1181	46	215	1604	209
RTOR Reduction (vph)	0	4	0	0	3	0	0	3	0	0	12	0
Lane Group Flow (vph)	192	1509	0	88	2033	0	241	1224	0	215	1801	0
Conf. Peds. (#/hr)	529		124	124		529	153		349	349		153
Conf. Bikes (#/hr)			4			6			8			9
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	37.5	29.5		33.7	27.6		35.8	27.8		35.8	27.8	
Effective Green, g (s)	38.9	30.9		35.1	29.0		37.0	29.0		37.0	29.0	
Actuated g/C Ratio	0.43	0.34		0.39	0.32		0.41	0.32		0.41	0.32	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1543		181	1447		215	1002		215	980	
v/s Ratio Prot	c0.08	0.34		0.03	c0.45		c0.10	0.39		0.09	c0.59	
v/s Ratio Perm	0.31			0.16			0.36			0.32		
v/c Ratio	0.89	0.98		0.49	1.41		1.12	1.22		1.00	1.84	
Uniform Delay, d1	42.5	29.2		20.3	30.5		43.2	30.5		43.2	30.5	
Progression Factor	1.84	0.95		0.76	0.86		1.12	1.16		1.61	1.45	
Incremental Delay, d2	15.3	9.4		0.7	183.9		76.1	103.3		18.4	377.6	
Delay (s)	93.6	37.1		16.1	210.0		124.3	138.7		87.9	421.7	
Level of Service	F	D		B	F		F	F		F	F	
Approach Delay (s)		43.5			201.9			136.3			386.3	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	203.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	133.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕		↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3120		1583	3072		1583	3157		1583	3157	
Flt Permitted	0.30	1.00		0.27	1.00		0.09	1.00		0.09	1.00	
Satd. Flow (perm)	506	3120		453	3072		155	3157		155	3157	
Volume (vph)	57	599	65	64	487	122	44	1290	27	118	1625	34
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	64	673	73	72	547	137	49	1449	30	133	1826	38
RTOR Reduction (vph)	0	3	0	0	10	0	0	2	0	0	2	0
Lane Group Flow (vph)	64	743	0	72	674	0	49	1477	0	133	1862	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	38.4	38.4		38.4	38.4		42.3	42.3		42.3	42.3	
Effective Green, g (s)	39.0	39.0		39.0	39.0		43.0	43.0		43.0	43.0	
Actuated g/C Ratio	0.43	0.43		0.43	0.43		0.48	0.48		0.48	0.48	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	219	1352		196	1331		74	1508		74	1508	
v/s Ratio Prot	c0.24			0.22			0.47			0.59		
v/s Ratio Perm	0.13			0.16			0.32			c0.86		
v/c Ratio	0.29	0.55		0.37	0.51		0.66	0.98		1.80	1.24	
Uniform Delay, d1	16.5	19.0		17.2	18.5		18.0	23.1		23.5	23.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.73	0.76	
Incremental Delay, d2	3.4	1.6		5.2	1.4		38.1	18.8		363.7	106.3	
Delay (s)	19.9	20.6		22.4	19.9		56.1	41.9		380.7	124.1	
Level of Service	B	C		C	B		E	D		F	F	
Approach Delay (s)	20.5			20.1			42.4			141.2		
Approach LOS	C			C			D			F		

Intersection Summary

HCM Average Control Delay	74.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗↗	↗	↗	↗↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4527		1583	4494		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00		0.12	1.00		0.12	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	180	4527		192	4494		197	3167	1417	196	3167	1417
Volume (vph)	70	1924	66	18	1742	156	116	1069	53	155	1450	143
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	72	1984	68	19	1796	161	120	1102	55	160	1495	147
RTOR Reduction (vph)	0	3	0	0	10	0	0	0	24	0	0	35
Lane Group Flow (vph)	72	2049	0	19	1947	0	120	1102	31	160	1495	112
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	43.4	36.0		38.8	33.7		40.7	32.9	38.0	41.1	33.1	40.5
Effective Green, g (s)	44.4	37.0		39.8	34.7		41.7	33.9	39.0	42.1	34.1	41.5
Actuated g/C Ratio	0.44	0.37		0.40	0.35		0.42	0.34	0.39	0.42	0.34	0.42
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	184	1675		147	1559		190	1074	609	193	1080	645
v/s Ratio Prot	c0.03	c0.45		0.01	0.43		0.05	0.35	0.00	c0.07	c0.47	0.01
v/s Ratio Perm	0.14			0.04			0.21		0.02	0.28		0.07
v/c Ratio	0.39	1.22		0.13	1.25		0.63	1.03	0.05	0.83	1.38	0.17
Uniform Delay, d1	23.0	31.5		24.4	32.6		24.1	33.0	19.0	23.2	33.0	18.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	106.0		0.4	117.4		6.7	34.3	0.0	24.4	178.7	0.1
Delay (s)	24.4	137.5		24.8	150.0		30.8	67.3	19.0	47.6	211.7	18.6
Level of Service	C	F		C	F		C	E	B	D	F	B
Approach Delay (s)		133.7			148.8			61.8			181.4	
Approach LOS		F			F			E			F	

Intersection Summary

HCM Average Control Delay	137.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4513		1583	4514		1583	3138		1583	3062	
Flt Permitted	0.09	1.00		0.09	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	152	4513		152	4514		175	3138		175	3062	
Volume (vph)	179	1784	104	189	2117	119	119	1062	69	110	1162	327
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	188	1878	109	199	2228	125	125	1118	73	116	1223	344
RTOR Reduction (vph)	0	7	0	0	7	0	0	3	0	0	1	0
Lane Group Flow (vph)	188	1980	0	199	2346	0	125	1188	0	116	1566	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	43.5	43.5		43.5	43.5		37.5	37.5		37.5	37.5	
Effective Green, g (s)	44.0	44.0		44.0	44.0		38.0	38.0		38.0	38.0	
Actuated g/C Ratio	0.49	0.49		0.49	0.49		0.42	0.42		0.42	0.42	
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)	74	2206		74	2207		74	1325		74	1293	
v/s Ratio Prot		0.44			0.52			0.38			0.51	
v/s Ratio Perm	1.24			c1.31			c0.71			0.66		
v/c Ratio	2.54	0.90		2.69	1.06		1.69	0.90		1.57	1.21	
Uniform Delay, d1	23.0	20.9		23.0	23.0		26.0	24.2		26.0	26.0	
Progression Factor	1.43	1.47		1.22	1.22		1.00	1.00		1.00	1.00	
Incremental Delay, d2	716.7	4.0		763.6	29.6		361.3	9.7		310.6	102.4	
Delay (s)	749.6	34.8		791.6	57.7		387.3	33.9		336.6	128.4	
Level of Service	F	C		F	E		F	C		F	F	
Approach Delay (s)		96.5			114.9			67.5			142.7	
Approach LOS		F			F			E			F	

Intersection Summary

HCM Average Control Delay	107.7	HCM Level of Service	F
HCM Volume to Capacity ratio	2.22		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	129.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		1.00	
Satd. Flow (prot)	1583	4535		1583	4528			1638	1417		1583	
Flt Permitted	0.07	1.00		0.07	1.00			0.62	1.00		0.98	
Satd. Flow (perm)	111	4535		111	4528			1029	1417		1548	
Volume (vph)	32	1867	42	98	2465	81	66	123	145	13	130	78
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	41	2363	53	124	3120	103	84	156	184	16	165	99
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	3	0	0	0
Lane Group Flow (vph)	41	2414	0	124	3220	0	0	240	181	0	280	0
Turn Type	Perm		Perm		Perm		Perm		Perm	Perm		
Protected Phases	6		2		2		8		8	4		
Permitted Phases	6		2		8		8		8	4		
Actuated Green, G (s)	60.2	60.2		60.2	60.2			21.3	21.3		21.3	
Effective Green, g (s)	60.2	60.2		60.2	60.2			21.8	21.8		21.8	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.24	0.24		0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	74	3033		74	3029			249	343		375	
v/s Ratio Prot		0.53			0.71							
v/s Ratio Perm	0.37			c1.12				c0.23	0.13		0.18	
v/c Ratio	0.55	0.80		1.68	1.06			0.96	0.53		0.75	
Uniform Delay, d1	7.8	10.6		14.9	14.9			33.7	29.6		31.5	
Progression Factor	1.00	1.00		1.12	1.14			1.00	1.00		1.00	
Incremental Delay, d2	26.7	2.3		327.7	32.1			46.6	1.5		7.9	
Delay (s)	34.5	12.8		344.3	49.1			80.4	31.1		39.4	
Level of Service	C	B		F	D			F	C		D	
Approach Delay (s)		13.2			60.0			59.0			39.4	
Approach LOS		B			E			E			D	

Intersection Summary

HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.98		1.00	1.00	0.96	0.90
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	0.97	0.85
Flt Protected	1.00		0.95	1.00	0.96	1.00
Satd. Flow (prot)	4343		1583	4550	2895	1162
Flt Permitted	1.00		0.09	1.00	0.96	1.00
Satd. Flow (perm)	4343		157	4550	2895	1162
Volume (vph)	1394	242	659	1810	644	592
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	1452	252	686	1885	671	617
RTOR Reduction (vph)	27	0	0	0	31	2
Lane Group Flow (vph)	1677	0	686	1885	832	423
Conf. Peds. (#/hr)		152	152			99
Conf. Bikes (#/hr)						2
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	37.5		51.5	51.5	28.8	38.8
Effective Green, g (s)	38.5		52.5	52.5	29.5	39.5
Actuated g/C Ratio	0.43		0.58	0.58	0.33	0.44
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	1858		250	2654	949	562
v/s Ratio Prot	0.39		c0.30	0.41	c0.29	0.08
v/s Ratio Perm			c1.30			0.28
v/c Ratio	0.90		2.74	0.71	0.88	0.75
Uniform Delay, d1	24.0		25.2	13.3	28.5	21.2
Progression Factor	1.00		1.00	1.00	0.49	0.25
Incremental Delay, d2	7.6		796.0	1.6	7.2	4.0
Delay (s)	31.7		821.1	15.0	21.3	9.3
Level of Service	C		F	B	C	A
Approach Delay (s)	31.7			230.1	17.4	
Approach LOS	C			F	B	

Intersection Summary

HCM Average Control Delay	120.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕↗		↗	↕	↗	↗	↕↗		↗	↕↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3147		1583	1667	1417	1583	3109		1583	3163	
Flt Permitted	0.38	1.00		0.45	1.00	1.00	0.27	1.00		0.15	1.00	
Satd. Flow (perm)	634	3147		749	1667	1417	458	3109		246	3163	
Volume (vph)	7	351	15	214	297	105	138	1089	150	26	839	7
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	7	366	16	223	309	109	144	1134	156	27	874	7
RTOR Reduction (vph)	0	0	0	0	0	65	0	12	0	0	1	0
Lane Group Flow (vph)	7	382	0	223	309	44	144	1278	0	27	880	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	8			4			4			6		2
Permitted Phases	8			4			4			6		2
Actuated Green, G (s)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	944		225	500	425	280	1900		150	1933	
v/s Ratio Prot		0.12			0.19			c0.41			0.28	
v/s Ratio Perm	0.01			c0.30		0.03	0.31			0.11		
v/c Ratio	0.04	0.40		0.99	0.62	0.10	0.51	0.67		0.18	0.46	
Uniform Delay, d1	22.3	25.1		31.4	27.1	22.8	9.9	11.6		7.6	9.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.66	1.85		0.33	0.46	
Incremental Delay, d2	0.4	1.3		57.8	5.6	0.5	0.6	0.2		0.2	0.1	
Delay (s)	22.7	26.4		89.1	32.7	23.2	17.1	21.5		2.8	4.4	
Level of Service	C			F		C		B	C		A	
Approach Delay (s)	26.3			50.7		21.1		4.3				
Approach LOS	C			D		C		A				

Intersection Summary

HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗		↗	↗↗		↗	↗↗	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4497		1583	4533		1583	3147		1583	3167	1417
Flt Permitted	0.15	1.00		0.95	1.00		0.14	1.00		0.16	1.00	1.00
Satd. Flow (perm)	248	4497		1583	4533		227	3147		262	3167	1417
Volume (vph)	69	1696	143	140	2650	66	215	1235	55	62	1155	155
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	76	1864	157	154	2912	73	236	1357	60	68	1269	170
RTOR Reduction (vph)	0	11	0	0	3	0	0	3	0	0	0	113
Lane Group Flow (vph)	76	2010	0	154	2982	0	236	1414	0	68	1269	57
Turn Type	pm+pt			Prot			pm+pt			pm+pt		Perm
Protected Phases	5	2		1	6		7	4		3	8	8
Permitted Phases	2						4			8		8
Actuated Green, G (s)	31.3	26.0		11.1	30.9		39.5	29.4		30.5	24.4	24.4
Effective Green, g (s)	32.6	26.9		10.6	31.8		40.5	30.4		31.5	25.4	25.4
Actuated g/C Ratio	0.36	0.30		0.12	0.35		0.45	0.34		0.35	0.28	0.28
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1344		186	1602		269	1063		181	894	400
v/s Ratio Prot	0.03	0.45		c0.10	c0.66		c0.11	c0.45		0.03	0.40	
v/s Ratio Perm	0.13						0.29			0.11		0.04
v/c Ratio	0.44	1.50		0.83	1.86		0.88	1.33		0.38	1.42	0.14
Uniform Delay, d1	23.2	31.6		38.8	29.1		21.5	29.8		23.4	32.3	24.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.86	0.76	0.57
Incremental Delay, d2	1.8	227.1		25.1	390.2		25.8	155.0		1.2	194.9	0.7
Delay (s)	25.0	258.7		63.9	419.3		47.4	184.8		21.4	219.5	14.5
Level of Service	C			E			D			C		B
Approach Delay (s)	250.2			401.8			165.2			187.4		
Approach LOS	F			F			F			F		

Intersection Summary

HCM Average Control Delay	278.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	125.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↖	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			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			0.98	1.00		0.99	1.00
Satd. Flow (prot)	1583	4523		1583	4534			1627	1417		1650	1417
Flt Permitted	0.09	1.00		0.09	1.00			0.98	1.00		0.99	1.00
Satd. Flow (perm)	142	4523		142	4534			1627	1417		1650	1417
Volume (vph)	22	1551	64	19	2236	55	142	148	20	34	139	50
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	23	1599	66	20	2305	57	146	153	21	35	143	52
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	16	0	0	46
Lane Group Flow (vph)	23	1665	0	20	2359	0	0	299	5	0	178	6
Turn Type	Perm		Perm		Split		Perm		Split		Perm	
Protected Phases	6		2		4		4		3		3	
Permitted Phases	6		2				4				3	
Actuated Green, G (s)	45.1	45.1		45.1	45.1			19.0	19.0		9.0	9.0
Effective Green, g (s)	47.0	47.0		47.0	47.0			20.5	20.5		10.5	10.5
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.23	0.23		0.12	0.12
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	2362		74	2368			371	323		193	165
v/s Ratio Prot		0.37			c0.52			c0.18			c0.11	
v/s Ratio Perm	0.16			0.14				0.00				0.00
v/c Ratio	0.31	0.70		0.27	1.00			0.81	0.01		0.92	0.04
Uniform Delay, d1	12.3	16.3		12.0	21.4			32.9	26.9		39.3	35.3
Progression Factor	0.56	0.50		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	7.7	1.3		8.8	17.6			12.0	0.0		43.2	0.1
Delay (s)	14.6	9.5		20.7	39.0			44.9	26.9		82.5	35.4
Level of Service	B	A		C	D			D	C		F	D
Approach Delay (s)		9.6			38.9			43.7			71.9	
Approach LOS		A			D			D			E	

Intersection Summary

HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	1.00
Satd. Flow (prot)	1583	4548		1583	4478			1594			1613	1417
Flt Permitted	0.10	1.00		0.13	1.00			0.99			0.97	1.00
Satd. Flow (perm)	160	4548		216	4478			1594			1613	1417
Volume (vph)	91	1296	4	16	2057	241	52	114	52	276	139	293
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	93	1322	4	16	2099	246	53	116	53	282	142	299
RTOR Reduction (vph)	0	1	0	0	16	0	0	12	0	0	0	89
Lane Group Flow (vph)	93	1325	0	16	2329	0	0	210	0	0	424	210
Turn Type	Perm			Perm			Split			Split		Perm
Protected Phases	6			2			3	3		4	4	
Permitted Phases	6			2								4
Actuated Green, G (s)	40.1	40.1		40.1	40.1			9.6			24.4	24.4
Effective Green, g (s)	41.6	41.6		41.6	41.6			11.0			25.4	25.4
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.12			0.28	0.28
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	74	2102		100	2070			195			455	400
v/s Ratio Prot		0.29			0.52			c0.13			c0.26	
v/s Ratio Perm	c0.58			0.07								0.15
v/c Ratio	1.26	0.63		0.16	1.13			1.08			0.93	0.52
Uniform Delay, d1	24.2	18.4		14.1	24.2			39.5			31.5	27.2
Progression Factor	1.00	1.00		1.44	1.18			1.00			1.00	1.00
Incremental Delay, d2	188.5	1.4		1.0	58.5			85.9			26.0	1.2
Delay (s)	212.7	19.8		21.2	87.2			125.4			57.5	28.5
Level of Service	F	B		C	F			F			E	C
Approach Delay (s)		32.5			86.7			125.4			45.5	
Approach LOS		C			F			F			D	

Intersection Summary

HCM Average Control Delay	65.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes		1.00		0.99	1.00			1.00			1.00	
Frt		0.99		1.00	1.00			0.94			0.96	
Flt Protected		1.00		0.95	1.00			0.98			1.00	
Satd. Flow (prot)		4234		1477	4265			1429			1493	
Flt Permitted		1.00		0.14	1.00			0.70			0.98	
Satd. Flow (perm)		4234		225	4265			1021			1471	
Volume (vph)	0	1354	62	43	2075	37	52	21	51	9	108	48
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	1440	66	46	2207	39	55	22	54	10	115	51
RTOR Reduction (vph)	0	3	0	0	1	0	0	26	0	0	4	0
Lane Group Flow (vph)	0	1503	0	46	2245	0	0	105	0	0	172	0
Confl. Peds. (#/hr)	25		36	36		25	8		5	5		8
Confl. Bikes (#/hr)			5			4						
Turn Type				Perm			Perm			Perm		
Protected Phases		6			2			8			4	
Permitted Phases				2			8			4		
Actuated Green, G (s)		66.3		66.3	66.3			16.2			16.2	
Effective Green, g (s)		65.8		65.8	65.8			16.2			16.2	
Actuated g/C Ratio		0.73		0.73	0.73			0.18			0.18	
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		3096		165	3118			184			265	
v/s Ratio Prot		0.35			c0.53							
v/s Ratio Perm				0.20				0.10			c0.12	
v/c Ratio		0.49		0.28	0.72			0.57			0.65	
Uniform Delay, d1		5.0		4.1	6.9			33.7			34.3	
Progression Factor		0.31		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.0		4.2	1.5			4.0			5.4	
Delay (s)		1.6		8.3	8.3			37.7			39.6	
Level of Service		A		A	A			D			D	
Approach Delay (s)		1.6			8.3			37.7			39.6	
Approach LOS		A			A			D			D	
Intersection Summary												
HCM Average Control Delay			8.2					HCM Level of Service			A	
HCM Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			90.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			81.5%					ICU Level of Service			D	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00		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)	1490	2980	1333	1490	2975		1490	4264		1490	4216	
Flt Permitted	0.13	1.00	1.00	0.13	1.00		0.13	1.00		0.13	1.00	
Satd. Flow (perm)	208	2980	1333	198	2975		211	4264		200	4216	
Volume (vph)	67	976	61	178	1649	22	90	1682	50	141	2213	255
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	71	1027	64	187	1736	23	95	1771	53	148	2329	268
RTOR Reduction (vph)	0	0	18	0	1	0	0	3	0	0	15	0
Lane Group Flow (vph)	71	1027	46	187	1758	0	95	1821	0	148	2582	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	34.7	29.2	34.6	37.7	30.7		34.2	28.8		37.4	30.4	
Effective Green, g (s)	35.7	30.2	35.6	38.7	31.7		35.2	29.8		38.4	31.4	
Actuated g/C Ratio	0.40	0.34	0.40	0.43	0.35		0.39	0.33		0.43	0.35	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	161	1000	587	186	1048		159	1412		186	1471	
v/s Ratio Prot	0.03	0.34	0.00	c0.08	c0.59		0.04	0.43		c0.06	c0.61	
v/s Ratio Perm	0.15		0.03	0.35			0.20			0.28		
v/c Ratio	0.44	1.03	0.08	1.01	1.68		0.60	1.29		0.80	1.76	
Uniform Delay, d1	22.3	29.9	17.0	21.5	29.1		22.8	30.1		42.5	29.3	
Progression Factor	0.57	0.73	0.59	1.00	1.00		1.55	0.36		1.78	1.51	
Incremental Delay, d2	1.2	29.7	0.0	67.4	308.9		0.5	130.7		2.2	340.1	
Delay (s)	13.9	51.6	10.0	88.9	338.1		35.8	141.6		77.9	384.4	
Level of Service	B	D	A	F	F		D	F		E	F	
Approach Delay (s)		47.0			314.1			136.3			367.8	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	249.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	136.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑		↖	↑↑↗		↖	↑↑↗	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2980	1333	1490	2971		1490	4252		1490	4280	
Flt Permitted	0.11	1.00	1.00	0.10	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	179	2980	1333	161	2971		161	4252		161	4280	
Volume (vph)	22	1064	174	146	1519	34	92	1938	95	75	2236	7
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	1086	178	149	1550	35	94	1978	97	77	2282	7
RTOR Reduction (vph)	0	0	9	0	1	0	0	6	0	0	1	0
Lane Group Flow (vph)	22	1086	169	149	1584	0	94	2069	0	77	2288	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm		Perm		
Protected Phases		8		7	4			6			2	
Permitted Phases	8		8	4		6				2		
Actuated Green, G (s)	34.0	34.0	34.0	42.0	42.0	38.0	38.0			38.0	38.0	
Effective Green, g (s)	35.0	35.0	35.0	43.0	43.0	39.0	39.0			39.0	39.0	
Actuated g/C Ratio	0.39	0.39	0.39	0.48	0.48	0.43	0.43			0.43	0.43	
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0			5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	70	1159	518	136	1419	70	1843			70	1855	
v/s Ratio Prot		0.36		0.05	c0.53		0.49				0.53	
v/s Ratio Perm	0.12		0.13	0.48		c0.58				0.48		
v/c Ratio	0.31	0.94	0.33	1.10	1.12	1.34	1.12			1.10	1.23	
Uniform Delay, d1	19.1	26.4	19.2	21.6	23.5	25.5	25.5			25.5	25.5	
Progression Factor	0.86	0.92	0.81	1.00	1.00	1.00	1.00			2.03	1.90	
Incremental Delay, d2	7.5	10.9	1.1	105.1	62.5	223.7	63.1			63.1	105.6	
Delay (s)	24.0	35.3	16.8	126.7	86.0	249.2	88.6			115.0	154.0	
Level of Service	C	D	B	F	F	F	F			F	F	
Approach Delay (s)		32.5			89.5		95.5				152.8	
Approach LOS		C			F		F				F	

Intersection Summary

HCM Average Control Delay	101.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	132.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.99			0.99		1.00	1.00		1.00	0.99	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2942			2942		1490	4276		1490	4239	
Flt Permitted		1.00			1.00		0.19	1.00		0.19	1.00	
Satd. Flow (perm)		2942			2942		300	4276		300	4239	
Volume (vph)	0	719	67	0	1217	113	59	1978	20	177	2169	157
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	726	68	0	1229	114	60	1998	20	179	2191	159
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	13	0
Lane Group Flow (vph)	0	794	0	0	1343	0	60	2017	0	179	2337	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		8		4		4		6		2		
Permitted Phases		8		4		6		2				
Actuated Green, G (s)		30.2		30.2		20.2		20.2		20.2		20.2
Effective Green, g (s)		31.1		31.1		20.9		20.9		20.9		20.9
Actuated g/C Ratio		0.52		0.52		0.35		0.35		0.35		0.35
Clearance Time (s)		4.9		4.9		4.7		4.7		4.7		4.7
Vehicle Extension (s)		3.0		3.0		3.0		3.0		3.0		3.0
Lane Grp Cap (vph)		1525		1525		105		1489		105		1477
v/s Ratio Prot		0.27		c0.46				0.47				0.55
v/s Ratio Perm						0.20				c0.60		
v/c Ratio		0.52		0.88		0.57		1.35		1.70		1.58
Uniform Delay, d1		9.5		12.8		15.9		19.6		19.6		19.6
Progression Factor		1.00		1.00		1.00		1.00		1.00		1.00
Incremental Delay, d2		0.3		6.3		20.6		164.0		354.3		265.3
Delay (s)		9.9		19.1		36.6		183.5		373.8		284.8
Level of Service		A		B		D		F		F		F
Approach Delay (s)		9.9		19.1				179.3				291.1
Approach LOS		A		B				F				F

Intersection Summary

HCM Average Control Delay	169.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		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	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4118		1489	4243		1490	4230		1490	4154	
Flt Permitted	0.14	1.00		0.13	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	216	4118		206	4243		202	4230		1490	4154	
Volume (vph)	97	1227	183	172	1887	67	150	1816	103	205	1734	225
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	98	1239	185	174	1906	68	152	1834	104	207	1752	227
RTOR Reduction (vph)	0	22	0	0	4	0	0	7	0	0	18	0
Lane Group Flow (vph)	98	1402	0	174	1970	0	152	1931	0	207	1961	0
Conf. Peds. (#/hr)	96		120	120		96	89		58	58		89
Conf. Bikes (#/hr)			8			5			3			4
Turn Type	pm+pt		pm+pt		pm+pt		Prot					
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		2		8							
Actuated Green, G (s)	35.0	29.0		38.0	30.5		38.5	31.0		7.5	31.0	
Effective Green, g (s)	34.5	29.0		37.5	30.5		38.0	31.0		7.0	31.0	
Actuated g/C Ratio	0.38	0.32		0.42	0.34		0.42	0.34		0.08	0.34	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	161	1327		186	1438		185	1457		116	1431	
v/s Ratio Prot	0.04	0.34		c0.07	c0.46		0.06	0.46		c0.14	c0.47	
v/s Ratio Perm	0.20		0.32		0.28							
v/c Ratio	0.61	1.06		0.94	1.37		0.82	1.33		1.78	1.37	
Uniform Delay, d1	42.5	30.5		20.9	29.8		42.6	29.5		41.5	29.5	
Progression Factor	1.39	0.71		1.41	0.82		1.78	0.85		1.00	1.00	
Incremental Delay, d2	6.0	40.5		37.3	169.6		15.5	149.4		385.4	171.1	
Delay (s)	65.0	62.0		66.9	194.1		91.1	174.3		426.9	200.6	
Level of Service	E	E		E	F		F	F		F	F	
Approach Delay (s)		62.2			183.8			168.3			222.0	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	166.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	123.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			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		0.94			0.98		1.00	1.00		1.00	1.00	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1454			1509		1490	4271		1490	4258	
Flt Permitted		0.93			0.89		0.07	1.00		0.07	1.00	
Satd. Flow (perm)		1363			1358		115	4271		115	4258	
Volume (vph)	22	59	57	80	179	47	79	1987	27	9	2040	66
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	23	61	59	82	185	48	81	2048	28	9	2103	68
RTOR Reduction (vph)	0	1	0	0	1	0	0	1	0	0	3	0
Lane Group Flow (vph)	0	142	0	0	314	0	81	2075	0	9	2168	0
Conf. Peds. (#/hr)	6		10	10		6	21		10	10		5
Conf. Bikes (#/hr)			2			2			2			
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		26.5			26.5		54.0	54.0		54.0	54.0	
Effective Green, g (s)		27.5			27.5		54.5	54.5		54.5	54.5	
Actuated g/C Ratio		0.31			0.31		0.61	0.61		0.61	0.61	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		416			415		70	2586		70	2578	
v/s Ratio Prot								0.49			0.51	
v/s Ratio Perm		0.10			c0.23		c0.70			0.08		
v/c Ratio		0.34			0.76		1.16	0.80		0.13	0.84	
Uniform Delay, d1		24.2			28.2		17.8	13.6		7.6	14.3	
Progression Factor		1.00			1.00		1.00	1.00		0.50	0.83	
Incremental Delay, d2		0.5			7.7		156.4	2.7		0.3	0.3	
Delay (s)		24.7			35.9		174.1	16.4		4.1	12.1	
Level of Service		C			D		F	B		A	B	
Approach Delay (s)		24.7			35.9			22.3			12.1	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM Average Control Delay			18.6				HCM Level of Service			B		
HCM Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			93.5%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑		↔	↑↑↑		↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Fr _t	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4260		1490	4252		1490	4268		1490	4228	
Fl _t Permitted	0.11	1.00		0.10	1.00		0.95	1.00		0.12	1.00	
Satd. Flow (perm)	180	4260		161	4252		1490	4268		196	4228	
Volume (vph)	125	1403	52	95	1719	86	121	1908	42	138	2019	185
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	1493	55	101	1829	91	129	2030	45	147	2148	197
RTOR Reduction (vph)	0	4	0	0	5	0	0	2	0	0	11	0
Lane Group Flow (vph)	133	1544	0	101	1915	0	129	2073	0	147	2334	0
Turn Type	Perm		pm+pt			Prot			pm+pt			
Protected Phases	8		7			5			1			
Permitted Phases	8		4			2			6			
Actuated Green, G (s)	33.5	33.5	45.6		45.6	9.0	30.6	39.6		30.6		
Effective Green, g (s)	34.9	34.9	47.0		47.0	9.0	32.0	41.0		32.0		
Actuated g/C Ratio	0.35	0.35	0.47		0.47	0.09	0.32	0.41		0.32		
Clearance Time (s)	5.4	5.4	4.0		5.4	4.0	5.4	4.0		5.4		
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0	3.0	4.0		3.0		
Lane Grp Cap (vph)	63	1487	183		1998	134	1366	197		1353		
v/s Ratio Prot	0.36		0.04		c0.45	c0.09		0.07		c0.55		
v/s Ratio Perm	c0.74		0.21			0.49			0.24			
v/c Ratio	2.11	1.04	0.55		0.96	0.96	1.52	0.75		1.73		
Uniform Delay, d ₁	32.5	32.5	20.3		25.6	45.3	34.0	45.9		34.0		
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00		
Incremental Delay, d ₂	549.4	33.9	3.6		12.4	65.9	236.7	15.1		329.4		
Delay (s)	582.0	66.5	23.9		38.0	111.2	270.7	61.0		363.4		
Level of Service	F	E	C		D	F	F	E		F		
Approach Delay (s)	107.3		37.3			261.4			345.6			
Approach LOS	F		D			F			F			

Intersection Summary

HCM Average Control Delay	201.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	122.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↙	↑↑↑			↑↑↑			↑	↗		↕		
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0		
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00		
Frbp, ped/bikes	1.00	1.00			0.99			1.00	0.97		0.98		
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00		0.99		
Frt	1.00	1.00			1.00			1.00	0.85		0.95		
Flt Protected	0.95	1.00			1.00			0.99	1.00		0.98		
Satd. Flow (prot)	1490	4245			4207			1557	1287		1415		
Flt Permitted	0.06	1.00			1.00			0.96	1.00		0.81		
Satd. Flow (perm)	99	4245			4207			1509	1287		1169		
Volume (vph)	83	1188	36	0	2104	71	10	77	40	88	23	72	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	86	1225	37	0	2169	73	10	79	41	91	24	74	
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	32	0	2	0	
Lane Group Flow (vph)	86	1260	0	0	2239	0	0	89	9	0	187	0	
Conf. Peds. (#/hr)	151		56	56		151	25		19	19		25	
Conf. Bikes (#/hr)			4			7			1			1	
Turn Type	Perm			Perm			Perm		Perm		Perm		
Protected Phases	6			2			8		8		4		
Permitted Phases	6						8		8		4		
Actuated Green, G (s)	63.6	63.6			63.6			18.9	18.9		18.9		
Effective Green, g (s)	63.1	63.1			63.1			18.9	18.9		18.9		
Actuated g/C Ratio	0.70	0.70			0.70			0.21	0.21		0.21		
Clearance Time (s)	3.5	3.5			3.5			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	2976			2950			317	270		245		
v/s Ratio Prot		0.30			0.53								
v/s Ratio Perm	c0.86						0.06		0.01		c0.16		
v/c Ratio	1.25	0.42			0.76			0.28	0.03		0.76		
Uniform Delay, d1	13.4	5.7			8.6			29.8	28.3		33.4		
Progression Factor	1.47	1.17			0.97			1.00	1.00		1.00		
Incremental Delay, d2	172.3	0.3			0.2			0.5	0.0		13.1		
Delay (s)	192.1	7.0			8.5			30.3	28.3		46.5		
Level of Service	F	A			A			C	C		D		
Approach Delay (s)		18.8			8.5			29.7			46.5		
Approach LOS		B			A			C			D		
Intersection Summary													
HCM Average Control Delay			14.6									HCM Level of Service	B
HCM Volume to Capacity ratio			1.13										
Actuated Cycle Length (s)			90.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			89.2%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis
 21: Wilshire Blvd & Curson Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↖		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.94			0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00			0.99	
Satd. Flow (prot)	1583	4543		1583	4300	1218		1560			1565	
Flt Permitted	0.08	1.00		0.13	1.00	1.00		0.91			0.70	
Satd. Flow (perm)	133	4543		220	4300	1218		1426			1109	
Volume (vph)	44	1228	12	64	1825	136	26	174	162	119	251	232
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	51	1411	14	74	2098	156	30	200	186	137	289	267
RTOR Reduction (vph)	0	1	0	0	0	69	0	23	0	0	4	0
Lane Group Flow (vph)	51	1424	0	74	2098	87	0	393	0	0	689	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	6			2			8				4	
Permitted Phases	6			2			8				4	
Actuated Green, G (s)	50.0	50.0		50.0	50.0	50.0		32.0			32.0	
Effective Green, g (s)	50.0	50.0		50.0	50.0	50.0		32.0			32.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56		0.36			0.36	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	74	2524		122	2389	677		507			394	
v/s Ratio Prot	0.31			c0.49								
v/s Ratio Perm	0.38			0.34		0.07		0.28			c0.62	
v/c Ratio	0.69	0.56		0.61	0.88	0.13		0.78			1.75	
Uniform Delay, d1	14.4	12.9		13.4	17.4	9.6		25.8			29.0	
Progression Factor	1.85	1.98		0.93	1.02	1.22		1.00			1.00	
Incremental Delay, d2	39.3	0.9		14.0	3.4	0.3		7.3			347.4	
Delay (s)	65.9	26.5		26.4	21.0	12.0		33.1			376.4	
Level of Service	E	C		C	C	B		C			F	
Approach Delay (s)	27.9			20.6				33.1			376.4	
Approach LOS	C			C				C			F	

Intersection Summary

HCM Average Control Delay	74.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.86	
Flt Protected	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	4533		1583	4550	1442	
Flt Permitted	1.00		0.17	1.00	1.00	
Satd. Flow (perm)	4533		284	4550	1442	
Volume (vph)	1202	30	106	2182	0	28
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1265	32	112	2297	0	29
RTOR Reduction (vph)	2	0	0	0	20	0
Lane Group Flow (vph)	1295	0	112	2297	9	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2785		175	2796	428	
v/s Ratio Prot	0.29			c0.50	c0.01	
v/s Ratio Perm			0.39			
v/c Ratio	0.46		0.64	0.82	0.02	
Uniform Delay, d1	9.4		11.0	13.5	22.4	
Progression Factor	1.00		1.22	1.32	1.00	
Incremental Delay, d2	0.6		5.1	0.8	0.0	
Delay (s)	9.9		18.5	18.7	22.4	
Level of Service	A		B	B	C	
Approach Delay (s)	9.9			18.7	22.4	
Approach LOS	A			B	C	

Intersection Summary

HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘	↗↗	↘	↘	↗↗	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3128	3128
Flt Permitted	0.12	1.00	1.00	0.12	1.00	1.00	0.14	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	208	3167	1417	194	3167	1417	238	3167	1417	208	3128	3128
Volume (vph)	71	926	99	222	1560	121	88	963	111	111	1423	125
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	72	945	101	227	1592	123	90	983	113	113	1452	128
RTOR Reduction (vph)	0	0	22	0	0	6	0	0	78	0	8	0
Lane Group Flow (vph)	72	945	79	227	1592	117	90	983	35	113	1572	0
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt		
Protected Phases		6		5		2	7		8		7	4
Permitted Phases	6		6	2		2	8		8		4	
Actuated Green, G (s)	31.0	31.0	31.0	43.0	43.0	48.7	28.1	28.1	28.1	37.0	37.0	37.0
Effective Green, g (s)	32.0	32.0	32.0	44.0	44.0	50.0	28.0	28.0	28.0	38.0	38.0	38.0
Actuated g/C Ratio	0.36	0.36	0.36	0.49	0.49	0.56	0.31	0.31	0.31	0.42	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	5.0
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	4.5
Lane Grp Cap (vph)	74	1126	504	218	1548	850	74	985	441	179	1321	1321
v/s Ratio Prot		0.30		0.09	c0.50	0.01		0.31		0.04	c0.50	
v/s Ratio Perm	0.35		0.06	c0.42		0.07	0.38		0.02	0.22		
v/c Ratio	0.97	0.84	0.16	1.04	1.03	0.14	1.22	1.00	0.08	0.63	1.19	1.19
Uniform Delay, d1	28.6	26.6	19.8	20.7	23.0	9.6	31.0	31.0	21.9	20.1	26.0	26.0
Progression Factor	1.00	1.00	1.00	2.10	0.31	0.35	0.49	0.48	0.13	0.67	0.43	0.43
Incremental Delay, d2	97.3	7.6	0.7	30.1	15.8	0.0	108.4	8.1	0.0	0.7	86.4	86.4
Delay (s)	125.9	34.2	20.5	73.6	22.9	3.4	123.5	23.0	2.9	14.2	97.7	97.7
Level of Service	F	C	C	E	C	A	F	C	A	B	F	F
Approach Delay (s)		38.9			27.6			28.7			92.2	
Approach LOS		D			C			C			F	

Intersection Summary

HCM Average Control Delay	48.3	HCM Level of Service	D
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕	↗	↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Fr _t	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Fl _t Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3143		1583	3167	1417	1583	3119		1583	3148	
Fl _t Permitted	0.11	1.00		0.25	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	190	3143		415	3167	1417	230	3119		202	3148	
Volume (vph)	105	638	33	138	1634	174	72	1055	119	214	1451	60
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	117	709	37	153	1816	193	80	1172	132	238	1612	67
RTOR Reduction (vph)	0	4	0	0	0	27	0	9	0	0	3	0
Lane Group Flow (vph)	117	742	0	153	1816	166	80	1295	0	238	1676	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	38.9	33.1		38.9	33.1	38.9	27.1	27.1		36.1	36.1	
Effective Green, g (s)	40.0	35.0		40.0	35.0	40.0	29.0	29.0		38.0	38.0	
Actuated g/C Ratio	0.44	0.39		0.44	0.39	0.44	0.32	0.32		0.42	0.42	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	162	1222		249	1232	693	74	1005		162	1329	
v/s Ratio Prot	c0.04	0.24		0.03	c0.57	0.01		0.42		0.08	c0.53	
v/s Ratio Perm	0.28			0.24		0.10	0.35			c0.54		
v/c Ratio	0.72	0.61		0.61	1.47	0.24	1.08	1.29		1.47	1.26	
Uniform Delay, d ₁	43.3	22.0		16.9	27.5	15.5	30.5	30.5		44.7	26.0	
Progression Factor	1.00	1.00		0.61	0.81	0.73	1.46	1.46		0.93	0.53	
Incremental Delay, d ₂	14.7	2.2		2.2	215.5	0.1	125.8	136.8		214.2	117.9	
Delay (s)	58.0	24.2		12.5	237.9	11.4	170.2	181.5		255.9	131.8	
Level of Service	E	C		B	F	B	F	F		F	F	
Approach Delay (s)		28.8			201.7			180.8			147.2	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	157.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.94	1.00	1.00	0.91	1.00	0.99	
Flpb, ped/bikes	0.98	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1551	1633		3072	1667	1337	1583	3167	1287	1554	3087	
Flt Permitted	0.41	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	669	1633		3072	1667	1337	142	3167	1287	402	3087	
Volume (vph)	19	267	35	346	479	107	10	850	92	45	1385	127
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	20	278	36	360	499	111	10	885	96	47	1443	132
RTOR Reduction (vph)	0	5	0	0	0	59	0	0	0	0	8	0
Lane Group Flow (vph)	20	309	0	360	499	52	10	885	96	47	1567	0
Conf. Peds. (#/hr)	28		6	6		28	43		36	36		43
Conf. Bikes (#/hr)			4			1			5			7
Turn Type	Perm			Prot		Perm	Perm		pm+ov		Perm	
Protected Phases		8		7	4			6	7			2
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	20.2	20.2		10.0	34.2	34.2	46.2	46.2	56.2	46.2	46.2	
Effective Green, g (s)	21.0	21.0		10.0	35.0	35.0	47.0	47.0	57.0	47.0	47.0	
Actuated g/C Ratio	0.23	0.23		0.11	0.39	0.39	0.52	0.52	0.63	0.52	0.52	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	156	381		341	648	520	74	1654	872	210	1612	
v/s Ratio Prot		0.19		c0.12	c0.30			0.28	0.01		c0.51	
v/s Ratio Perm	0.03					0.04	0.07		0.06	0.12		
v/c Ratio	0.13	0.81		1.06	0.77	0.10	0.14	0.54	0.11	0.22	0.97	
Uniform Delay, d1	27.3	32.6		40.0	24.0	17.5	11.1	14.3	6.5	11.6	20.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.28	0.25	0.21	0.20	0.42	
Incremental Delay, d2	1.7	16.8		64.2	8.6	0.4	0.3	0.1	0.0	0.2	2.9	
Delay (s)	29.0	49.4		104.2	32.6	17.9	3.5	3.6	1.4	2.5	11.5	
Level of Service	C	D		F	C	B	A	A	A	A	B	
Approach Delay (s)		48.2			57.5			3.4			11.3	
Approach LOS		D			E			A			B	

Intersection Summary

HCM Average Control Delay	23.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕↕↕		↘	↕↕↕		↘	↕↕		↘	↕↕	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	1.00	0.84
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		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4520		1579	4504		1583	3064		1583	3167	1183
Flt Permitted	0.14	1.00		0.14	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	237	4520		237	4504		222	3064		1583	3167	1183
Volume (vph)	139	1027	21	103	1903	42	218	1159	82	169	1620	290
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	148	1093	22	110	2024	45	232	1233	87	180	1723	309
RTOR Reduction (vph)	0	2	0	0	3	0	0	6	0	0	0	121
Lane Group Flow (vph)	148	1113	0	110	2066	0	232	1314	0	180	1723	188
Conf. Peds. (#/hr)	227		147	147		227	142		181	181		142
Conf. Bikes (#/hr)			2			6			8			6
Turn Type	pm+pt			pm+pt			pm+pt			Prot		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					4
Actuated Green, G (s)	33.9	27.1		33.7	27.0		35.8	29.0		10.8	33.0	33.0
Effective Green, g (s)	34.1	28.1		33.9	28.0		36.0	30.0		10.0	34.0	34.0
Actuated g/C Ratio	0.38	0.31		0.38	0.31		0.40	0.33		0.11	0.38	0.38
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	180	1411		177	1401		180	1021		176	1196	447
v/s Ratio Prot	c0.05	0.25		0.04	c0.46		c0.09	0.43		0.11	c0.54	
v/s Ratio Perm	0.26			0.19			0.43					0.16
v/c Ratio	0.82	0.79		0.62	1.47		1.29	1.29		1.02	1.44	0.42
Uniform Delay, d1	43.2	28.2		20.2	31.0		44.2	30.0		40.0	28.0	20.7
Progression Factor	1.17	1.15		1.00	1.00		1.53	0.87		0.82	1.30	1.93
Incremental Delay, d2	19.5	3.4		6.6	217.6		158.2	135.0		56.0	200.9	1.6
Delay (s)	70.0	35.9		26.8	248.6		225.9	161.2		88.7	237.3	41.5
Level of Service	E	D		C	F		F	F		F	F	D
Approach Delay (s)		39.9			237.4			170.9			197.9	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM Average Control Delay	176.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	127.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.99	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Frt			0.86	1.00	0.94	0.85		0.98		1.00	1.00	
Flt Protected			1.00	0.95	0.97	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1412	1502	1361	1303		3074		1583	3167	
Flt Permitted			1.00	0.95	0.97	1.00		1.00		0.11	1.00	
Satd. Flow (perm)			1412	1502	1361	1303		3074		191	3167	
Volume (vph)	0	0	17	198	0	215	0	1183	177	120	1218	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	18	208	0	226	0	1245	186	126	1282	0
RTOR Reduction (vph)	0	0	17	0	30	128	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	1	124	116	36	0	1420	0	126	1282	0
Conf. Peds. (#/hr)	11		1	1		11	8		23	23		8
Conf. Bikes (#/hr)						5			5			1
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			2.2	18.9	18.9	18.9		54.5		54.5	54.5	
Effective Green, g (s)			3.1	19.8	19.8	19.8		55.1		55.1	55.1	
Actuated g/C Ratio			0.03	0.22	0.22	0.22		0.61		0.61	0.61	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			49	330	299	287		1882		117	1939	
v/s Ratio Prot								0.46			0.40	
v/s Ratio Perm			c0.00	0.08	0.08	0.03				c0.66		
v/c Ratio			0.01	0.38	0.39	0.13		0.75		1.08	0.66	
Uniform Delay, d1			42.0	29.8	29.9	28.2		12.6		17.4	11.4	
Progression Factor			1.00	1.00	1.00	1.00		1.00		1.54	0.89	
Incremental Delay, d2			0.1	0.7	0.8	0.2		2.9		48.5	0.2	
Delay (s)			42.1	30.6	30.8	28.4		15.4		75.3	10.3	
Level of Service			D	C	C	C		B		E	B	
Approach Delay (s)		42.1			29.8			15.4			16.1	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM Average Control Delay			17.8									HCM Level of Service B
HCM Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			77.0%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↔	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.99			0.96		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4490			4369		1583	5733			5733	
Flt Permitted		1.00			1.00		0.17	1.00			1.00	
Satd. Flow (perm)		4490			4369		284	5733			5733	
Volume (vph)	0	1448	141	0	1812	652	179	1482	0	0	1401	0
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	1463	142	0	1830	659	181	1497	0	0	1415	0
RTOR Reduction (vph)	0	12	0	0	65	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1593	0	0	2424	0	181	1497	0	0	1415	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1033			1005		67	1347			1347	
v/s Ratio Prot		0.35			c0.55			0.26			0.25	
v/s Ratio Perm							c0.64					
v/c Ratio		1.54			2.41		2.70	1.11			1.05	
Uniform Delay, d1		38.5			38.5		38.2	38.2			38.2	
Progression Factor		0.69			1.00		1.00	1.00			0.59	
Incremental Delay, d2		244.6			638.6		806.2	61.1			25.0	
Delay (s)		271.1			677.1		844.4	99.3			47.6	
Level of Service		F			F		F	F			D	
Approach Delay (s)		271.1			677.1			179.7			47.6	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	346.4	HCM Level of Service	F
HCM Volume to Capacity ratio	2.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	53.5
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↗		↘	↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3166		1583	3136	
Flt Permitted	0.17	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	284	5733	1417		4550	1417		3166		1583	3136	
Volume (vph)	132	1094	40	0	1809	359	0	909	2	263	1216	84
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	136	1128	41	0	1865	370	0	937	2	271	1254	87
RTOR Reduction (vph)	0	0	31	0	0	214	0	0	0	0	5	0
Lane Group Flow (vph)	136	1128	10	0	1865	156	0	939	0	271	1336	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	67	1347	333		1069	333		1029		79	1019	
v/s Ratio Prot		0.20			0.41			0.30		c0.17	c0.43	
v/s Ratio Perm	c0.48		0.01			0.11						
v/c Ratio	2.03	0.84	0.03		1.74	0.47		0.91		3.43	1.31	
Uniform Delay, d1	38.2	36.4	29.5		38.2	32.9		32.4		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.96	1.32		0.20		1.00	1.00	
Incremental Delay, d2	511.4	6.3	0.2		335.4	0.4		7.0		1124.9	147.2	
Delay (s)	549.7	42.8	29.6		372.3	43.8		13.5		1172.4	180.9	
Level of Service	F	D	C		F	D		B		F	F	
Approach Delay (s)		95.2			317.9			13.5			347.6	
Approach LOS		F			F			B			F	

Intersection Summary

HCM Average Control Delay	231.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	1.00			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4541		1583	4549		1583	3159			3034	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4541		290	4549		1583	3159			3034	
Volume (vph)	25	1558	22	55	1762	2	55	888	14	0	870	337
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	26	1590	22	56	1798	2	56	906	14	0	888	344
RTOR Reduction (vph)	0	2	0	0	0	0	0	1	0	0	41	0
Lane Group Flow (vph)	26	1610	0	56	1800	0	56	919	0	0	1192	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1044		67	1046		79	1027			986	
v/s Ratio Prot		0.35			c0.40		c0.04	0.29			c0.39	
v/s Ratio Perm	0.09			0.19								
v/c Ratio	0.39	1.54		0.84	1.72		0.71	0.89			1.21	
Uniform Delay, d1	32.6	38.5		36.7	38.5		46.8	32.1			33.8	
Progression Factor	1.00	1.00		0.70	0.69		1.00	1.00			0.29	
Incremental Delay, d2	16.1	249.0		10.7	324.7		25.1	11.9			94.7	
Delay (s)	48.6	287.5		36.4	351.3		71.9	44.0			104.5	
Level of Service	D	F		D	F		E	D			F	
Approach Delay (s)		283.7			341.8			45.6			104.5	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	223.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖	↖	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3124		1583	3149		1583	3167	1417	1583	3167	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	222	3124		222	3149		1583	3167	1417	1583	3167	1417
Volume (vph)	70	927	92	121	1538	58	148	936	143	43	858	171
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	72	956	95	125	1586	60	153	965	147	44	885	176
RTOR Reduction (vph)	0	8	0	0	3	0	0	0	77	0	0	27
Lane Group Flow (vph)	72	1043	0	125	1643	0	153	965	70	44	885	149
Turn Type	Perm			Perm			Prot		Perm	Prot		Perm
Protected Phases	6			2			3		8	7		4
Permitted Phases	6			2					8			4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		10.0	41.6	41.6	5.4	37.0	37.0
Effective Green, g (s)	30.0	30.0		30.0	30.0		10.0	42.6	42.6	5.4	38.0	38.0
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.11	0.47	0.47	0.06	0.42	0.42
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	74	1041		74	1050		176	1499	671	95	1337	598
v/s Ratio Prot		0.33			0.52		c0.10	c0.30		0.03	0.28	
v/s Ratio Perm	0.32			c0.56					0.05			0.11
v/c Ratio	0.97	1.00		1.69	1.57		0.87	0.64	0.10	0.46	0.66	0.25
Uniform Delay, d1	29.6	30.0		30.0	30.0		39.4	18.0	13.1	40.9	20.8	16.8
Progression Factor	0.53	0.54		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.5	8.8		361.3	258.9		33.6	2.1	0.3	3.5	2.6	1.0
Delay (s)	41.1	25.0		391.3	288.9		73.0	20.1	13.4	44.4	23.4	17.8
Level of Service	D	C		F	F		E	C	B	D	C	B
Approach Delay (s)		26.0			296.2			25.7			23.4	
Approach LOS		C			F			C			C	

Intersection Summary

HCM Average Control Delay	116.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑↑			↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	1.00			0.96			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	4503		1583	4543			3037			3069	
Flt Permitted	0.09	1.00		0.15	1.00			1.00			0.65	
Satd. Flow (perm)	152	4503		254	4543			3037			2008	
Volume (vph)	66	1091	81	299	2007	21	0	509	191	133	918	218
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	71	1173	87	322	2158	23	0	547	205	143	987	234
RTOR Reduction (vph)	0	9	0	0	1	0	0	25	0	0	1	0
Lane Group Flow (vph)	71	1251	0	322	2180	0	0	727	0	0	1363	0
Turn Type	Perm		Perm						Perm			
Protected Phases	6		2				8				4	
Permitted Phases	6		2								4	
Actuated Green, G (s)	42.3	42.3		42.3	42.3			36.0			36.0	
Effective Green, g (s)	44.0	44.0		44.0	44.0			38.0			38.0	
Actuated g/C Ratio	0.49	0.49		0.49	0.49			0.42			0.42	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	74	2201		124	2221			1282			848	
v/s Ratio Prot		0.28			0.48			0.24				
v/s Ratio Perm	0.47			c1.27							c0.68	
v/c Ratio	0.96	0.57		2.60	0.98			0.57			1.61	
Uniform Delay, d1	22.1	16.3		23.0	22.6			19.8			26.0	
Progression Factor	0.43	0.50		0.61	0.51			1.00			1.00	
Incremental Delay, d2	50.7	0.4		720.7	2.9			0.6			278.7	
Delay (s)	60.3	8.5		734.8	14.4			20.3			304.7	
Level of Service	E	A		F	B			C			F	
Approach Delay (s)		11.3			107.1			20.3			304.7	
Approach LOS		B			F			C			F	

Intersection Summary

HCM Average Control Delay	120.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.14		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	128.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4471		1583	4479		1583	4475		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	215	4471		215	4479		1583	4475		1583	4550	1417
Volume (vph)	53	1150	150	110	1674	194	484	1286	158	278	1132	186
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	57	1237	161	118	1800	209	520	1383	170	299	1217	200
RTOR Reduction (vph)	0	18	0	0	16	0	0	17	0	0	0	3
Lane Group Flow (vph)	57	1380	0	118	1993	0	520	1536	0	299	1217	197
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	29.0	29.0		29.0	29.0		14.0	31.0		15.0	31.0	31.0
Effective Green, g (s)	31.0	31.0		31.0	31.0		15.0	32.0		15.0	32.0	32.0
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.17	0.36		0.17	0.36	0.36
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1540		74	1543		264	1591		264	1618	504
v/s Ratio Prot		0.31			0.45		c0.33			0.19	0.27	
v/s Ratio Perm	0.27			c0.55			c0.34					0.14
v/c Ratio	0.77	0.90		1.59	1.29		1.97	0.97		1.13	0.75	0.39
Uniform Delay, d1	26.3	28.0		29.5	29.5		37.5	28.5		37.5	25.5	21.7
Progression Factor	1.00	1.00		0.44	0.42		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	53.7	8.5		273.3	131.8		449.8	15.7		95.9	3.3	2.3
Delay (s)	80.0	36.5		286.4	144.2		487.3	44.2		133.4	28.8	24.0
Level of Service	F	D		F	F		F	D		F	C	C
Approach Delay (s)		38.2			152.1			155.3			46.5	
Approach LOS		D			F			F			D	

Intersection Summary

HCM Average Control Delay	105.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	1.00
Satd. Flow (prot)	1583	4530		1565	4521			1592			1657	1364
Flt Permitted	0.06	1.00		0.16	1.00			0.94			0.97	1.00
Satd. Flow (perm)	98	4530		262	4521			1505			1611	1364
Volume (vph)	84	1230	21	26	1961	47	27	165	48	17	200	101
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	93	1367	23	29	2179	52	30	183	53	19	222	112
RTOR Reduction (vph)	0	2	0	0	3	0	0	9	0	0	0	8
Lane Group Flow (vph)	93	1388	0	29	2228	0	0	257	0	0	241	104
Confl. Peds. (#/hr)	47		44	44		47	18		31	31		18
Confl. Bikes (#/hr)			3			2			4			1
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	67	3080		178	3074			361			387	327
v/s Ratio Prot		0.31			0.49							
v/s Ratio Perm	c0.95			0.11				c0.17			0.15	0.08
v/c Ratio	1.39	0.45		0.16	0.72			0.71			0.62	0.32
Uniform Delay, d1	16.0	7.4		5.8	10.1			34.8			34.0	31.3
Progression Factor	0.79	0.37		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	206.3	0.2		2.0	1.5			11.3			7.4	2.5
Delay (s)	219.0	3.0		7.7	11.6			46.1			41.3	33.8
Level of Service	F	A		A	B			D			D	C
Approach Delay (s)		16.5			11.6			46.1			38.9	
Approach LOS		B			B			D			D	

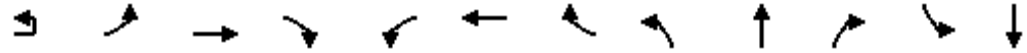
Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑↑↗		↘↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.91	1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	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	0.99		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)	1583	3167	1295	1570	3112		3072	4450		3072	4449	
Flt Permitted	0.11	1.00	1.00	0.33	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	186	3167	1295	541	3112		3072	4450		3072	4449	
Volume (vph)	198	464	43	292	1323	96	176	1333	90	12	2211	216
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	215	504	47	317	1438	104	191	1449	98	13	2403	235
RTOR Reduction (vph)	0	0	33	0	4	0	0	6	0	0	10	0
Lane Group Flow (vph)	215	504	14	317	1538	0	191	1541	0	13	2628	0
Conf. Peds. (#/hr)	63		49	49		63	51		51	51		51
Conf. Bikes (#/hr)			3			3			6			3
Turn Type	pm+pt		Perm	pm+pt		Prot		Prot		Prot		
Protected Phases	1	6		5	2	3	8		7	4		
Permitted Phases	6		6	2								
Actuated Green, G (s)	49.2	34.4	34.4	49.6	34.6	15.2	51.8		1.4	38.0		
Effective Green, g (s)	49.6	35.8	35.8	50.0	36.0	15.2	52.8		1.4	39.0		
Actuated g/C Ratio	0.41	0.30	0.30	0.42	0.30	0.13	0.44		0.01	0.32		
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4	4.0	5.0		4.0	5.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	238	945	386	345	934	389	1958		36	1446		
v/s Ratio Prot	0.10	0.16		c0.11	c0.49	0.06	c0.35		0.00	c0.59		
v/s Ratio Perm	0.27		0.01	0.28								
v/c Ratio	0.90	0.53	0.04	0.92	1.65	0.49	0.79		0.36	1.82		
Uniform Delay, d1	32.5	35.1	29.9	29.0	42.0	48.8	28.8		58.9	40.5		
Progression Factor	1.57	0.72	0.57	1.00	1.00	0.76	0.61		1.26	0.39		
Incremental Delay, d2	27.8	0.4	0.0	28.4	295.7	0.8	2.9		0.6	368.1		
Delay (s)	78.8	25.9	17.2	57.5	337.7	38.1	20.5		74.6	383.9		
Level of Service	E	C	B	E	F	D	C		E	F		
Approach Delay (s)		40.2			289.9		22.5			382.4		
Approach LOS		D			F		C			F		

Intersection Summary

HCM Average Control Delay	231.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	129.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97	
Frt	1.00		0.99		1.00	1.00	0.85	1.00		0.85	1.00	
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1583		4522		1583	4300	1218	1583		1417	3072	
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (perm)	1583		4522		1583	4300	1218	1583		1417	3072	
Volume (vph)	2	0	596	25	6	1617	844	13	0	13	788	0
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	2	0	641	27	6	1739	908	14	0	14	847	0
RTOR Reduction (vph)	0	0	2	0	0	0	303	0	0	13	0	0
Lane Group Flow (vph)	2	0	666	0	6	1739	605	14	0	1	847	0
Turn Type	Prot				Prot		Perm	Prot			custom	custom
Protected Phases	5		2		1		6			7		
Permitted Phases							6				7	8
Actuated Green, G (s)	3.0		70.2		1.4		67.7			4.4		22.2
Effective Green, g (s)	4.9		71.2		3.3		69.6			5.4		24.1
Actuated g/C Ratio	0.04		0.59		0.03		0.58			0.05		0.20
Clearance Time (s)	5.9		5.0		5.9		5.9			5.0		5.9
Vehicle Extension (s)	3.0		3.0		3.0		3.0			3.0		3.0
Lane Grp Cap (vph)	65		2683		44		2494			71		617
v/s Ratio Prot	0.00		c0.15		0.00		0.40			c0.01		
v/s Ratio Perm							c0.50					0.00 c0.28
v/c Ratio	0.03		0.25		0.14		0.70			0.20		0.01 1.37
Uniform Delay, d1	55.3		11.6		57.0		17.8			21.0		55.2 54.7 48.0
Progression Factor	1.07		1.41		1.08		0.81			3.99		1.00 1.08
Incremental Delay, d2	0.1		0.2		0.1		0.1			1.3		1.4 0.1 172.8
Delay (s)	59.4		16.6		61.6		14.6			85.3		56.6 54.8 224.4
Level of Service	E		B		E		B			F		E D F
Approach Delay (s)			16.7				38.9			55.7		207.3
Approach LOS			B				D			E		F
Intersection Summary												
HCM Average Control Delay			76.3				HCM Level of Service			E		
HCM Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			73.7%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBR
Lane Configurations	8
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	205
Peak-hour factor, PHF	0.93
Adj. Flow (vph)	220
RTOR Reduction (vph)	166
Lane Group Flow (vph)	54
Turn Type	custom
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	22.2
Effective Green, g (s)	24.1
Actuated g/C Ratio	0.20
Clearance Time (s)	5.9
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	285
v/s Ratio Prot	
v/s Ratio Perm	0.04
v/c Ratio	0.19
Uniform Delay, d1	39.8
Progression Factor	3.53
Incremental Delay, d2	0.7
Delay (s)	141.3
Level of Service	F
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.97	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4548			4395	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4548			4395	
Volume (vph)	0	1090	282	0	1575	305	303	1352	4	0	1928	566
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1112	288	0	1607	311	309	1380	4	0	1967	578
RTOR Reduction (vph)	0	0	2	0	0	32	0	0	0	0	2	0
Lane Group Flow (vph)	0	1112	286	0	1607	279	309	1384	0	0	2543	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		39.0	49.0		39.0	39.0	10.0	69.0			53.5	
Effective Green, g (s)		41.0	52.5		41.0	41.0	11.5	71.0			55.5	
Actuated g/C Ratio		0.34	0.44		0.34	0.34	0.10	0.59			0.46	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1959	667		1959	484	152	2691			2033	
v/s Ratio Prot		0.19	0.04		c0.28		c0.20	0.30			c0.58	
v/s Ratio Perm			0.16			0.20						
v/c Ratio		0.57	0.43		0.82	0.58	2.03	0.51			1.25	
Uniform Delay, d1		32.3	23.4		36.1	32.4	54.2	14.4			32.2	
Progression Factor		1.32	1.88		1.00	1.00	1.23	0.77			0.36	
Incremental Delay, d2		0.6	0.2		4.0	4.9	484.0	0.6			113.3	
Delay (s)		43.2	44.1		40.1	37.3	550.9	11.6			124.8	
Level of Service		D	D		D	D	F	B			F	
Approach Delay (s)		43.3			39.7			110.1			124.8	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM Average Control Delay	84.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.95			0.98		1.00	1.00		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1562			1620		1583	4531		1583	4472	
Flt Permitted		0.90			0.92		0.06	1.00		0.11	1.00	
Satd. Flow (perm)		1420			1502		97	4531		182	4472	
Volume (vph)	50	60	63	24	64	12	86	1552	45	71	1791	232
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	63	66	25	67	13	91	1634	47	75	1885	244
RTOR Reduction (vph)	0	17	0	0	5	0	0	2	0	0	14	0
Lane Group Flow (vph)	0	165	0	0	100	0	91	1679	0	75	2115	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.0			30.0		83.4	83.4		83.4	83.4	
Effective Green, g (s)		29.0			29.0		83.0	83.0		83.0	83.0	
Actuated g/C Ratio		0.24			0.24		0.69	0.69		0.69	0.69	
Clearance Time (s)		3.0			3.0		3.6	3.6		3.6	3.6	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		343			363		67	3134		126	3093	
v/s Ratio Prot								0.37			0.47	
v/s Ratio Perm		c0.12			0.07		c0.94			0.41		
v/c Ratio		0.48			0.28		1.36	0.54		0.60	0.68	
Uniform Delay, d1		39.0			37.0		18.5	9.1		9.7	10.8	
Progression Factor		1.00			1.00		1.00	1.00		0.78	0.40	
Incremental Delay, d2		4.7			1.9		232.0	0.7		1.9	0.1	
Delay (s)		43.8			38.9		250.5	9.7		9.4	4.4	
Level of Service		D			D		F	A		A	A	
Approach Delay (s)		43.8			38.9			22.1			4.6	
Approach LOS		D			D			C			A	

Intersection Summary

HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.97		1.00	0.99		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	1.00		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4302		1583	4506		1583	4428		1583	4428	
Flt Permitted	0.11	1.00		0.12	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	191	4302		192	4506		183	4428		193	4428	
Volume (vph)	131	1122	191	123	2066	54	535	1608	213	86	1688	174
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	138	1181	201	129	2175	57	563	1693	224	91	1777	183
RTOR Reduction (vph)	0	23	0	0	3	0	0	17	0	0	12	0
Lane Group Flow (vph)	138	1359	0	129	2229	0	563	1900	0	91	1948	0
Conf. Peds. (#/hr)	151		154	154		151	90		48	48		90
Conf. Bikes (#/hr)			4			7			3			1
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.1	35.4		43.7	35.2		44.5	36.5		40.7	34.6	
Effective Green, g (s)	42.6	34.9		42.2	34.7		43.5	36.5		39.7	34.6	
Actuated g/C Ratio	0.43	0.35		0.42	0.35		0.44	0.36		0.40	0.35	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	189	1501		185	1564		178	1616		148	1532	
v/s Ratio Prot	c0.06	0.32		0.05	c0.49		c0.22	0.43		0.03	0.44	
v/s Ratio Perm	0.26			0.24			c1.16			0.21		
v/c Ratio	0.73	0.91		0.70	1.43		3.16	1.18		0.61	1.27	
Uniform Delay, d1	24.1	31.0		21.2	32.6		48.7	31.8		25.3	32.7	
Progression Factor	1.03	1.18		1.65	1.26		1.84	0.91		1.00	1.00	
Incremental Delay, d2	10.9	8.7		6.4	194.1		979.6	82.3		5.2	127.3	
Delay (s)	35.6	45.2		41.4	235.3		1069.3	111.2		30.5	160.0	
Level of Service	D	D		D	F		F	F		C	F	
Approach Delay (s)		44.3			224.7			328.7			154.3	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	205.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	142.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.96			0.99		1.00	0.99		1.00	0.97	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.95			0.99		1.00	0.99		1.00	0.98	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1504			1588		1583	4459		1583	4356	
Flt Permitted		0.80			0.59		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1211			945		104	4459		104	4356	
Volume (vph)	58	150	128	181	310	50	125	2199	194	20	1751	209
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	61	158	135	191	326	53	132	2315	204	21	1843	220
RTOR Reduction (vph)	0	10	0	0	4	0	0	10	0	0	15	0
Lane Group Flow (vph)	0	344	0	0	566	0	132	2509	0	21	2048	0
Conf. Peds. (#/hr)	39		76	76		39	104		34	34		104
Conf. Bikes (#/hr)			2			2			6			4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		339			265		67	2854		67	2788	
v/s Ratio Prot								0.56			0.47	
v/s Ratio Perm		0.28			c0.60		c1.27			0.20		
v/c Ratio		1.01			2.14		1.97	0.88		0.31	0.73	
Uniform Delay, d1		36.0			36.0		18.0	14.8		8.1	12.2	
Progression Factor		1.00			1.00		1.00	1.00		1.53	1.56	
Incremental Delay, d2		52.6			524.3		485.6	4.3		1.1	0.2	
Delay (s)		88.6			560.3		503.6	19.1		13.5	19.3	
Level of Service		F			F		F	B		B	B	
Approach Delay (s)		88.6			560.3			43.2			19.2	
Approach LOS		F			F			D			B	
Intersection Summary												
HCM Average Control Delay			89.3				HCM Level of Service			F		
HCM Volume to Capacity ratio			2.03									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			126.0%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔	↑↑↑	↔	↔	↑↑↑	↔	↔	↑↑↑	↔	↔	↑↑↑	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91		
Frt	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1583	4486		1583	4536		1583	4532		1583	4453		
Flt Permitted	0.15	1.00		0.13	1.00		0.11	1.00		0.12	1.00		
Satd. Flow (perm)	256	4486		222	4536		188	4532		196	4453		
Volume (vph)	227	1568	163	223	2443	51	179	2158	57	102	1665	276	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	234	1616	168	230	2519	53	185	2225	59	105	1716	285	
RTOR Reduction (vph)	0	14	0	0	2	0	0	3	0	0	17	0	
Lane Group Flow (vph)	234	1770	0	230	2570	0	185	2281	0	105	1984	0	
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt				
Protected Phases	6		5		2		3		8		7		4
Permitted Phases	6		2				8				4		
Actuated Green, G (s)	25.0	25.0		36.0	36.0		41.4	34.4		38.6	33.0		
Effective Green, g (s)	26.0	26.0		37.0	37.0		42.4	35.4		39.6	34.0		
Actuated g/C Ratio	0.29	0.29		0.41	0.41		0.47	0.39		0.44	0.38		
Clearance Time (s)	5.0	5.0		3.5	5.0		4.0	5.0		4.0	5.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	74	1296		197	1865		197	1783		173	1682		
v/s Ratio Prot		0.39		0.09	c0.57		c0.07	c0.50		0.04	0.45		
v/s Ratio Perm	c0.91			0.39			0.37			0.23			
v/c Ratio	3.16	1.37		1.17	1.38		0.94	1.28		0.61	1.18		
Uniform Delay, d1	32.0	32.0		43.7	26.5		43.3	27.3		21.5	28.0		
Progression Factor	0.70	0.69		1.00	1.00		1.68	0.31		1.00	1.00		
Incremental Delay, d2	986.3	166.7		116.6	173.5		8.6	126.1		5.9	87.2		
Delay (s)	1008.7	188.9		160.3	200.0		81.5	134.5		27.4	115.2		
Level of Service	F	F		F	F		F	F		C	F		
Approach Delay (s)		283.9			196.7			130.5			110.8		
Approach LOS		F			F			F			F		

Intersection Summary

HCM Average Control Delay	178.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	135.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑		↗	↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.97		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3087		1583	3124		1583	4510		1583	4472	
Flt Permitted	0.15	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	254	3087		221	3124		202	4510		230	4472	
Volume (vph)	98	903	183	166	1525	149	370	2187	136	87	1707	219
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	101	931	189	171	1572	154	381	2255	140	90	1760	226
RTOR Reduction (vph)	0	19	0	0	1	0	0	8	0	0	10	0
Lane Group Flow (vph)	101	1101	0	171	1725	0	381	2387	0	90	1976	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4		6		2					
Actuated Green, G (s)	25.2	25.2		38.0	38.0		42.0	42.0		28.0	28.0	
Effective Green, g (s)	26.2	26.2		39.0	39.0		43.0	43.0		29.0	29.0	
Actuated g/C Ratio	0.29	0.29		0.43	0.43		0.48	0.48		0.32	0.32	
Clearance Time (s)	5.0	5.0		3.0	5.0		4.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	899		229	1354		250	2155		74	1441	
v/s Ratio Prot		0.36		0.07	c0.55		c0.17	0.53			0.44	
v/s Ratio Perm	0.40			0.25			c0.56			0.39		
v/c Ratio	1.36	1.22		0.75	1.27		1.52	1.11		1.22	1.37	
Uniform Delay, d1	31.9	31.9		41.1	25.5		42.2	23.5		30.5	30.5	
Progression Factor	1.00	1.00		0.74	0.95		1.00	1.00		1.00	0.99	
Incremental Delay, d2	229.3	111.0		1.2	124.0		255.2	55.9		108.4	167.4	
Delay (s)	261.2	142.9		31.6	148.1		297.4	79.4		138.9	197.6	
Level of Service	F	F		C	F		F	E		F	F	
Approach Delay (s)		152.7			137.6			109.3			195.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	145.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	139.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3090		1558	3104		1583	3145		1569	3031	
Flt Permitted	0.06	1.00		0.31	1.00		0.09	1.00		0.12	1.00	
Satd. Flow (perm)	100	3090		503	3104		147	3145		206	3031	
Volume (vph)	80	590	76	76	1475	122	119	848	27	114	822	154
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	90	663	85	85	1657	137	134	953	30	128	924	173
RTOR Reduction (vph)	0	8	0	0	5	0	0	2	0	0	9	0
Lane Group Flow (vph)	90	740	0	85	1789	0	134	981	0	128	1088	0
Conf. Peds. (#/hr)	50		50	50		50	50		50	50		50
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	64.6	64.6		64.6	64.6		44.1	44.1		44.1	44.1	
Effective Green, g (s)	66.5	66.5		66.5	66.5		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.38	0.38		0.38	0.38	
Clearance Time (s)	5.9	5.9		5.9	5.9		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	55	1712		279	1720		56	1192		78	1149	
v/s Ratio Prot		0.24			0.58			0.31			0.36	
v/s Ratio Perm	c0.90			0.17			c0.91			0.62		
v/c Ratio	1.64	0.43		0.30	1.04		2.39	0.82		1.64	0.95	
Uniform Delay, d1	26.8	15.7		14.3	26.8		37.2	33.6		37.2	36.1	
Progression Factor	1.00	1.00		0.40	0.74		1.15	1.14		1.00	1.00	
Incremental Delay, d2	354.4	0.8		0.3	20.3		662.7	4.6		338.8	16.6	
Delay (s)	381.1	16.5		5.9	40.1		705.5	42.8		376.0	52.6	
Level of Service	F	B		A	D		F	D		F	D	
Approach Delay (s)		55.6			38.5			122.3			86.4	
Approach LOS		E			D			F			F	

Intersection Summary

HCM Average Control Delay	71.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.7%	ICU Level of Service	H
Analysis Period (min)	15		

























c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.98			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1583	4531		1583	4542			1609			1595	
Flt Permitted	0.06	1.00		0.16	1.00			0.86			0.94	
Satd. Flow (perm)	100	4531		269	4542			1401			1506	
Volume (vph)	21	1280	36	44	2606	32	62	175	52	22	112	52
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	22	1333	38	46	2715	33	65	182	54	23	117	54
RTOR Reduction (vph)	0	3	0	0	1	0	0	8	0	0	3	0
Lane Group Flow (vph)	22	1368	0	46	2747	0	0	294	0	0	191	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	68.0	68.0		68.0	68.0			26.0			26.0	
Effective Green, g (s)	67.0	67.0		67.0	67.0			25.0			25.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	67	3036		180	3043			350			377	
v/s Ratio Prot		0.30			c0.60							
v/s Ratio Perm	0.22			0.17				c0.21			0.13	
v/c Ratio	0.33	0.45		0.26	0.90			0.84			0.51	
Uniform Delay, d1	7.0	7.8		6.6	13.8			35.6			32.2	
Progression Factor	0.58	0.31		0.25	0.75			1.00			1.00	
Incremental Delay, d2	9.1	0.3		0.3	0.5			20.8			4.8	
Delay (s)	13.1	2.8		1.9	10.8			56.4			37.0	
Level of Service	B	A		A	B			E			D	
Approach Delay (s)		2.9			10.6			56.4			37.0	
Approach LOS		A			B			E			D	

Intersection Summary

HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	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)	1583	3167	1417	1583	4550	1417	1583	1667	1417	1583	1642	
Flt Permitted	0.22	1.00	1.00	0.26	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	375	3167	1417	427	4550	1417	1583	1667	1417	1583	1642	
Volume (vph)	88	624	76	108	1442	93	70	590	35	40	747	80
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	95	671	82	116	1551	100	75	634	38	43	803	86
RTOR Reduction (vph)	0	0	58	0	0	70	0	0	21	0	6	0
Lane Group Flow (vph)	95	671	24	116	1551	30	75	634	17	43	883	0
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			4		1	2			1	6
Permitted Phases	4		4	4		4			2			
Actuated Green, G (s)	16.8	16.8	16.8	16.8	16.8	16.8	3.4	26.0	26.0	3.4	26.0	
Effective Green, g (s)	17.8	17.8	17.8	17.8	17.8	17.8	3.4	26.8	26.8	3.4	26.8	
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30	0.30	0.06	0.45	0.45	0.06	0.45	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.8	4.8	4.0	4.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	940	420	127	1350	420	90	745	633	90	733	
v/s Ratio Prot		0.21			c0.34		c0.05	0.38		0.03	c0.54	
v/s Ratio Perm	0.25		0.02	0.27		0.02			0.01			
v/c Ratio	0.86	0.71	0.06	0.91	1.15	0.07	0.83	0.85	0.03	0.48	1.20	
Uniform Delay, d1	19.9	18.8	15.1	20.4	21.1	15.2	28.0	14.8	9.3	27.4	16.6	
Progression Factor	1.00	1.00	1.00	1.27	1.35	1.75	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	53.0	4.6	0.3	51.1	74.3	0.3	45.4	11.7	0.1	4.0	104.7	
Delay (s)	72.9	23.4	15.4	77.0	102.8	26.8	73.4	26.6	9.4	31.4	121.3	
Level of Service	E	C	B	E	F	C	E	C	A	C	F	
Approach Delay (s)		28.2			96.8			30.4			117.2	
Approach LOS		C			F			C			F	
Intersection Summary												
HCM Average Control Delay			76.1				HCM Level of Service			E		
HCM Volume to Capacity ratio			1.16									
Actuated Cycle Length (s)			60.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			106.5%				ICU Level of Service		G			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	1.00		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4479		1583	4529		1583	3108		1583	3101	
Flt Permitted	0.09	1.00		0.11	1.00		0.13	1.00		0.14	1.00	
Satd. Flow (perm)	153	4479		176	4529		215	3108		240	3101	
Volume (vph)	93	1166	135	53	2437	78	173	690	97	53	807	129
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	100	1254	145	57	2620	84	186	742	104	57	868	139
RTOR Reduction (vph)	0	14	0	0	3	0	0	10	0	0	13	0
Lane Group Flow (vph)	100	1385	0	57	2701	0	186	836	0	57	994	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	51.0	44.6		49.8	44.0		40.0	32.0		35.2	29.6	
Effective Green, g (s)	49.0	43.6		47.8	43.0		38.0	31.0		33.2	28.6	
Actuated g/C Ratio	0.49	0.44		0.48	0.43		0.38	0.31		0.33	0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	152	1953		152	1947		177	963		141	887	
v/s Ratio Prot	c0.04	0.31		0.02	c0.60		c0.07	0.27		0.02	0.32	
v/s Ratio Perm	0.29			0.16			c0.32			0.12		
v/c Ratio	0.66	0.71		0.38	1.39		1.05	0.87		0.40	1.12	
Uniform Delay, d1	23.4	23.0		16.1	28.5		27.9	32.6		24.6	35.7	
Progression Factor	2.14	2.01		1.30	1.49		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.1	1.8		0.2	175.6		81.7	10.4		0.7	69.2	
Delay (s)	56.2	48.1		21.2	218.1		109.6	43.0		25.3	104.9	
Level of Service	E	D		C	F		F	D		C	F	
Approach Delay (s)		48.7			214.0			55.0			100.6	
Approach LOS		D			F			E			F	

Intersection Summary

HCM Average Control Delay	130.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	113.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4485		1583	4542		1583	3081		1583	3093	
Flt Permitted	0.11	1.00		0.10	1.00		0.15	1.00		0.17	1.00	
Satd. Flow (perm)	183	4485		172	4542		255	3081		282	3093	
Volume (vph)	73	1521	160	208	2587	29	172	913	202	54	819	150
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	78	1618	170	221	2752	31	183	971	215	57	871	160
RTOR Reduction (vph)	0	14	0	0	1	0	0	20	0	0	16	0
Lane Group Flow (vph)	78	1774	0	221	2782	0	183	1166	0	57	1015	0
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.0	37.4		47.8	39.8		35.1	27.1		30.1	24.6	
Effective Green, g (s)	41.0	36.4		45.8	38.8		33.1	26.1		28.1	23.6	
Actuated g/C Ratio	0.46	0.40		0.51	0.43		0.37	0.29		0.31	0.26	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	155	1814		197	1958		197	893		153	811	
v/s Ratio Prot	0.03	0.40		c0.09	c0.61		c0.07	c0.38		0.02	0.33	
v/s Ratio Perm	0.20			0.48			0.27			0.10		
v/c Ratio	0.50	0.98		1.12	1.42		0.93	1.31		0.37	1.25	
Uniform Delay, d1	21.4	26.4		21.7	25.6		43.3	31.9		42.1	33.2	
Progression Factor	1.00	1.00		1.93	0.41		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	16.5		61.6	189.6		43.4	145.8		0.6	123.2	
Delay (s)	22.3	42.9		103.6	200.1		86.7	177.7		42.7	156.4	
Level of Service	C	D		F	F		F	F		D	F	
Approach Delay (s)		42.0			193.0			165.5			150.5	
Approach LOS		D			F			F			F	

Intersection Summary

HCM Average Control Delay	143.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	115.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕	↖	↖	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4466		1583	4527		1583	1667	1417	1583	3026	
Flt Permitted	0.09	1.00		0.10	1.00		0.12	1.00	1.00	0.13	1.00	
Satd. Flow (perm)	156	4466		166	4527		206	1667	1417	218	3026	
Volume (vph)	89	1171	165	69	2610	90	152	538	91	51	662	277
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	94	1233	174	73	2747	95	160	566	96	54	697	292
RTOR Reduction (vph)	0	18	0	0	3	0	0	0	65	0	46	0
Lane Group Flow (vph)	94	1389	0	73	2839	0	160	566	31	54	943	0
Turn Type	pm+pt			pm+pt			pm+pt			Perm	pm+pt	
Protected Phases	5	2		1	6		3	8	8		7	4
Permitted Phases	2			6			8		8		4	
Actuated Green, G (s)	49.4	43.8		49.4	43.8		40.4	33.4	33.4		36.8	31.6
Effective Green, g (s)	47.4	42.8		47.4	42.8		38.4	32.4	32.4		34.8	30.6
Actuated g/C Ratio	0.47	0.43		0.47	0.43		0.38	0.32	0.32		0.35	0.31
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0		3.0	3.0
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0		2.0	3.0
Lane Grp Cap (vph)	140	1911		144	1938		162	540	459		133	926
v/s Ratio Prot	c0.03	0.31		0.02	c0.63		c0.06	c0.34			0.02	0.31
v/s Ratio Perm	0.29			0.22			0.32		0.02		0.12	
v/c Ratio	0.67	0.73		0.51	1.46		0.99	1.05	0.07		0.41	1.02
Uniform Delay, d1	23.9	23.7		16.9	28.6		27.7	33.8	23.4		25.3	34.7
Progression Factor	0.86	1.17		2.10	1.73		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.4	2.1		0.1	209.4		66.3	51.9	0.3		0.7	34.3
Delay (s)	28.9	29.9		35.6	258.9		93.9	85.7	23.6		26.1	69.0
Level of Service	C	C		D	F		F	F	C		C	E
Approach Delay (s)		29.8			253.3			80.1				66.8
Approach LOS		C			F			F				E

Intersection Summary

HCM Average Control Delay	146.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	117.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2221		1118	2232		1118	2181		1118	2231	
Flt Permitted	0.07	1.00		0.09	1.00		0.27	1.00		0.66	1.00	
Satd. Flow (perm)	77	2221		110	2232		313	2181		774	2231	
Volume (vph)	27	1530	66	53	2146	22	21	120	23	114	509	7
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	28	1577	68	55	2212	23	22	124	24	118	525	7
RTOR Reduction (vph)	0	4	0	0	1	0	0	18	0	0	1	0
Lane Group Flow (vph)	28	1641	0	55	2234	0	22	130	0	118	531	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	60.5	60.5		60.5	60.5		20.8	20.8		20.8	20.8	
Effective Green, g (s)	61.0	61.0		61.0	61.0		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1505		75	1513		73	509		181	521	
v/s Ratio Prot		0.74			c1.00			0.06			c0.24	
v/s Ratio Perm	0.36			0.50			0.07			0.15		
v/c Ratio	0.54	1.09		0.73	1.48		0.30	0.26		0.65	1.02	
Uniform Delay, d1	7.4	14.5		9.3	14.5		28.5	28.1		31.2	34.5	
Progression Factor	0.35	0.38		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.6	42.1		47.3	218.2		10.3	1.2		16.8	44.5	
Delay (s)	6.2	47.6		56.6	232.7		38.7	29.3		48.0	79.0	
Level of Service	A	D		E	F		D	C		D	E	
Approach Delay (s)		46.9			228.4			30.6			73.4	
Approach LOS		D			F			C			E	

Intersection Summary

HCM Average Control Delay	136.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	131.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		1.00						1.00			1.00	
Flpb, ped/bikes		0.98						1.00			1.00	
Frt		0.99						0.97			1.00	
Flt Protected		0.97						1.00			0.99	
Satd. Flow (prot)		3014						3060			3146	
Flt Permitted		0.97						1.00			0.90	
Satd. Flow (perm)		3014						3060			2860	
Volume (vph)	265	223	17	0	0	0	0	106	26	38	287	0
Peak-hour factor, PHF	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Adj. Flow (vph)	344	290	22	0	0	0	0	138	34	49	373	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	0	654		0	0	0	0	147	0	0	422	
Conf. Peds. (#/hr)	28		18	18			28	6		7	7	6
Conf. Bikes (#/hr)			1							1		1
Turn Type	Perm						Perm					
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		37.0						17.0			17.0	
Effective Green, g (s)		36.0						16.0			16.0	
Actuated g/C Ratio		0.60						0.27			0.27	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1808						816			763	
v/s Ratio Prot								0.05				
v/s Ratio Perm		0.22									c0.15	
v/c Ratio		0.36						0.18			0.55	
Uniform Delay, d1		6.1						16.9			18.9	
Progression Factor		1.10						1.00			1.00	
Incremental Delay, d2		0.5						0.5			2.9	
Delay (s)		7.2						17.4			21.8	
Level of Service		A						B			C	
Approach Delay (s)		7.2			0.0			17.4			21.8	
Approach LOS		A			A			B			C	
Intersection Summary												
HCM Average Control Delay		13.5			HCM Level of Service				B			
HCM Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)				8.0			
Intersection Capacity Utilization		59.7%			ICU Level of Service				B			
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑				↗		↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99				0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		0.98	1.00
Frt	1.00	1.00		1.00	0.98				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (prot)	1583	4527		1583	4395				1396		1560	1371
Flt Permitted	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (perm)	1583	4527		1583	4395				1396		1560	1371
Volume (vph)	48	1342	26	80	2464	479	0	0	45	115	3	166
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	50	1398	27	83	2567	499	0	0	47	120	3	173
RTOR Reduction (vph)	0	2	0	0	24	0	0	0	36	0	0	133
Lane Group Flow (vph)	50	1423	0	83	3042	0	0	0	11	0	123	40
Confl. Peds. (#/hr)	18		42	42		18	15		14	14		15
Confl. Bikes (#/hr)			2			1			1			
Turn Type	Prot			Prot				custom	Perm		Perm	
Protected Phases	5	2		1	6						4	
Permitted Phases								8	4			4
Actuated Green, G (s)	5.4	58.5		8.5	61.6			24.0			24.0	24.0
Effective Green, g (s)	4.4	57.5		7.5	60.6			23.0			23.0	23.0
Actuated g/C Ratio	0.04	0.58		0.08	0.61			0.23			0.23	0.23
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	2.0	5.0		2.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	70	2603		119	2663			321			359	315
v/s Ratio Prot	0.03	0.31		c0.05	c0.69							
v/s Ratio Perm								0.01			0.08	0.03
v/c Ratio	0.71	0.55		0.70	1.14			0.03			0.34	0.13
Uniform Delay, d1	47.2	13.2		45.1	19.7			29.9			32.2	30.5
Progression Factor	1.00	1.00		0.67	1.80			1.00			1.00	1.00
Incremental Delay, d2	24.8	0.8		1.3	64.6			0.2			2.6	0.8
Delay (s)	72.0	14.0		31.7	100.1			30.1			34.8	31.4
Level of Service	E	B		C	F			C			C	C
Approach Delay (s)		16.0			98.3			30.1			32.8	
Approach LOS		B			F			C			C	

Intersection Summary			
HCM Average Control Delay	69.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2230		1118	2233		1118	2219		1118	2203	
Flt Permitted	0.07	1.00		0.07	1.00		0.15	1.00		0.28	1.00	
Satd. Flow (perm)	84	2230		84	2233		181	2219		329	2203	
Volume (vph)	32	1635	25	282	1969	15	26	544	28	26	769	81
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	1668	26	288	2009	15	27	555	29	27	785	83
RTOR Reduction (vph)	0	1	0	0	1	0	0	4	0	0	9	0
Lane Group Flow (vph)	33	1693	0	288	2023	0	27	580	0	27	859	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8		25.8	25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29		0.29	0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1388		52	1389		52	641		95	636	
v/s Ratio Prot		0.76			0.91			0.26			c0.39	
v/s Ratio Perm	0.39			c3.43			0.15			0.08		
v/c Ratio	0.63	1.22		5.54	1.46		0.52	0.90		0.28	1.35	
Uniform Delay, d1	10.6	17.0		17.0	17.0		26.8	30.8		24.8	32.0	
Progression Factor	1.00	1.00		0.60	0.60		0.45	0.36		1.00	1.00	
Incremental Delay, d2	46.8	105.6		2046.1	205.9		12.0	7.7		7.4	168.3	
Delay (s)	57.4	122.6		2056.3	216.0		24.0	18.9		32.1	200.3	
Level of Service	E	F		F	F		C	B		C	F	
Approach Delay (s)		121.3			445.3			19.1			195.3	
Approach LOS		F			F			B			F	

Intersection Summary

HCM Average Control Delay	257.1	HCM Level of Service	F
HCM Volume to Capacity ratio	4.19		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	145.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖		↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00		0.95	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1118	2204		1118	2231		1118	2235	1000		2215	
Flt Permitted	0.07	1.00		0.25	1.00		0.15	1.00	1.00		1.00	
Satd. Flow (perm)	84	2204		292	2231		181	2235	1000		2215	
Volume (vph)	55	787	80	123	1784	24	65	519	96	0	990	63
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	61	874	89	137	1982	27	72	577	107	0	1100	70
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	76	0	5	0
Lane Group Flow (vph)	61	961	0	137	2008	0	72	577	31	0	1165	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	55.5	55.5		55.5	55.5		25.8	25.8	25.8		25.8	
Effective Green, g (s)	56.0	56.0		56.0	56.0		26.0	26.0	26.0		26.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.29	0.29	0.29		0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2	4.2		4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	52	1371		182	1388		52	646	289		640	
v/s Ratio Prot		0.44			c0.90			0.26			c0.53	
v/s Ratio Perm	0.73			0.47			0.40		0.03			
v/c Ratio	1.17	0.70		0.75	1.45		1.38	0.89	0.11		1.82	
Uniform Delay, d1	17.0	11.4		12.1	17.0		32.0	30.7	23.5		32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.64	
Incremental Delay, d2	179.6	3.0		24.6	205.1		257.0	17.2	0.7		369.7	
Delay (s)	196.6	14.4		36.7	222.1		289.0	47.8	24.2		390.2	
Level of Service	F	B		D	F		F	D	C		F	
Approach Delay (s)		25.2			210.2			67.5			390.2	
Approach LOS		C			F			E			F	

Intersection Summary

HCM Average Control Delay	193.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	153.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		0.99						0.98			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.95						0.97			1.00	
Flt Protected		1.00						1.00			0.99	
Satd. Flow (prot)		2942						2983			3145	
Flt Permitted		1.00						1.00			0.65	
Satd. Flow (perm)		2942						2983			2047	
Volume (vph)	35	206	129	0	0	0	0	783	235	86	717	0
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	38	226	142	0	0	0	0	860	258	95	788	0
RTOR Reduction (vph)	0	55	0	0	0	0	0	47	0	0	0	0
Lane Group Flow (vph)	0	351	0	0	0	0	0	1071	0	0	883	0
Confl. Peds. (#/hr)	123		3	3			123	1		108	108	1
Confl. Bikes (#/hr)							6			4		2
Turn Type	Perm						Perm					
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		27.0						27.0			27.0	
Effective Green, g (s)		26.0						26.0			26.0	
Actuated g/C Ratio		0.43						0.43			0.43	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1275						1293			887	
v/s Ratio Prot								0.36				
v/s Ratio Perm		0.12									c0.43	
v/c Ratio		0.28						0.83			1.00	
Uniform Delay, d1		10.9						15.0			16.9	
Progression Factor		1.07						1.00			1.00	
Incremental Delay, d2		0.5						6.2			29.2	
Delay (s)		12.2						21.2			46.1	
Level of Service		B						C			D	
Approach Delay (s)		12.2			0.0			21.2			46.1	
Approach LOS		B			A			C			D	
Intersection Summary												
HCM Average Control Delay		28.8			HCM Level of Service			C				
HCM Volume to Capacity ratio		0.64										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		86.5%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗		↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00		0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00	0.86		1.00	0.86
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1583	4323		1583	4474		1583	3167	1219		3167	1220
Flt Permitted	0.09	1.00		0.08	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	152	4323		140	4474		1583	3167	1219		3167	1220
Volume (vph)	61	1230	215	275	2214	91	261	908	98	0	811	191
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	1281	224	286	2306	95	272	946	102	0	845	199
RTOR Reduction (vph)	0	25	0	0	4	0	0	0	67	0	0	123
Lane Group Flow (vph)	64	1480	0	286	2397	0	272	946	35	0	845	76
Conf. Peds. (#/hr)	199		136	136		199	96		97	97		96
Conf. Bikes (#/hr)						3			1			1
Turn Type	pm+pt			pm+pt			Prot		Perm			Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6				8				4
Actuated Green, G (s)	50.4	45.0		57.0	48.6		8.9	34.9	34.9		22.9	22.9
Effective Green, g (s)	48.4	44.0		55.6	47.6		8.0	34.0	34.0		22.0	22.0
Actuated g/C Ratio	0.49	0.45		0.57	0.49		0.08	0.35	0.35		0.22	0.22
Clearance Time (s)	3.0	3.0		3.0	3.0		3.1	3.1	3.1		3.1	3.1
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	139	1941		197	2173		129	1099	423		711	274
v/s Ratio Prot	0.02	0.34		c0.12	0.54		c0.17	0.30			c0.27	
v/s Ratio Perm	0.21			c0.70					0.03			0.06
v/c Ratio	0.46	0.76		1.45	1.10		2.11	0.86	0.08		1.19	0.28
Uniform Delay, d1	21.8	22.6		24.8	25.2		45.0	29.8	21.5		38.0	31.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.9	2.9		229.3	54.0		524.1	8.9	0.4		98.5	2.5
Delay (s)	22.6	25.5		254.1	79.2		569.1	38.7	21.9		136.5	34.0
Level of Service	C	C		F	E		F	D	C		F	C
Approach Delay (s)		25.4			97.8			146.7			117.0	
Approach LOS		C			F			F			F	

Intersection Summary

HCM Average Control Delay	93.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	108.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↗	↕↕		↗	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.95			0.99		1.00	1.00		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2986			3048		1583	3153		1583	3132	
Flt Permitted		0.85			0.73		0.14	1.00		0.12	1.00	
Satd. Flow (perm)		2546			2272		231	3153		208	3132	
Volume (vph)	29	107	69	265	243	55	123	1218	36	44	990	78
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	110	71	273	251	57	127	1256	37	45	1021	80
RTOR Reduction (vph)	0	49	0	0	9	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	162	0	0	572	0	127	1291	0	45	1095	0
Turn Type	Perm		Perm		pm+pt		pm+pt					
Protected Phases	4		8		5		2		1		6	
Permitted Phases	4		8		2		6					
Actuated Green, G (s)	29.0		29.0		55.0		48.3		48.1		44.4	
Effective Green, g (s)	28.0		28.0		53.9		47.3		46.1		43.4	
Actuated g/C Ratio	0.31		0.31		0.60		0.53		0.51		0.48	
Clearance Time (s)	3.0		3.0		3.0		3.0		3.0		3.0	
Vehicle Extension (s)	3.0		3.0		2.0		5.0		2.0		5.0	
Lane Grp Cap (vph)	792		707		237		1657		148		1510	
v/s Ratio Prot					c0.04		c0.41		0.01		0.35	
v/s Ratio Perm	0.06		c0.25		0.28				0.15			
v/c Ratio	0.20		0.81		0.54		0.78		0.30		0.73	
Uniform Delay, d1	22.8		28.5		11.7		17.2		13.1		18.5	
Progression Factor	1.00		1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2	0.6		6.8		1.2		3.7		0.4		3.1	
Delay (s)	23.4		35.3		12.9		20.8		13.5		21.6	
Level of Service	C		D		B		C		B		C	
Approach Delay (s)	23.4		35.3		20.1		21.3					
Approach LOS	C		D		C		C					

Intersection Summary

HCM Average Control Delay	23.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.99			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4525		1583	4550		1583	3130			3059	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1583	4525		1583	4550		1583	3130			3059	
Volume (vph)	33	1870	70	10	3197	0	40	700	59	0	427	125
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	33	1889	71	10	3229	0	40	707	60	0	431	126
RTOR Reduction (vph)	0	4	0	0	0	0	0	7	0	0	30	0
Lane Group Flow (vph)	33	1956	0	10	3229	0	40	760	0	0	527	0
Turn Type	Prot		Prot		Split							
Protected Phases	1!	2!		5!	6!		8	8			7	
Permitted Phases												
Actuated Green, G (s)	5.1	33.9		4.8	33.2		14.0	14.0			22.0	
Effective Green, g (s)	4.6	33.4		4.8	33.2		14.0	14.0			22.0	
Actuated g/C Ratio	0.05	0.37		0.05	0.37		0.16	0.16			0.24	
Clearance Time (s)	3.5	3.5		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			3.0	
Lane Grp Cap (vph)	81	1679		84	1678		246	487			748	
v/s Ratio Prot	c0.02	0.43		0.01	c0.71		0.03	c0.24			c0.17	
v/s Ratio Perm												
v/c Ratio	0.41	1.17		0.12	1.92		0.16	1.56			0.70	
Uniform Delay, d1	41.4	28.3		40.6	28.4		32.9	38.0			31.0	
Progression Factor	1.22	0.99		1.52	0.37		1.00	1.00			1.00	
Incremental Delay, d2	0.3	75.0		0.1	416.1		0.3	262.4			5.5	
Delay (s)	50.8	103.0		61.6	426.7		33.2	300.4			36.5	
Level of Service	D	F		E	F		C	F			D	
Approach Delay (s)		102.1			425.6			287.1			36.5	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	278.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	100.9%	ICU Level of Service	G
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑		↑	↑↑		↑	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt		0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4519		1583	4518		1583	3149		1583	3167	
Flt Permitted		1.00		0.95	1.00		0.37	1.00		0.18	1.00	
Satd. Flow (perm)		4519		1583	4518		620	3149		303	3167	
Volume (vph)	0	1828	86	26	2928	143	250	933	35	73	407	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	1924	91	27	3082	151	263	982	37	77	428	0
RTOR Reduction (vph)	0	5	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	2010	0	27	3228	0	263	1016	0	77	428	0
Turn Type				Prot			Perm			Perm		
Protected Phases		2!		5!	6			7			7	
Permitted Phases							7			7		
Actuated Green, G (s)		33.9		4.8	33.2		22.0	22.0		22.0	22.0	
Effective Green, g (s)		33.4		4.8	33.2		22.0	22.0		22.0	22.0	
Actuated g/C Ratio		0.37		0.05	0.37		0.24	0.24		0.24	0.24	
Clearance Time (s)		3.5		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	3.0	
Lane Grp Cap (vph)		1677		84	1667		152	770		74	774	
v/s Ratio Prot		0.44		c0.02	c0.71			0.32			0.14	
v/s Ratio Perm							c0.42			0.25		
v/c Ratio		1.20		0.32	1.94		1.73	1.32		1.04	0.55	
Uniform Delay, d1		28.3		41.0	28.4		34.0	34.0		34.0	29.7	
Progression Factor		0.29		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		89.9		2.2	423.6		354.6	152.8		116.2	2.8	
Delay (s)		98.0		43.2	452.0		388.6	186.8		150.2	32.5	
Level of Service		F		D	F		F	F		F	C	
Approach Delay (s)		98.0			448.6			228.2			50.5	
Approach LOS		F			F			F			D	

Intersection Summary

HCM Average Control Delay	280.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frbp, ped/bikes		1.00						0.97		1.00	1.00	
Flpb, ped/bikes		1.00						1.00		0.95	1.00	
Frt		1.00						0.94		1.00	1.00	
Flt Protected		1.00						1.00		0.95	1.00	
Satd. Flow (prot)		3135						2890		1507	3167	
Flt Permitted		1.00						1.00		0.64	1.00	
Satd. Flow (perm)		3135						2890		1013	3167	
Volume (vph)	16	325	5	0	0	0	0	93	62	59	427	0
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	19	378	6	0	0	0	0	108	72	69	497	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	53	0	0	0	0
Lane Group Flow (vph)	0	402	0	0	0	0	0	127	0	69	497	0
Conf. Peds. (#/hr)	51		52	52			51	5		55	55	
Conf. Bikes (#/hr)								3				5
Turn Type		Perm									Perm	
Protected Phases		2						4			4	
Permitted Phases		2									4	
Actuated Green, G (s)		17.0						17.0		17.0	17.0	
Effective Green, g (s)		16.0						16.0		16.0	16.0	
Actuated g/C Ratio		0.27						0.27		0.27	0.27	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Vehicle Extension (s)		5.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		836						771		270	845	
v/s Ratio Prot								0.04			c0.16	
v/s Ratio Perm		0.13								0.07		
v/c Ratio		0.48						0.16		0.26	0.59	
Uniform Delay, d1		18.5						16.9		17.3	19.1	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		2.0						0.5		2.3	3.0	
Delay (s)		20.5						17.3		19.6	22.1	
Level of Service		C						B		B	C	
Approach Delay (s)		20.5			0.0			17.3			21.8	
Approach LOS		C			A			B			C	
Intersection Summary												
HCM Average Control Delay			20.6					HCM Level of Service			C	
HCM Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		28.0		
Intersection Capacity Utilization			83.0%					ICU Level of Service		E		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑			↑↑↑		↖	↖		↗	↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00			0.99		1.00	0.90		1.00	1.00	0.78
Flpb, ped/bikes	1.00	1.00			1.00		0.84	1.00		1.00	1.00	1.00
Frt	1.00	1.00			1.00		1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4525			4512		1334	1420		1583	1667	1102
Flt Permitted	0.08	1.00			1.00		0.62	1.00		0.95	1.00	1.00
Satd. Flow (perm)	128	4525			4512		873	1420		1583	1667	1102
Volume (vph)	39	1283	14	0	2530	47	105	76	42	91	210	110
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	1336	15	0	2635	49	109	79	44	95	219	115
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	41	1350	0	0	2682	0	109	123	0	95	219	115
Conf. Peds. (#/hr)	244		131	131		244	166		211	211		166
Conf. Bikes (#/hr)			3			5			2			3
Turn Type	Perm			Perm			Prot			custom		
Protected Phases	2			6			8			7		
Permitted Phases	2						8			4 4		
Actuated Green, G (s)	53.0	53.0			53.0		21.0	21.0		7.0	31.0	31.0
Effective Green, g (s)	52.0	52.0			52.0		20.0	20.0		6.0	30.0	30.0
Actuated g/C Ratio	0.58	0.58			0.58		0.22	0.22		0.07	0.33	0.33
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	2614			2607		194	316		106	556	367
v/s Ratio Prot		0.30			c0.59			0.09		c0.06		
v/s Ratio Perm	0.32						c0.12				0.13	0.10
v/c Ratio	0.55	0.52			1.03		0.56	0.39		0.90	0.39	0.31
Uniform Delay, d1	11.8	11.4			19.0		31.1	29.8		41.7	23.0	22.3
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	26.7	0.7			25.5		11.3	3.6		55.3	2.1	2.2
Delay (s)	38.5	12.2			44.5		42.4	33.4		97.0	25.1	24.6
Level of Service	D	B			D		D	C		F	C	C
Approach Delay (s)		12.9			44.5			37.6			40.9	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			





























Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBR2	
Lane Configurations		↕	↑↑↑		↕	↑↑↑			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor		1.00	0.91		1.00	0.91			1.00	
Frbp, ped/bikes		1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	
Frt		1.00	1.00		1.00	0.99			0.86	
Flt Protected		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)		1583	4522		1583	4482			1442	
Flt Permitted		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)		1583	4522		1583	4482			1442	
Volume (vph)	343	243	1335	36	619	1920	42	41	123	
Peak-hour factor, PHF	0.92	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.92	
Adj. Flow (vph)	373	253	1391	38	645	2000	44	43	134	
RTOR Reduction (vph)	0	0	3	0	0	2	0	0	118	
Lane Group Flow (vph)	0	626	1426	0	645	2085	0	0	16	
Conf. Peds. (#/hr)	63	81		28	28		63	81	35	
Conf. Bikes (#/hr)				5			9	10	1	
Turn Type	Prot	Prot			Prot				custom	
Protected Phases	1	1	2		8	6			1	
Permitted Phases										
Actuated Green, G (s)		13.0	52.0		26.0	81.0			13.0	
Effective Green, g (s)		12.0	51.0		25.0	80.0			12.0	
Actuated g/C Ratio		0.12	0.51		0.25	0.80			0.12	
Clearance Time (s)		3.0	3.0		3.0	3.0			3.0	
Vehicle Extension (s)		2.5	5.0		3.0	5.0			2.5	
Lane Grp Cap (vph)		190	2306		396	3586			173	
v/s Ratio Prot		c0.40	c0.32		c0.41	0.47			0.01	
v/s Ratio Perm										
v/c Ratio		3.29	0.62		1.63	0.58			0.09	
Uniform Delay, d1		44.0	17.5		37.5	3.7			39.2	
Progression Factor		1.25	1.95		1.00	1.00			1.00	
Incremental Delay, d2		1033.9	0.1		294.3	0.7			0.2	
Delay (s)		1088.8	34.3		331.8	4.4			39.3	
Level of Service		F	C		F	A			D	
Approach Delay (s)			355.6			81.7				
Approach LOS			F			F				
Intersection Summary										
HCM Average Control Delay			194.9						HCM Level of Service	F
HCM Volume to Capacity ratio			1.27							
Actuated Cycle Length (s)			100.0						Sum of lost time (s)	12.0
Intersection Capacity Utilization			102.1%						ICU Level of Service	G
Analysis Period (min)			15							
c Critical Lane Group										



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↖↗↘		↗	↖↗↘			↕	↗		↖↗↘	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	0.86	0.86		1.00	0.91			0.95	1.00		0.86	0.86
Frt	1.00	1.00		1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	0.99		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	961	3016		1118	3200			2235	1000		3035	860
Flt Permitted	0.95	0.69		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)	961	2079		1118	3200			2235	1000		3035	860
Volume (vph)	736	1869	16	274	1882	45	0	1038	176	0	1705	806
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	767	1947	17	285	1960	47	0	1081	183	0	1776	840
RTOR Reduction (vph)	0	1	0	0	3	0	0	0	127	0	0	319
Lane Group Flow (vph)	542	2188	0	285	2004	0	0	1081	56	0	1776	521
Turn Type	Prot		Prot				Perm				Over	
Protected Phases	7	4		3	8			2			6	7
Permitted Phases								2				
Actuated Green, G (s)	20.9	36.4		20.9	36.4			28.4	28.4		28.4	20.9
Effective Green, g (s)	22.0	37.0		22.0	37.0			29.0	29.0		29.0	22.0
Actuated g/C Ratio	0.22	0.37		0.22	0.37			0.29	0.29		0.29	0.22
Clearance Time (s)	5.1	4.6		5.1	4.6			4.6	4.6		4.6	5.1
Vehicle Extension (s)	3.0	3.0		5.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	211	975		246	1184			648	290		880	189
v/s Ratio Prot	0.56	0.49		0.26	c0.63			0.48			c0.59	c0.61
v/s Ratio Perm		c0.34							0.06			
v/c Ratio	2.57	2.24		1.16	1.69			1.67	0.19		2.02	2.76
Uniform Delay, d1	39.0	31.5		39.0	31.5			35.5	26.7		35.5	39.0
Progression Factor	1.00	1.00		1.04	0.58			1.00	1.00		1.00	1.00
Incremental Delay, d2	719.6	563.3		75.9	312.2			307.5	1.5		462.2	805.1
Delay (s)	758.6	594.8		116.4	330.5			343.0	28.2		497.7	844.1
Level of Service	F	F		F	F			F	C		F	F
Approach Delay (s)		627.3			303.8			297.4			608.9	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	491.8	HCM Level of Service	F
HCM Volume to Capacity ratio	2.23		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	191.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt		0.99		1.00	1.00		1.00	1.00	0.85	1.00	0.95	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3145		1118	3208		1118	2235	1000	1118	2125	
Flt Permitted		0.72		0.95	1.00		0.14	1.00	1.00	0.39	1.00	
Satd. Flow (perm)		2290		1118	3208		162	2235	1000	460	2125	
Volume (vph)	498	1328	106	248	1514	13	66	412	290	27	906	445
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	524	1398	112	261	1594	14	69	434	305	28	954	468
RTOR Reduction (vph)	0	6	0	0	1	0	0	0	217	0	60	0
Lane Group Flow (vph)	0	2028	0	261	1607	0	69	434	88	28	1362	0
Turn Type		Prot		Prot			Perm		Perm	Perm		
Protected Phases		7	4		3	8			2			6
Permitted Phases								2		2		6
Actuated Green, G (s)		36.4		20.9	36.4		28.4	28.4	28.4	28.4		28.4
Effective Green, g (s)		37.0		22.0	37.0		29.0	29.0	29.0	29.0		29.0
Actuated g/C Ratio		0.37		0.22	0.37		0.29	0.29	0.29	0.29		0.29
Clearance Time (s)		4.6		5.1	4.6		4.6	4.6	4.6	4.6		4.6
Vehicle Extension (s)		3.0		5.0	3.0		3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		1035		246	1187		47	648	290	133		616
v/s Ratio Prot		c0.43		0.23	c0.50			0.19				c0.64
v/s Ratio Perm		c0.29					0.43		0.09	0.06		
v/c Ratio		1.96		1.06	1.35		1.47	0.67	0.30	0.21		2.21
Uniform Delay, d1		31.5		39.0	31.5		35.5	31.3	27.7	26.8		35.5
Progression Factor		0.61		0.93	1.39		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2		431.9		68.9	164.0		296.1	5.4	2.7	3.6		550.0
Delay (s)		451.2		105.0	207.6		331.6	36.7	30.4	30.4		585.5
Level of Service		F		F	F		F	D	C	C		F
Approach Delay (s)		451.2			193.3			59.5				574.8
Approach LOS		F			F			E				F
Intersection Summary												
HCM Average Control Delay			350.7			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.90									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			195.2%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.86	1.00	0.97	0.86	0.97	0.88
Frbp, ped/bikes		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
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)		4047	968	2168	4047	2168	1760
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		4047	968	2168	4047	2168	1760
Volume (vph)	0	1636	558	1250	2206	224	445
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1687	575	1289	2274	231	459
RTOR Reduction (vph)	0	0	49	0	0	0	329
Lane Group Flow (vph)	0	1687	526	1289	2274	231	130
Conf. Peds. (#/hr)			33	33			38
Conf. Bikes (#/hr)			14				1
Turn Type	Prot		pm+ov	Prot			Over
Protected Phases	1	6	4	3	2 3	4	3
Permitted Phases			6				
Actuated Green, G (s)		39.0	69.1	35.0	80.0	30.1	35.0
Effective Green, g (s)		41.0	74.0	34.0	79.0	33.0	34.0
Actuated g/C Ratio		0.34	0.62	0.28	0.66	0.28	0.28
Clearance Time (s)		6.0	6.9	3.0		6.9	3.0
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1383	629	614	2664	596	499
v/s Ratio Prot		c0.42	c0.23	c0.59	0.56	0.11	0.07
v/s Ratio Perm			0.31				
v/c Ratio		1.22	0.84	2.10	0.85	0.39	0.26
Uniform Delay, d1		39.5	18.2	43.0	16.0	35.3	33.3
Progression Factor		0.44	1.43	1.00	1.00	1.00	1.00
Incremental Delay, d2		101.9	4.4	500.2	2.9	0.4	0.3
Delay (s)		119.3	30.5	543.2	18.9	35.7	33.6
Level of Service		F	C	F	B	D	C
Approach Delay (s)		96.7			208.6	34.3	
Approach LOS		F			F	C	

Intersection Summary			
HCM Average Control Delay	151.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	123.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔↔				↔	↔↔↔		↔	↔↔	↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88				1.00	0.91			0.95	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1504	1504	2493				1583	4550			3167	1417
Flt Permitted	0.95	0.95	1.00				0.49	1.00			1.00	1.00
Satd. Flow (perm)	1504	1504	2493				824	4550			3167	1417
Volume (vph)	151	0	144	0	0	0	433	1231	0	0	342	575
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	172	0	164	0	0	0	492	1399	0	0	389	653
RTOR Reduction (vph)	0	0	136	0	0	0	0	0	0	0	0	480
Lane Group Flow (vph)	86	86	28	0	0	0	492	1399	0	0	389	173
Turn Type	Split		custom				pm+pt			Perm		Over
Protected Phases	4	4	7 1			3	5	2			6	4
Permitted Phases							2			6		
Actuated Green, G (s)	16.5	16.5	14.5				45.6	40.6			40.6	16.5
Effective Green, g (s)	17.1	17.1	15.1				46.8	41.8			41.8	17.1
Actuated g/C Ratio	0.19	0.19	0.17				0.52	0.46			0.46	0.19
Clearance Time (s)	4.6	4.6					4.0	5.2			5.2	4.6
Vehicle Extension (s)	3.0	3.0					3.0	3.2			3.4	3.0
Lane Grp Cap (vph)	286	286	418				471	2113			1471	269
v/s Ratio Prot	0.06	0.06	c0.01				c0.06	0.31			0.12	c0.12
v/s Ratio Perm							c0.49					
v/c Ratio	0.30	0.30	0.07				1.04	0.66			0.26	0.64
Uniform Delay, d1	31.3	31.3	31.5				20.6	18.6			14.7	33.6
Progression Factor	0.96	0.96	1.24				1.18	1.12			1.00	1.00
Incremental Delay, d2	0.7	0.7	0.0				49.0	1.3			0.4	11.2
Delay (s)	30.6	30.6	39.2				73.4	22.1			15.2	44.8
Level of Service	C	C	D				E	C			B	D
Approach Delay (s)		34.8			0.0			35.5			33.8	
Approach LOS		C			A			D			C	

Intersection Summary			
HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑	↑↑↑		↑↑	↑↑	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		0.91	1.00		0.86		0.97	0.91		0.97	0.95	0.88
Frt		1.00	0.85		0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		4550	1417		5595		3072	4454		3072	3167	2493
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		4550	1417		5595		3072	4454		3072	3167	2493
Volume (vph)	0	2046	106	0	2960	568	449	566	93	488	509	407
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	2088	108	0	3020	580	458	578	95	498	519	415
RTOR Reduction (vph)	0	0	49	0	38	0	0	1	0	0	0	3
Lane Group Flow (vph)	0	2088	59	0	3562	0	458	672	0	498	519	412
Turn Type		pm+ov					Prot			Prot		Perm
Protected Phases		6	3		2		3	8		7	4	
Permitted Phases		6										4
Actuated Green, G (s)		35.5	47.5		35.5		12.0	27.7		12.0	27.7	27.7
Effective Green, g (s)		37.0	49.0		37.0		12.0	29.0		12.0	29.0	29.0
Actuated g/C Ratio		0.41	0.54		0.41		0.13	0.32		0.13	0.32	0.32
Clearance Time (s)		5.5	4.0		5.5		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)		4.9	3.0		5.2		3.0	5.1		3.0	5.1	5.1
Lane Grp Cap (vph)		1871	834		2300		410	1435		410	1020	803
v/s Ratio Prot		0.46	0.01		c0.64		0.15	0.15		c0.16	0.16	
v/s Ratio Perm		0.03										c0.17
v/c Ratio		1.12	0.07		1.55		1.12	0.47		1.21	0.51	0.51
Uniform Delay, d1		26.5	9.7		26.5		39.0	24.3		39.0	24.7	24.8
Progression Factor		1.00	1.00		0.33		1.00	1.00		0.97	0.84	0.84
Incremental Delay, d2		60.2	0.0		247.1		80.2	1.1		117.0	0.9	1.1
Delay (s)		86.7	9.7		255.9		119.2	25.4		154.8	21.6	21.8
Level of Service		F	A		F		F	C		F	C	C
Approach Delay (s)		82.9			255.9		63.4			68.0		
Approach LOS		F			F		E			E		

Intersection Summary		
HCM Average Control Delay	152.2	HCM Level of Service F
HCM Volume to Capacity ratio	1.11	
Actuated Cycle Length (s)	90.0	Sum of lost time (s) 12.0
Intersection Capacity Utilization	98.8%	ICU Level of Service F
Analysis Period (min)	15	
c Critical Lane Group		



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	0.97	0.91	0.94	0.88
Frbp, 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	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1118	4047	1000	2168	3212	3152	1760
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1118	4047	1000	2168	3212	3152	1760
Volume (vph)	8	1706	791	321	2055	279	491
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	8	1723	799	324	2076	282	496
RTOR Reduction (vph)	0	0	492	0	0	0	386
Lane Group Flow (vph)	8	1723	307	324	2076	282	110
Conf. Peds. (#/hr)			55	55		1	190
Conf. Bikes (#/hr)			15				7
Turn Type	Prot		Over	Prot		Over	
Protected Phases	1	6	8	5	2	8	5
Permitted Phases							
Actuated Green, G (s)	1.0	45.8	30.1	26.5	70.3	30.1	26.5
Effective Green, g (s)	2.0	48.5	33.0	26.5	73.0	33.0	26.5
Actuated g/C Ratio	0.02	0.40	0.28	0.22	0.61	0.28	0.22
Clearance Time (s)	5.0	6.7	6.9	4.0	6.7	6.9	4.0
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	19	1636	275	479	1954	867	389
v/s Ratio Prot	0.01	c0.43	c0.31	0.15	c0.65	0.09	0.06
v/s Ratio Perm							
v/c Ratio	0.42	1.05	1.12	0.68	1.06	0.33	0.28
Uniform Delay, d1	58.4	35.8	43.5	42.8	23.5	34.6	38.8
Progression Factor	0.48	1.36	6.03	1.10	1.33	1.00	1.00
Incremental Delay, d2	1.4	25.8	58.2	2.1	35.1	0.2	0.4
Delay (s)	29.5	74.5	320.5	49.3	66.2	34.9	39.2
Level of Service	C	E	F	D	E	C	D
Approach Delay (s)		152.0			64.0	37.7	
Approach LOS		F			E	D	
Intersection Summary							
HCM Average Control Delay			99.4		HCM Level of Service		F
HCM Volume to Capacity ratio			1.06				
Actuated Cycle Length (s)			120.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization			102.9%		ICU Level of Service		G
Analysis Period (min)			15				
c Critical Lane Group							



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘↗	↑↑↑	↗	↘↗	↑↑↑	↘↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Frbp, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.90	1.00	1.00	0.90	1.00	0.93	0.93
Flpb, ped/bikes	0.99	1.00	1.00	0.99	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	0.91	0.91
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1573	3167	1349	1563	3167	1281	3072	4550	1274	3072	3857	3857
Flt Permitted	0.27	1.00	1.00	0.27	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	441	3167	1349	452	3167	1281	3072	4550	1274	3072	3857	3857
Volume (vph)	102	810	137	239	533	65	258	1290	588	244	140	210
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	115	910	154	269	599	73	290	1449	661	274	157	236
RTOR Reduction (vph)	0	0	66	0	0	49	0	0	44	0	163	0
Lane Group Flow (vph)	115	910	88	269	599	24	290	1449	617	274	230	0
Conf. Peds. (#/hr)	89		51	51		89	86		76	76		86
Conf. Bikes (#/hr)			2						2			5
Turn Type	pm+pt		pm+ov	Perm		Perm	Prot		Perm	Prot		
Protected Phases	1	6	3		2		3	8		7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	38.8	38.8	49.9	28.5	28.5	28.5	11.1	26.2	26.2	11.0	26.1	26.1
Effective Green, g (s)	40.3	40.3	51.4	30.0	30.0	30.0	11.1	26.7	26.7	11.0	26.6	26.6
Actuated g/C Ratio	0.45	0.45	0.57	0.33	0.33	0.33	0.12	0.30	0.30	0.12	0.30	0.30
Clearance Time (s)	3.5	5.5	4.0	5.5	5.5	5.5	4.0	4.5	4.5	4.0	4.5	4.5
Vehicle Extension (s)	3.0	4.0	2.0	4.0	4.0	4.0	2.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	277	1418	830	151	1056	427	379	1350	378	375	1140	1140
v/s Ratio Prot	0.03	c0.29	0.01		0.19		0.09	0.32		c0.09	0.06	0.06
v/s Ratio Perm	0.16		0.05	c0.60		0.02			c0.48			
v/c Ratio	0.42	0.64	0.11	1.78	0.57	0.06	0.77	1.07	1.63	0.73	0.20	0.20
Uniform Delay, d1	15.9	19.3	8.8	30.0	24.7	20.4	38.2	31.6	31.6	38.1	23.7	23.7
Progression Factor	1.41	1.36	3.77	1.05	1.05	1.21	1.02	0.74	0.69	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.5	0.0	354.1	0.1	0.0	5.6	43.1	293.1	6.2	0.4	0.4
Delay (s)	22.8	26.6	33.2	385.6	26.0	24.6	44.6	66.5	315.1	44.3	24.1	24.1
Level of Service	C	C	C	F	C	C	D	E	F	D	C	C
Approach Delay (s)		27.1			128.7			132.3			32.4	
Approach LOS		C			F			F			C	

Intersection Summary

HCM Average Control Delay	94.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↘	↑↑↑	↗	↘	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor					1.00	1.00	1.00	0.91	1.00	1.00	0.91	
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1583	1417	1583	4550	1417	1583	4550	
Flt Permitted					0.76	1.00	0.40	1.00	1.00	0.07	1.00	
Satd. Flow (perm)					1262	1417	670	4550	1417	111	4550	
Volume (vph)	0	0	0	152	0	243	2	1931	43	16	555	0
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	171	0	273	2	2170	48	18	624	0
RTOR Reduction (vph)	0	0	0	0	0	5	0	0	16	0	0	0
Lane Group Flow (vph)	0	0	0	0	171	268	2	2170	32	18	624	0
Turn Type	Perm			Perm			Perm	Perm	Perm		Perm	
Protected Phases	4			4			4		2		2	
Permitted Phases	4			4			2		2		2	
Actuated Green, G (s)				20.8			20.8	59.2	59.2	59.2	59.2	59.2
Effective Green, g (s)				21.8			21.8	60.2	60.2	60.2	60.2	60.2
Actuated g/C Ratio				0.24			0.24	0.67	0.67	0.67	0.67	0.67
Clearance Time (s)				5.0			5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)				3.0			3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)				306			343	448	3043	948	74	3043
v/s Ratio Prot							c0.48				0.14	
v/s Ratio Perm				0.14			c0.19	0.00	0.02		0.16	
v/c Ratio				0.56			0.78	0.00	0.71	0.03	0.24	0.21
Uniform Delay, d1				29.9			31.9	4.9	9.4	5.0	5.9	5.7
Progression Factor				1.00			1.00	0.45	0.69	0.36	0.86	0.89
Incremental Delay, d2				2.2			10.9	0.0	0.9	0.0	4.4	0.1
Delay (s)				32.1			42.8	2.3	7.5	1.8	9.4	5.2
Level of Service				C			D	A	A	A	A	A
Approach Delay (s)	0.0			38.7			7.3				5.3	
Approach LOS	A			D			A				A	

Intersection Summary

HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕	↗	↖	↕↕↕		↖↖	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	0.95	1.00	0.91		0.97	0.91	
Frt		0.92			0.93	0.85	1.00	0.99		1.00	0.97	
Flt Protected		0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2855			1449	1346	1583	4484		3072	4401	
Flt Permitted		0.88			0.87	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2540			1283	1346	1583	4484		3072	4401	
Volume (vph)	5	2	9	82	36	419	57	1514	162	39	538	150
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	6	2	10	93	41	476	65	1720	184	44	611	170
RTOR Reduction (vph)	0	8	0	0	39	1	0	10	0	0	41	0
Lane Group Flow (vph)	0	10	0	0	205	365	65	1894	0	44	740	0
Turn Type		Perm		Perm		pm+ov		Prot			Prot	
Protected Phases		8		4	4	5	1	6		5	2	
Permitted Phases	8			4		4						
Actuated Green, G (s)		18.7			18.7	26.8	7.9	49.0		8.1	49.2	
Effective Green, g (s)		20.2			20.2	28.3	7.9	49.7		8.1	49.9	
Actuated g/C Ratio		0.22			0.22	0.31	0.09	0.55		0.09	0.55	
Clearance Time (s)		5.5			5.5	4.0	4.0	4.7		4.0	4.7	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		570			288	483	139	2476		276	2440	
v/s Ratio Prot						c0.07	0.04	c0.42		0.01	0.17	
v/s Ratio Perm		0.00			0.16	0.20						
v/c Ratio		0.02			0.71	0.75	0.47	0.76		0.16	0.30	
Uniform Delay, d1		27.2			32.2	27.7	39.0	15.6		37.8	10.7	
Progression Factor		1.00			1.00	1.00	1.37	0.27		0.82	1.55	
Incremental Delay, d2		0.0			8.1	6.6	1.1	1.1		0.3	0.3	
Delay (s)		27.2			40.3	34.3	54.4	5.3		31.2	17.0	
Level of Service		C			D	C	D	A		C	B	
Approach Delay (s)		27.2			36.7			6.9			17.7	
Approach LOS		C			D			A			B	

Intersection Summary

HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔	↔		↔	↔↔	↔↔↔		↔	↔↔↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	1.00		1.00	0.95	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3072		1417	1583		1417	3072	4535		1583	4321	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3072		1417	1583		1417	3072	4535		1583	4321	
Volume (vph)	14	0	12	25	0	102	210	1642	38	14	413	208
Peak-hour factor, PHF	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Adj. Flow (vph)	17	0	15	31	0	126	259	2027	47	17	510	257
RTOR Reduction (vph)	0	0	13	0	0	83	0	2	0	0	90	0
Lane Group Flow (vph)	17	0	2	31	0	43	259	2072	0	17	677	0
Turn Type	Prot		custom	Prot		custom	Prot			Prot		
Protected Phases	3		3 5	4		1 4	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.8		13.8	20.3		31.8	10.0	41.4		6.6	38.0	
Effective Green, g (s)	4.7		13.9	21.2		31.0	9.2	42.3		5.8	38.9	
Actuated g/C Ratio	0.05		0.15	0.24		0.34	0.10	0.47		0.06	0.43	
Clearance Time (s)	4.9			4.9			3.2	4.9		3.2	4.9	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	160		219	373		488	314	2131		102	1868	
v/s Ratio Prot	c0.01		0.00	0.02		c0.03	c0.08	c0.46		0.01	0.16	
v/s Ratio Perm												
v/c Ratio	0.11		0.01	0.08		0.09	0.82	0.97		0.17	0.36	
Uniform Delay, d1	40.6		32.2	26.8		20.0	39.6	23.3		39.8	17.2	
Progression Factor	1.00		1.00	1.00		1.00	1.46	0.57		1.26	0.55	
Incremental Delay, d2	0.3		0.0	0.1		0.1	1.7	2.3		0.7	0.5	
Delay (s)	40.9		32.2	26.9		20.0	59.7	15.5		50.8	10.0	
Level of Service	D		C	C		C	E	B		D	B	
Approach Delay (s)		36.9			21.4			20.4			10.9	
Approach LOS		D			C			C			B	

Intersection Summary

HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑↑	↑↑↑↗		↖↗	↘↙
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.91	0.91		0.97	0.88
Frt	1.00	1.00	0.96		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3072	4550	4375		3072	2493
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3072	4550	4375		3072	2493
Volume (vph)	1349	1764	1604	552	95	227
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1499	1960	1782	613	106	252
RTOR Reduction (vph)	0	0	62	0	0	182
Lane Group Flow (vph)	1499	1960	2333	0	106	70
Turn Type	Prot					Prot
Protected Phases	5	2 5	6		4	4
Permitted Phases						
Actuated Green, G (s)	12.0	55.5	38.5		24.0	24.0
Effective Green, g (s)	13.0	57.0	40.0		25.0	25.0
Actuated g/C Ratio	0.14	0.63	0.44		0.28	0.28
Clearance Time (s)	5.0		5.5		5.0	5.0
Vehicle Extension (s)	2.0		3.0		3.0	3.0
Lane Grp Cap (vph)	444	2882	1944		853	693
v/s Ratio Prot	c0.49	0.43	c0.53		c0.03	0.03
v/s Ratio Perm						
v/c Ratio	3.38	0.68	1.20		0.12	0.10
Uniform Delay, d1	38.5	10.6	25.0		24.3	24.1
Progression Factor	1.00	1.00	1.00		1.36	3.73
Incremental Delay, d2	1075.0	1.3	95.4		0.1	0.1
Delay (s)	1113.5	11.9	120.4		33.2	90.1
Level of Service	F	B	F		C	F
Approach Delay (s)		489.3	120.4		73.3	
Approach LOS		F	F		E	

Intersection Summary

HCM Average Control Delay	323.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	0.91
Frbp, 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	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3212	1000	2168	3212	2168	910
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3212	1000	2168	3212	2168	910
Volume (vph)	2490	940	237	2047	393	115
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2541	959	242	2089	401	117
RTOR Reduction (vph)	0	340	0	0	0	88
Lane Group Flow (vph)	2541	619	242	2089	401	29
Confl. Peds. (#/hr)		59	59		11	
Confl. Bikes (#/hr)		14				
Turn Type		Over	Prot			Perm
Protected Phases	6	4	5	2	4	
Permitted Phases						4
Actuated Green, G (s)	60.1	28.1	16.7	80.8	28.1	28.1
Effective Green, g (s)	61.3	30.0	16.7	82.0	30.0	30.0
Actuated g/C Ratio	0.51	0.25	0.14	0.68	0.25	0.25
Clearance Time (s)	5.2	5.9	4.0	5.2	5.9	5.9
Vehicle Extension (s)	3.7	3.8	1.0	3.5	3.8	3.8
Lane Grp Cap (vph)	1641	250	302	2195	542	228
v/s Ratio Prot	c0.79	c0.62	0.11	c0.65	0.18	
v/s Ratio Perm						0.03
v/c Ratio	1.55	2.48	0.80	0.95	0.74	0.13
Uniform Delay, d1	29.4	45.0	50.0	17.2	41.4	34.9
Progression Factor	1.58	1.79	1.28	0.51	1.00	1.00
Incremental Delay, d2	247.1	665.7	5.4	4.9	8.8	1.2
Delay (s)	293.5	746.3	69.3	13.7	50.2	36.0
Level of Service	F	F	E	B	D	D
Approach Delay (s)	417.6			19.5	47.0	
Approach LOS	F			B	D	

Intersection Summary			
HCM Average Control Delay	241.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕	↖	↗	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	0.95	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3072	2493	3167	1417	1583	4550
Flt Permitted	0.95	1.00	1.00	1.00	0.52	1.00
Satd. Flow (perm)	3072	2493	3167	1417	864	4550
Volume (vph)	66	346	292	444	741	311
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	73	384	324	493	823	346
RTOR Reduction (vph)	0	338	0	12	0	0
Lane Group Flow (vph)	73	46	324	481	823	346
Turn Type		Perm		pm+ov	pm+pt	
Protected Phases	4		2	4	1	6
Permitted Phases		4		2	6	
Actuated Green, G (s)	10.2	10.2	53.8	64.0	69.8	69.8
Effective Green, g (s)	10.7	10.7	55.3	66.0	71.3	71.3
Actuated g/C Ratio	0.12	0.12	0.61	0.73	0.79	0.79
Clearance Time (s)	4.5	4.5	5.5	4.5	3.0	5.5
Vehicle Extension (s)	3.0	3.0	5.0	3.0	3.0	5.0
Lane Grp Cap (vph)	365	296	1946	1102	780	3605
v/s Ratio Prot	0.02		0.10	c0.05	c0.14	0.08
v/s Ratio Perm		0.02		0.29	c0.70	
v/c Ratio	0.20	0.15	0.17	0.44	1.06	0.10
Uniform Delay, d1	35.8	35.6	7.5	4.7	7.2	2.1
Progression Factor	0.78	2.00	0.11	2.11	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.0	0.0	47.8	0.1
Delay (s)	28.2	71.2	0.8	10.0	54.9	2.2
Level of Service	C	E	A	A	D	A
Approach Delay (s)	64.4		6.3			39.3
Approach LOS	E		A			D

Intersection Summary

HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
75: Olympic Blvd & Century Park West



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
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)	3072	4550	4550	1417	3072	2493
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3072	4550	4550	1417	3072	2493
Volume (vph)	1219	3006	2109	203	25	118
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1257	3099	2174	209	26	122
RTOR Reduction (vph)	0	0	0	109	0	0
Lane Group Flow (vph)	1257	3099	2174	100	26	122
Turn Type	Prot		Perm		Perm	
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	15.0	55.1	36.1	36.1	25.0	25.0
Effective Green, g (s)	15.0	56.3	37.3	37.3	25.7	25.7
Actuated g/C Ratio	0.17	0.63	0.41	0.41	0.29	0.29
Clearance Time (s)	4.0	5.2	5.2	5.2	4.7	4.7
Vehicle Extension (s)	3.0	4.8	4.6	4.6	3.0	3.0
Lane Grp Cap (vph)	512	2846	1886	587	877	712
v/s Ratio Prot	c0.41	c0.68	0.48		0.01	
v/s Ratio Perm				0.07		c0.05
v/c Ratio	2.46	1.09	1.15	0.17	0.03	0.17
Uniform Delay, d1	37.5	16.9	26.4	16.6	23.2	24.2
Progression Factor	1.55	0.75	1.00	1.00	0.94	0.96
Incremental Delay, d2	655.3	40.7	75.3	0.6	0.0	0.1
Delay (s)	713.3	53.3	101.6	17.2	21.8	23.2
Level of Service	F	D	F	B	C	C
Approach Delay (s)		243.8	94.2		23.0	
Approach LOS		F	F		C	

Intersection Summary

HCM Average Control Delay	187.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑	↔	↔	↑↑↑		↔	↑↑		↔	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4550	1417	1583	4529		1583	3095		1583	3097	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.13	1.00		0.15	1.00	
Satd. Flow (perm)	1583	4550	1417	1583	4529		215	3095		247	3097	
Volume (vph)	126	2271	402	110	2792	88	166	974	172	107	1049	180
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	127	2294	406	111	2820	89	168	984	174	108	1060	182
RTOR Reduction (vph)	0	0	152	0	3	0	0	12	0	0	12	0
Lane Group Flow (vph)	127	2294	254	111	2906	0	168	1146	0	108	1230	0
Turn Type	Prot		Perm	Prot			pm+pt			Perm		
Protected Phases	1	6		5	2		3	8			4	
Permitted Phases			6				8			4		
Actuated Green, G (s)	12.7	54.0	54.0	12.0	53.3		40.0	40.0		26.0	26.0	
Effective Green, g (s)	12.7	55.0	55.0	12.0	54.3		41.0	41.0		27.0	27.0	
Actuated g/C Ratio	0.11	0.46	0.46	0.10	0.45		0.34	0.34		0.22	0.22	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		3.5	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	2085	649	158	2049		187	1057		56	697	
v/s Ratio Prot	c0.08	0.50		0.07	c0.64		0.07	c0.37			0.40	
v/s Ratio Perm			0.18				0.23			c0.44		
v/c Ratio	0.76	1.10	0.39	0.70	1.42		0.90	1.08		1.93	1.77	
Uniform Delay, d1	52.1	32.5	21.4	52.3	32.9		56.4	39.5		46.5	46.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.48	1.41		1.00	1.00	
Incremental Delay, d2	15.7	53.1	1.8	10.9	191.2		5.6	39.8		476.4	350.2	
Delay (s)	67.8	85.6	23.2	63.2	224.1		89.3	95.5		522.9	396.7	
Level of Service	E	F	C	E	F		F	F		F	F	
Approach Delay (s)		75.9			218.1			94.7			406.8	
Approach LOS		E			F			F			F	

Intersection Summary

HCM Average Control Delay	181.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	132.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Volume (vph)	73	2381	186	48	2122	250	90	1030	183	788	1220	106
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	74	2430	190	49	2165	255	92	1051	187	804	1245	108
RTOR Reduction (vph)	0	0	69	0	0	33	0	0	112	0	0	52
Lane Group Flow (vph)	74	2430	121	49	2165	222	92	1051	75	804	1245	56
Turn Type	Prot		Perm	Prot		pm+ov	Prot		Perm	Prot		Perm
Protected Phases	1	6		5	2	7	3	8		7		4
Permitted Phases			6			2			8			4
Actuated Green, G (s)	6.2	29.7	29.7	8.8	32.3	54.3	9.2	39.6	39.6	22.0	52.4	52.4
Effective Green, g (s)	6.2	31.2	31.2	8.8	33.8	55.8	9.2	42.0	42.0	22.0	54.8	54.8
Actuated g/C Ratio	0.05	0.26	0.26	0.07	0.28	0.46	0.08	0.35	0.35	0.18	0.46	0.46
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	4.0	4.0	6.4	6.4	4.0	6.4	6.4
Vehicle Extension (s)	2.0	4.5	4.5	2.0	5.2	2.0	2.0	4.7	4.7	2.0	4.7	4.7
Lane Grp Cap (vph)	112	835	260	159	905	465	166	782	350	397	1021	457
v/s Ratio Prot	0.03	c0.76		0.02	c0.67	0.09	0.04	c0.47		c0.37	0.56	
v/s Ratio Perm			0.12			0.13			0.08			0.06
v/c Ratio	0.66	2.91	0.47	0.31	2.39	0.48	0.55	1.34	0.21	2.03	1.22	0.12
Uniform Delay, d1	55.9	44.4	37.4	52.7	43.1	22.1	53.4	39.0	27.4	49.0	32.6	18.8
Progression Factor	1.21	1.62	2.51	0.91	0.93	0.68	1.00	1.00	1.00	0.77	0.64	0.10
Incremental Delay, d2	1.0	859.9	0.5	0.2	627.8	0.1	2.3	163.3	0.6	463.4	101.0	0.1
Delay (s)	68.6	931.6	94.3	48.1	667.9	15.2	55.7	202.3	28.0	501.1	122.0	1.9
Level of Service	E	F	F	D	F	B	E	F	C	F	F	A
Approach Delay (s)		848.8			588.2			167.7			257.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	522.2	HCM Level of Service	F
HCM Volume to Capacity ratio	2.03		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	163.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	0.86		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		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)	1583	4550	1417	1583	5732		1583	3167	1417	1583	3167	1417
Flt Permitted	0.12	1.00	1.00	0.12	1.00		0.27	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	198	4550	1417	202	5732		446	3167	1417	215	3167	1417
Volume (vph)	317	3352	93	35	2451	5	63	922	254	320	903	302
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	320	3386	94	35	2476	5	64	931	257	323	912	305
RTOR Reduction (vph)	0	0	33	0	0	0	0	0	4	0	0	0
Lane Group Flow (vph)	320	3386	61	35	2481	0	64	931	253	323	912	305
Turn Type	pm+pt		Perm	pm+pt		Perm		pm+ov	pm+pt		pm+ov	
Protected Phases	1	6		5	2			8	5	7	4	1
Permitted Phases	6		6	2		8	8	8	4			4
Actuated Green, G (s)	40.2	33.2	33.2	38.8	32.5	25.5	25.5	31.8	36.5	36.5	43.5	
Effective Green, g (s)	40.7	33.7	33.7	39.3	33.0	27.0	27.0	33.3	38.0	38.0	45.0	
Actuated g/C Ratio	0.45	0.37	0.37	0.44	0.37	0.30	0.30	0.37	0.42	0.42	0.50	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5	5.5	5.5	4.0	4.0	5.5	4.0	
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0	5.0	5.0	3.0	3.0	5.0	3.0	
Lane Grp Cap (vph)	197	1704	531	185	2102	134	950	587	197	1337	771	
v/s Ratio Prot	c0.13	c0.74		0.01	0.43		0.29	0.03	c0.13	0.29	0.03	
v/s Ratio Perm	0.61		0.04	0.07		0.14		0.15	c0.56		0.18	
v/c Ratio	1.62	1.99	0.11	0.19	1.18	0.48	0.98	0.43	1.64	0.68	0.40	
Uniform Delay, d1	43.7	28.1	18.4	20.7	28.5	25.7	31.2	21.3	22.0	21.1	14.0	
Progression Factor	1.51	0.69	0.19	0.32	0.31	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	283.1	444.4	0.0	0.0	81.6	5.5	24.3	0.5	309.6	1.9	0.3	
Delay (s)	349.2	463.7	3.6	6.7	90.6	31.3	55.6	21.8	331.6	23.0	14.4	
Level of Service	F	F	A	A	F	C	E	C	F	C	B	
Approach Delay (s)		442.7			89.4		47.4			86.0		
Approach LOS		F			F		D			F		

Intersection Summary

HCM Average Control Delay	230.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.69		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	138.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3157		1583	3151			1616			1602	
Flt Permitted	0.14	1.00		0.20	1.00			0.95			0.95	
Satd. Flow (perm)	232	3157		337	3151			1547			1527	
Volume (vph)	29	938	19	94	1475	50	11	86	23	62	306	116
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	30	967	20	97	1521	52	11	89	24	64	315	120
RTOR Reduction (vph)	0	2	0	0	4	0	0	15	0	0	4	0
Lane Group Flow (vph)	30	985	0	97	1569	0	0	109	0	0	495	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	28.4	28.4		28.4	28.4			22.4			22.4	
Effective Green, g (s)	28.7	28.7		28.7	28.7			23.3			23.3	
Actuated g/C Ratio	0.48	0.48		0.48	0.48			0.39			0.39	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	111	1510		161	1507			601			593	
v/s Ratio Prot		0.31			c0.50							
v/s Ratio Perm	0.13			0.29				0.07			c0.32	
v/c Ratio	0.27	0.65		0.60	1.04			0.18			0.84	
Uniform Delay, d1	9.4	11.9		11.5	15.7			12.1			16.6	
Progression Factor	0.78	0.73		1.00	1.00			1.00			1.00	
Incremental Delay, d2	5.4	2.0		15.6	34.7			0.1			9.9	
Delay (s)	12.7	10.6		27.1	50.4			12.2			26.5	
Level of Service	B	B		C	D			B			C	
Approach Delay (s)		10.7			49.0			12.2			26.5	
Approach LOS		B			D			B			C	

Intersection Summary			
HCM Average Control Delay	32.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			1.00		1.00	1.00	
Flpb, ped/bikes					1.00			1.00		1.00	1.00	
Frt					0.96			1.00		1.00	1.00	
Flt Protected					0.97			1.00		0.95	1.00	
Satd. Flow (prot)					1545			3147		1583	3167	
Flt Permitted					0.79			1.00		0.15	1.00	
Satd. Flow (perm)					1266			3147		243	3167	
Volume (vph)	0	0	0	168	0	72	0	1184	27	77	2077	0
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	179	0	77	0	1260	29	82	2210	0
RTOR Reduction (vph)	0	0	0	0	15	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	241	0	0	1287	0	82	2210	0
Conf. Peds. (#/hr)								10		32	32	10
Conf. Bikes (#/hr)			1							2		4
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					30.5			61.0		61.0	61.0	
Effective Green, g (s)					31.0			61.0		61.0	61.0	
Actuated g/C Ratio					0.31			0.61		0.61	0.61	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					392			1920		148	1932	
v/s Ratio Prot								0.41			c0.70	
v/s Ratio Perm					c0.19					0.34		
v/c Ratio					0.61			0.67		0.55	1.14	
Uniform Delay, d1					29.4			12.9		11.5	19.5	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					7.0			1.9		14.1	71.5	
Delay (s)					36.4			14.8		25.6	91.0	
Level of Service					D			B		C	F	
Approach Delay (s)		0.0			36.4			14.8			88.6	
Approach LOS		A			D			B			F	
Intersection Summary												
HCM Average Control Delay			60.3					HCM Level of Service		E		
HCM Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			100.0					Sum of lost time (s)		8.0		
Intersection Capacity Utilization			93.5%					ICU Level of Service		F		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↗	↑↑	↗	↗	↑↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	1.00	0.95	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	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1325	3072	3130		1583	3167	1352	1583	4429	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3072	3167	1325	3072	3130		155	3167	1352	171	4429	
Volume (vph)	82	594	66	350	1215	54	99	1129	323	19	1941	216
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	85	612	68	361	1253	56	102	1164	333	20	2001	223
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	89	0	11	0
Lane Group Flow (vph)	85	612	68	361	1306	0	102	1164	244	20	2213	0
Conf. Peds. (#/hr)	73		41	41		73	67		26	26		67
Conf. Bikes (#/hr)			3			4			1			4
Turn Type	Prot		pm+ov	Prot			pm+pt		pm+ov		pm+pt	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2				8		8		4	
Actuated Green, G (s)	6.4	48.8	55.8	8.0	50.4		48.5	41.7	49.7	40.3	37.5	
Effective Green, g (s)	6.4	50.1	57.1	8.0	51.7		49.9	43.1	51.1	41.7	38.9	
Actuated g/C Ratio	0.05	0.42	0.48	0.07	0.43		0.42	0.36	0.43	0.35	0.32	
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3		4.0	5.4	4.0	4.0	5.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	164	1322	675	205	1349		148	1137	621	92	1436	
v/s Ratio Prot	0.03	c0.19	0.01	c0.12	c0.42		c0.04	0.37	0.03	0.01	c0.50	
v/s Ratio Perm			0.05				0.25		0.15	0.07		
v/c Ratio	0.52	0.46	0.10	1.76	0.97		0.69	1.02	0.39	0.22	1.54	
Uniform Delay, d1	55.3	25.2	17.3	56.0	33.3		56.9	38.5	23.8	30.1	40.5	
Progression Factor	0.79	0.50	0.50	0.94	1.25		1.41	1.39	2.54	1.00	1.00	
Incremental Delay, d2	2.4	1.0	0.1	344.3	3.0		7.2	26.1	0.2	1.2	246.9	
Delay (s)	46.2	13.6	8.6	397.1	44.8		87.6	79.5	60.6	31.3	287.4	
Level of Service	D	B	A	F	D		F	E	E	C	F	
Approach Delay (s)		16.8			121.0			76.1			285.1	
Approach LOS		B			F			E			F	

Intersection Summary

HCM Average Control Delay	155.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	111.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↑↑	↗	↘	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3101		1583	3167	1417	1583	3085	
Flt Permitted	0.07	1.00	1.00	0.33	1.00		0.13	1.00	1.00	0.25	1.00	
Satd. Flow (perm)	118	3167	1417	550	3101		210	3167	1417	417	3085	
Volume (vph)	64	612	249	217	1111	178	243	761	44	162	889	183
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	644	262	228	1169	187	256	801	46	171	936	193
RTOR Reduction (vph)	0	0	39	0	11	0	0	0	25	0	15	0
Lane Group Flow (vph)	67	644	223	228	1345	0	256	801	21	171	1114	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8		4	
Actuated Green, G (s)	54.6	54.6	54.6	54.6	54.6		54.0	54.0	54.0	54.0	54.0	
Effective Green, g (s)	56.5	56.5	56.5	56.5	56.5		55.5	55.5	55.5	55.5	55.5	
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	56	1491	667	259	1460		97	1465	655	193	1427	
v/s Ratio Prot		0.20			0.43			0.25			0.36	
v/s Ratio Perm	c0.57		0.16	0.41			c1.22		0.02	0.41		
v/c Ratio	1.20	0.43	0.33	0.88	0.92		2.64	0.55	0.03	0.89	0.78	
Uniform Delay, d1	31.8	21.1	19.9	28.7	29.7		32.2	23.2	17.6	29.4	27.1	
Progression Factor	1.21	1.15	1.22	1.09	1.06		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	169.4	0.7	1.1	4.3	1.3		766.4	1.5	0.1	40.5	4.3	
Delay (s)	207.6	24.9	25.4	35.5	32.7		798.6	24.7	17.7	69.9	31.4	
Level of Service	F	C	C	D	C		F	C	B	E	C	
Approach Delay (s)		37.6			33.1			204.0			36.5	
Approach LOS		D			C			F			D	

Intersection Summary

HCM Average Control Delay	72.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕	↗	↗	↕	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3114		1583	3078		1583	1667	1417	1583	1597	
Flt Permitted	0.20	1.00		0.20	1.00		0.13	1.00	1.00	0.39	1.00	
Satd. Flow (perm)	327	3114		327	3078		224	1667	1417	648	1597	
Volume (vph)	51	679	86	99	1237	284	55	444	91	58	543	211
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	738	93	108	1345	309	60	483	99	63	590	229
RTOR Reduction (vph)	0	17	0	0	33	0	0	0	25	0	2	0
Lane Group Flow (vph)	55	815	0	108	1621	0	60	483	74	63	817	0
Turn Type	Perm			Perm			Perm		Perm	Perm		
Protected Phases	6			2			8		8		4	
Permitted Phases	6			2			8		8		4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1059		111	1047		118	878	746	341	841	
v/s Ratio Prot		0.26			c0.53			0.29			c0.51	
v/s Ratio Perm	0.17			0.33			0.27		0.05	0.10		
v/c Ratio	0.50	0.77		0.97	1.55		0.51	0.55	0.10	0.18	0.97	
Uniform Delay, d1	15.7	17.7		19.5	19.8		9.2	9.5	7.1	7.4	13.8	
Progression Factor	1.00	1.00		0.95	0.98		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.9	5.4		19.9	247.1		14.8	2.5	0.3	1.2	24.9	
Delay (s)	30.7	23.1		38.4	266.5		24.0	11.9	7.4	8.6	38.6	
Level of Service	C	C		D	F		C	B	A	A	D	
Approach Delay (s)		23.5			252.5			12.4			36.5	
Approach LOS		C			F			B			D	

Intersection Summary

HCM Average Control Delay	121.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	120.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑↑	↖		↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95	1.00		0.95	1.00
Frt	1.00	0.98		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1583	4439		1583	4488			3135	1417		3148	1417
Flt Permitted	0.12	1.00		0.95	1.00			0.55	1.00		0.52	1.00
Satd. Flow (perm)	199	4439		1583	4488			1736	1417		1641	1417
Volume (vph)	462	1413	275	67	1397	141	234	927	128	93	712	109
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	486	1487	289	71	1471	148	246	976	135	98	749	115
RTOR Reduction (vph)	0	31	0	0	14	0	0	0	84	0	0	16
Lane Group Flow (vph)	486	1745	0	71	1605	0	0	1222	51	0	847	99
Turn Type	Perm			Prot			Perm		Perm	Perm		Perm
Protected Phases		6		5	2			8			4	
Permitted Phases	6						8		8	4		4
Actuated Green, G (s)	37.6	37.6		6.4	48.0			33.5	33.5		33.5	33.5
Effective Green, g (s)	37.6	37.6		6.4	48.0			34.0	34.0		34.0	34.0
Actuated g/C Ratio	0.42	0.42		0.07	0.53			0.38	0.38		0.38	0.38
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	83	1855		113	2394			656	535		620	535
v/s Ratio Prot		0.39		0.04	c0.36							
v/s Ratio Perm	c2.45							c0.70	0.04		0.52	0.07
v/c Ratio	5.86	0.94		0.63	0.67			2.03dl	0.10		1.37	0.18
Uniform Delay, d1	26.2	25.1		40.6	15.3			28.0	18.1		28.0	18.7
Progression Factor	1.43	1.45		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	2200.7	7.3		10.4	1.5			394.1	0.4		175.0	0.8
Delay (s)	2238.2	43.8		51.1	16.8			422.1	18.4		203.0	19.5
Level of Service	F	D		D	B			F	B		F	B
Approach Delay (s)		515.3			18.2			381.9			181.0	
Approach LOS		F			B			F			F	

Intersection Summary

HCM Average Control Delay	301.2	HCM Level of Service	F
HCM Volume to Capacity ratio	3.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	136.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕↕			↕↕			↕↕			↕↕	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)		4.0			4.0			4.0			4.0	4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	1.00	
Frbp, ped/bikes		0.99			0.95			0.99			1.00	0.75	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00	
Frt		0.99			0.98			0.99			1.00	0.85	
Flt Protected		1.00			1.00			1.00			1.00	1.00	
Satd. Flow (prot)		3115			2941			3108			3167	1066	
Flt Permitted		1.00			1.00			1.00			1.00	1.00	
Satd. Flow (perm)		3115			2941			3108			3167	1066	
Volume (vph)	0	1220	78	0	1202	225	0	1541	97	0	1739	112	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	0	1271	81	0	1252	234	0	1605	101	0	1811	117	
RTOR Reduction (vph)	0	1	0	0	2	0	0	5	0	0	0	6	
Lane Group Flow (vph)	0	1351	0	0	1484	0	0	1701	0	0	1811	111	
Conf. Peds. (#/hr)	136		73	73		136	120		104	120		104	
Conf. Bikes (#/hr)			5			7			19			15	
Turn Type	Perm			Perm			Perm			Perm		Perm	
Protected Phases		6			2			8			4		
Permitted Phases	6			2			8			4		4	
Actuated Green, G (s)		40.2			40.2			40.2			40.2	40.2	
Effective Green, g (s)		41.0			41.0			41.0			41.0	41.0	
Actuated g/C Ratio		0.46			0.46			0.46			0.46	0.46	
Clearance Time (s)		4.8			4.8			4.8			4.8	4.8	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0	
Lane Grp Cap (vph)		1419			1340			1416			1443	486	
v/s Ratio Prot		0.43			c0.50			0.55			c0.57		
v/s Ratio Perm												0.10	
v/c Ratio		0.95			1.11			1.20			1.26	0.23	
Uniform Delay, d1		23.6			24.5			24.5			24.5	14.9	
Progression Factor		1.00			1.00			0.69			1.00	1.00	
Incremental Delay, d2		14.9			59.5			91.3			120.6	1.1	
Delay (s)		38.4			84.0			108.2			145.1	16.0	
Level of Service		D			F			F			F	B	
Approach Delay (s)		38.4			84.0			108.2			137.3		
Approach LOS		D			F			F			F		
Intersection Summary													
HCM Average Control Delay			96.7									HCM Level of Service	F
HCM Volume to Capacity ratio			1.18										
Actuated Cycle Length (s)			90.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			125.2%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.97		1.00	0.96		1.00	0.96		1.00	0.91	
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	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4373		1583	4319		1583	3004		1583	2753	
Flt Permitted	0.13	1.00		0.13	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	215	4373		218	4319		230	3004		230	2753	
Volume (vph)	267	1298	107	118	1560	153	94	1515	157	98	1089	387
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	290	1411	116	128	1696	166	102	1647	171	107	1184	421
RTOR Reduction (vph)	0	10	0	0	13	0	0	9	0	0	40	0
Lane Group Flow (vph)	290	1517	0	128	1849	0	102	1809	0	107	1565	0
Conf. Peds. (#/hr)	663		371	371		663	453		618	618		453
Conf. Bikes (#/hr)			12			12			20			20
Turn Type	pm+pt		pm+pt		pm+pt		pm+pt		pm+pt		pm+pt	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	37.6	29.6		36.8	29.2		34.2	27.8		34.2	27.8	
Effective Green, g (s)	39.0	31.0		38.2	30.6		35.4	29.0		35.4	29.0	
Actuated g/C Ratio	0.43	0.34		0.42	0.34		0.39	0.32		0.39	0.32	
Clearance Time (s)	4.0	5.4		4.0	5.4		4.0	5.2		4.0	5.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1506		208	1468		187	968		187	887	
v/s Ratio Prot	c0.12	0.35		0.05	0.43		0.04	c0.60		c0.04	0.57	
v/s Ratio Perm	c0.46			0.21			0.18			0.18		
v/c Ratio	1.35	1.01		0.62	1.26		0.55	1.87		0.57	1.76	
Uniform Delay, d1	43.2	29.5		19.5	29.7		22.4	30.5		22.4	30.5	
Progression Factor	1.96	0.98		0.80	0.88		0.74	0.94		1.57	1.44	
Incremental Delay, d2	159.8	8.8		3.5	120.7		1.8	393.2		0.4	344.4	
Delay (s)	244.7	37.7		19.1	146.7		18.2	421.9		35.7	388.2	
Level of Service	F	D		B	F		B	F		D	F	
Approach Delay (s)		70.7			138.5			400.4			366.2	
Approach LOS		E			F			F			F	

Intersection Summary			
HCM Average Control Delay	241.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	127.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3135		1583	3107		1583	3154		1583	3153	
Flt Permitted	0.25	1.00		0.32	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	420	3135		529	3107		163	3154		163	3153	
Volume (vph)	51	592	42	95	664	96	62	1364	37	102	1534	45
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	54	630	45	101	706	102	66	1451	39	109	1632	48
RTOR Reduction (vph)	0	4	0	0	8	0	0	2	0	0	2	0
Lane Group Flow (vph)	54	671	0	101	800	0	66	1488	0	109	1678	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	40.4	40.4		40.4	40.4		40.3	40.3		40.3	40.3	
Effective Green, g (s)	41.0	41.0		41.0	41.0		41.0	41.0		41.0	41.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.6	4.6		4.6	4.6		4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	191	1428		241	1415		74	1437		74	1436	
v/s Ratio Prot		0.21			c0.26			0.47			0.53	
v/s Ratio Perm	0.13			0.19			0.41			c0.67		
v/c Ratio	0.28	0.47		0.42	0.57		0.89	1.04		1.47	1.17	
Uniform Delay, d1	15.3	17.0		16.5	18.0		22.5	24.5		24.5	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.45	0.49	
Incremental Delay, d2	3.7	1.1		5.3	1.6		77.4	33.4		219.5	76.6	
Delay (s)	19.0	18.1		21.8	19.6		99.9	57.9		230.6	88.6	
Level of Service	B	B		C	B		F	E		F	F	
Approach Delay (s)		18.1			19.9			59.7			97.3	
Approach LOS		B			B			E			F	

Intersection Summary

HCM Average Control Delay	59.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕↕↕		↗	↕↕↕		↗	↕↕	↗	↗	↕↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.91		1.00	0.95	1.00	1.00	0.95	1.00
Fr _t	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Fl _t Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	4535		1583	4488		1583	3167	1417	1583	3167	1417
Fl _t Permitted	0.12	1.00		0.12	1.00		0.12	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	194	4535		196	4488		196	3167	1417	196	3167	1417
Volume (vph)	132	2048	46	101	1578	156	177	1152	82	182	1326	148
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	133	2069	46	102	1594	158	179	1164	83	184	1339	149
RTOR Reduction (vph)	0	2	0	0	12	0	0	0	17	0	0	19
Lane Group Flow (vph)	133	2113	0	102	1740	0	179	1164	66	184	1339	130
Turn Type	pm+pt			pm+pt			pm+pt		pm+ov	pm+pt		pm+ov
Protected Phases	1	6		5	2		3	8	5	7	4	1
Permitted Phases	6			2			8		8	4		4
Actuated Green, G (s)	41.2	33.3		40.6	33.0		41.1	33.1	40.7	41.1	33.1	41.0
Effective Green, g (s)	42.2	34.3		41.6	34.0		42.1	34.1	41.7	42.1	34.1	42.0
Actuated g/C Ratio	0.42	0.34		0.42	0.34		0.42	0.34	0.42	0.42	0.34	0.42
Clearance Time (s)	4.0	5.0		4.0	5.0		4.0	5.0	4.0	4.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	192	1556		187	1526		193	1080	648	193	1080	652
v/s Ratio Prot	c0.05	c0.47		0.04	0.39		0.07	0.37	0.01	c0.08	c0.42	0.02
v/s Ratio Perm	0.24			0.19			0.32		0.04	0.33		0.08
v/c Ratio	0.69	1.36		0.55	1.14		0.93	1.08	0.10	0.95	1.24	0.20
Uniform Delay, d ₁	23.8	32.9		24.0	33.0		47.7	33.0	17.7	24.0	33.0	18.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	10.3	165.4		3.2	71.6		44.2	50.9	0.1	51.1	115.9	0.2
Delay (s)	34.1	198.2		27.2	104.6		91.9	83.8	17.8	75.1	148.9	18.5
Level of Service	C	F		C	F		F	F	B	E	F	B
Approach Delay (s)		188.5			100.3			81.0			129.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	130.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕↕↕		↖	↕↕↕		↖	↕↕		↖	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4516		1583	4519		1583	3131		1583	3109	
Flt Permitted	0.10	1.00		0.10	1.00		0.10	1.00		0.10	1.00	
Satd. Flow (perm)	159	4516		159	4519		167	3131		167	3109	
Volume (vph)	331	2122	110	112	1755	83	65	1168	94	110	1464	204
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	338	2165	112	114	1791	85	66	1192	96	112	1494	208
RTOR Reduction (vph)	0	6	0	0	6	0	0	1	0	0	3	0
Lane Group Flow (vph)	338	2271	0	114	1870	0	66	1287	0	112	1699	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases	6			2			8			4		
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	41.5	41.5		41.5	41.5		39.5	39.5		39.5	39.5	
Effective Green, g (s)	42.0	42.0		42.0	42.0		40.0	40.0		40.0	40.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.44	0.44		0.44	0.44	
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)	74	2107		74	2109		74	1392		74	1382	
v/s Ratio Prot		0.50			0.41			0.41			0.55	
v/s Ratio Perm	c2.13			0.72			0.40			c0.67		
v/c Ratio	4.57	1.08		1.54	0.89		0.89	0.92		1.51	1.23	
Uniform Delay, d1	24.0	24.0		24.0	21.8		23.0	23.6		25.0	25.0	
Progression Factor	1.33	1.34		1.10	1.14		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1624.8	41.4		249.3	0.6		77.4	11.8		288.5	109.9	
Delay (s)	1656.7	73.6		275.8	25.4		100.4	35.3		313.5	134.9	
Level of Service	F	E		F	C		F	D		F	F	
Approach Delay (s)		278.2			39.7			38.5			145.9	
Approach LOS		F			D			D			F	

Intersection Summary

HCM Average Control Delay	144.5	HCM Level of Service	F
HCM Volume to Capacity ratio	3.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	134.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1583	4540		1583	4537			1644	1417		1557	
Flt Permitted	0.07	1.00		0.06	1.00			0.89	1.00		0.92	
Satd. Flow (perm)	122	4540		99	4537			1476	1417		1443	
Volume (vph)	61	2377	35	77	1853	35	27	70	80	28	48	53
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	2584	38	84	2014	38	29	76	87	30	52	58
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	2	0	8	0
Lane Group Flow (vph)	66	2621	0	84	2051	0	0	105	85	0	132	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		8		8		4			
Actuated Green, G (s)	67.3	67.3		67.3	67.3			14.2	14.2		14.2	
Effective Green, g (s)	67.3	67.3		67.3	67.3			14.7	14.7		14.7	
Actuated g/C Ratio	0.75	0.75		0.75	0.75			0.16	0.16		0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0			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)	91	3395		74	3393			241	231		236	
v/s Ratio Prot		0.58			0.45							
v/s Ratio Perm	0.54			c0.85				0.07	0.06		c0.09	
v/c Ratio	0.73	0.77		1.14	0.60			0.44	0.37		0.56	
Uniform Delay, d1	6.3	6.8		11.4	5.2			33.9	33.5		34.7	
Progression Factor	1.00	1.00		1.29	0.97			1.00	1.00		1.00	
Incremental Delay, d2	39.6	1.8		109.5	0.3			1.3	1.0		3.0	
Delay (s)	45.8	8.5		124.1	5.4			35.2	34.5		37.7	
Level of Service	D	A		F	A			D	C		D	
Approach Delay (s)		9.5		10.1				34.9			37.7	
Approach LOS		A		B				C			D	

Intersection Summary

HCM Average Control Delay	11.4	HCM Level of Service	B
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵↵↵	↵
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	0.91
Frbp, ped/bikes	0.96		1.00	1.00	0.98	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	0.94	0.85
Flt Protected	1.00		0.95	1.00	0.97	1.00
Satd. Flow (prot)	4238		1583	4550	2882	1239
Flt Permitted	1.00		0.09	1.00	0.97	1.00
Satd. Flow (perm)	4238		150	4550	2882	1239
Volume (vph)	1804	461	577	1450	558	806
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1841	470	589	1480	569	822
RTOR Reduction (vph)	50	0	0	0	125	1
Lane Group Flow (vph)	2262	0	589	1480	830	435
Conf. Peds. (#/hr)		183	183			21
Conf. Bikes (#/hr)		4				5
Turn Type			pm+pt		pm+ov	
Protected Phases	6		5	2	4	5
Permitted Phases			2			4
Actuated Green, G (s)	39.5		51.5	51.5	28.8	36.8
Effective Green, g (s)	40.5		52.5	52.5	29.5	37.5
Actuated g/C Ratio	0.45		0.58	0.58	0.33	0.42
Clearance Time (s)	5.0		4.0	5.0	4.7	4.0
Vehicle Extension (s)	3.0		2.0	3.0	2.0	2.0
Lane Grp Cap (vph)	1907		215	2654	945	571
v/s Ratio Prot	0.53		c0.24	0.33	c0.29	0.07
v/s Ratio Perm			c1.36			0.28
v/c Ratio	1.19		2.74	0.56	0.88	0.76
Uniform Delay, d1	24.8		26.6	11.6	28.6	22.4
Progression Factor	1.00		1.00	1.00	0.69	0.37
Incremental Delay, d2	89.3		795.8	0.9	6.1	3.6
Delay (s)	114.0		822.4	12.4	25.9	11.8
Level of Service	F		F	B	C	B
Approach Delay (s)	114.0			243.0	21.5	
Approach LOS	F			F	C	

Intersection Summary

HCM Average Control Delay	138.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↗	↖	↗		↖	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3077		1583	1667	1417	1583	3119		1583	3163	
Flt Permitted	0.48	1.00		0.38	1.00	1.00	0.23	1.00		0.10	1.00	
Satd. Flow (perm)	792	3077		631	1667	1417	389	3119		167	3163	
Volume (vph)	20	369	86	184	239	59	123	1320	147	20	969	7
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	20	377	88	188	244	60	126	1347	150	20	989	7
RTOR Reduction (vph)	0	0	0	0	0	40	0	9	0	0	0	0
Lane Group Flow (vph)	20	465	0	188	244	20	126	1488	0	20	996	0
Turn Type	Perm			Perm			Perm	Perm		Perm		
Protected Phases	8			4			6			2		
Permitted Phases	8			4			6			2		
Actuated Green, G (s)	26.4	26.4		26.4	26.4	26.4	54.3	54.3		54.3	54.3	
Effective Green, g (s)	27.0	27.0		27.0	27.0	27.0	55.0	55.0		55.0	55.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.61	0.61		0.61	0.61	
Clearance Time (s)	4.6	4.6		4.6	4.6	4.6	4.7	4.7		4.7	4.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	238	923		189	500	425	238	1906		102	1933	
v/s Ratio Prot	0.15			0.15			c0.48			0.31		
v/s Ratio Perm	0.03			c0.30			0.01	0.32		0.12		
v/c Ratio	0.08	0.50		0.99	0.49	0.05	0.53	0.78		0.20	0.52	
Uniform Delay, d1	22.6	26.0		31.4	25.8	22.4	10.1	13.0		7.7	9.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.59	1.73		0.36	0.43	
Incremental Delay, d2	0.7	2.0		64.1	3.4	0.2	0.8	0.3		0.4	0.1	
Delay (s)	23.3	27.9		95.5	29.2	22.6	16.8	22.8		3.2	4.4	
Level of Service	C			F		C		C		A		A
Approach Delay (s)	27.7			53.7		22.4				4.4		
Approach LOS	C			D		C				A		

Intersection Summary

HCM Average Control Delay	22.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗↖↗		↖	↗↖↗		↖	↗↖		↖	↗↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4481		1583	4522		1583	3130		1583	3167	1417
Flt Permitted	0.14	1.00		0.95	1.00		0.12	1.00		0.13	1.00	1.00
Satd. Flow (perm)	238	4481		1583	4522		208	3130		218	3167	1417
Volume (vph)	64	2200	247	78	1667	71	104	1458	122	71	1166	155
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	67	2316	260	82	1755	75	109	1535	128	75	1227	163
RTOR Reduction (vph)	0	14	0	0	5	0	0	6	0	0	0	103
Lane Group Flow (vph)	67	2562	0	82	1825	0	109	1657	0	75	1227	60
Turn Type	pm+pt		Prot		pm+pt		pm+pt		pm+pt		Perm	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2					4				8		8
Actuated Green, G (s)	32.4	27.1		8.2	29.1		38.7	31.0		35.9	29.6	29.6
Effective Green, g (s)	33.7	28.0		7.7	30.0		39.7	32.0		36.9	30.6	30.6
Actuated g/C Ratio	0.37	0.31		0.09	0.33		0.44	0.36		0.41	0.34	0.34
Clearance Time (s)	4.4	4.9		3.5	4.9		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	174	1394		135	1507		209	1113		185	1077	482
v/s Ratio Prot	0.02	c0.57		c0.05	0.40		c0.04	c0.53		0.03	0.39	
v/s Ratio Perm	0.12					0.18				0.14		0.04
v/c Ratio	0.39	1.84		0.61	1.21		0.52	1.49		0.41	1.14	0.12
Uniform Delay, d1	22.7	31.0		39.7	30.0		20.4	29.0		21.6	29.7	20.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.95	0.81	0.72
Incremental Delay, d2	1.4	379.7		7.5	101.3		2.3	224.6		1.3	73.0	0.5
Delay (s)	24.2	410.7		47.2	131.3		22.8	253.6		21.9	97.1	15.3
Level of Service	C	F		D	F		C	F		C	F	B
Approach Delay (s)	400.9			127.7			239.4			84.1		
Approach LOS	F			F			F			F		

Intersection Summary

HCM Average Control Delay	237.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	125.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑			↑	↗		↖	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00		1.00	1.00
Fr _t	1.00	0.99		1.00	1.00			1.00	0.85		1.00	0.85
Fl _t Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.99	1.00
Satd. Flow (prot)	1583	4517		1583	4534			1639	1417		1650	1417
Fl _t Permitted	0.09	1.00		0.09	1.00			0.98	1.00		0.99	1.00
Satd. Flow (perm)	147	4517		147	4534			1639	1417		1650	1417
Volume (vph)	33	2039	103	6	1856	44	80	157	42	63	240	37
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	36	2241	113	7	2040	48	88	173	46	69	264	41
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	36	0	0	36
Lane Group Flow (vph)	36	2354	0	7	2086	0	0	261	10	0	333	5
Turn Type	Perm		Perm		Split		Perm		Split		Perm	
Protected Phases	6		2		4		4		3		3	
Permitted Phases	6		2				4				3	
Actuated Green, G (s)	43.6	43.6		43.6	43.6			19.0	19.0		10.5	10.5
Effective Green, g (s)	45.5	45.5		45.5	45.5			20.5	20.5		12.0	12.0
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.23	0.23		0.13	0.13
Clearance Time (s)	5.9	5.9		5.9	5.9			5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	74	2284		74	2292			373	323		220	189
v/s Ratio Prot	c0.52				0.46		c0.16		c0.20			
v/s Ratio Perm	0.25		0.05				0.01				0.00	
v/c Ratio	0.49	1.03		0.09	0.91			0.70	0.03		1.51	0.03
Uniform Delay, d ₁	14.6	22.2		11.6	20.4			31.9	27.0		39.0	33.9
Progression Factor	0.76	0.68		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d ₂	17.7	25.6		2.5	6.8			5.7	0.0		253.2	0.1
Delay (s)	28.7	40.7		14.1	27.2			37.6	27.1		292.2	34.0
Level of Service	C	D		B	C			D	C		F	C
Approach Delay (s)	40.5		27.1		36.0		263.8					
Approach LOS	D		C		D		F					

Intersection Summary

HCM Average Control Delay	51.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.99			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1583	4542		1583	4541			1650			1653	1417
Flt Permitted	0.12	1.00		0.07	1.00			1.00			0.99	1.00
Satd. Flow (perm)	206	4542		124	4541			1650			1653	1417
Volume (vph)	239	1824	21	23	1432	18	5	141	10	16	83	187
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	249	1900	22	24	1492	19	5	147	10	17	86	195
RTOR Reduction (vph)	0	1	0	0	1	0	0	3	0	0	0	166
Lane Group Flow (vph)	249	1921	0	24	1510	0	0	159	0	0	103	29
Turn Type	Perm		Perm		Split		Split		Split		Perm	
Protected Phases	6		2		3		3		4		4	
Permitted Phases	6		2								4	
Actuated Green, G (s)	52.1	52.1		52.1	52.1			9.6			12.4	12.4
Effective Green, g (s)	53.6	53.6		53.6	53.6			11.0			13.4	13.4
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.12			0.15	0.15
Clearance Time (s)	5.5	5.5		5.5	5.5			5.4			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	123	2705		74	2704			202			246	211
v/s Ratio Prot		0.42			0.33			c0.10			c0.06	
v/s Ratio Perm	c1.21			0.19								0.02
v/c Ratio	2.02	0.71		0.32	0.56			0.79			0.42	0.14
Uniform Delay, d1	18.2	12.8		9.1	11.0			38.4			34.8	33.3
Progression Factor	1.00	1.00		1.45	1.52			1.00			1.00	1.00
Incremental Delay, d2	488.3	1.6		5.0	0.4			18.2			1.2	0.3
Delay (s)	506.5	14.4		18.3	17.1			56.6			35.9	33.6
Level of Service	F	B		B	B			E			D	C
Approach Delay (s)		70.8			17.2			56.6			34.4	
Approach LOS		E			B			E			C	





























Intersection Summary

HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
13: Wilshire Blvd & Sycamore Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑			↑			↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		0.99		1.00	1.00			0.99			0.98	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	1.00			0.97			0.93	
Flt Protected		1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)		4230		1490	4268			1496			1437	
Flt Permitted		1.00		0.06	1.00			0.95			0.98	
Satd. Flow (perm)		4230		100	4268			1437			1410	
Volume (vph)	0	2007	73	47	1628	22	28	145	47	10	64	70
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	0	2205	80	52	1789	24	31	159	52	11	70	77
RTOR Reduction (vph)	0	3	0	0	1	0	0	3	0	0	10	0
Lane Group Flow (vph)	0	2282	0	52	1812	0	0	239	0	0	148	0
Conf. Peds. (#/hr)	34		71	71		34	15		9	9		15
Conf. Bikes (#/hr)			8			12			4			2
Turn Type				Perm			Perm				Perm	
Protected Phases		6			2			8				4
Permitted Phases				2			8			4		
Actuated Green, G (s)		63.3		63.3	63.3			19.2			19.2	
Effective Green, g (s)		62.8		62.8	62.8			19.2			19.2	
Actuated g/C Ratio		0.70		0.70	0.70			0.21			0.21	
Clearance Time (s)		3.5		3.5	3.5			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2952		70	2978			307			301	
v/s Ratio Prot		c0.54			0.42							
v/s Ratio Perm				0.52				c0.17			0.10	
v/c Ratio		0.77		0.74	0.61			0.78			0.49	
Uniform Delay, d1		8.9		8.5	7.1			33.4			31.1	
Progression Factor		1.04		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.2		51.4	0.9			11.7			1.3	
Delay (s)		9.4		60.0	8.1			45.1			32.4	
Level of Service		A		E	A			D			C	
Approach Delay (s)		9.4			9.5			45.1			32.4	
Approach LOS		A			A			D			C	
Intersection Summary												
HCM Average Control Delay			12.2					HCM Level of Service			B	
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			90.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			77.6%					ICU Level of Service			D	
Analysis Period (min)			15									
c Critical Lane Group												

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			  	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1490	2980	1333	1490	2949		1490	4241		1490	4237	
Flt Permitted	0.12	1.00	1.00	0.12	1.00		0.14	1.00		0.14	1.00	
Satd. Flow (perm)	194	2980	1333	194	2949		216	4241		216	4237	
Volume (vph)	87	1500	102	109	1330	102	123	2132	146	154	2166	163
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	90	1546	105	112	1371	105	127	2198	151	159	2233	168
RTOR Reduction (vph)	0	0	38	0	6	0	0	9	0	0	9	0
Lane Group Flow (vph)	90	1546	67	112	1470	0	127	2340	0	159	2392	0
Turn Type	pm+pt		pm+ov	pm+pt			pm+pt			pm+pt		
Protected Phases	3	8	1	7	4		1	6		5	2	
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	37.0	31.4	38.4	37.0	31.4		35.0	28.0		35.0	28.0	
Effective Green, g (s)	38.0	32.4	39.4	38.0	32.4		36.0	29.0		36.0	29.0	
Actuated g/C Ratio	0.42	0.36	0.44	0.42	0.36		0.40	0.32		0.40	0.32	
Clearance Time (s)	4.0	5.0	4.0	4.0	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	4.8	3.0	3.0	4.6		3.0	4.3		3.0	5.5	
Lane Grp Cap (vph)	163	1073	643	163	1062		185	1367		185	1365	
v/s Ratio Prot	0.03	c0.52	0.01	c0.04	0.50		0.05	0.55		c0.07	c0.56	
v/s Ratio Perm	0.20		0.04	0.25			0.22			0.28		
v/c Ratio	0.55	1.44	0.10	0.69	1.38		0.69	1.71		0.86	1.75	
Uniform Delay, d1	21.8	28.8	14.9	22.1	28.8		41.8	30.5		42.8	30.5	
Progression Factor	0.71	0.68	0.70	1.00	1.00		1.64	1.43		1.72	1.45	
Incremental Delay, d2	0.4	198.9	0.0	11.4	178.6		1.0	320.6		3.8	338.7	
Delay (s)	15.9	218.5	10.5	33.5	207.4		69.5	364.3		77.7	382.9	
Level of Service	B	F	B	C	F		E	F		E	F	
Approach Delay (s)		195.5			195.2			349.2			363.9	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM Average Control Delay			292.5			HCM Level of Service			F			
HCM Volume to Capacity ratio			1.45									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			132.6%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗		↖	↗		↖	↗	↘
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.95	1.00	1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	2980	1333	1490	2914		1490	4221		1490	4282	
Flt Permitted	0.15	1.00	1.00	0.21	1.00		0.11	1.00		0.11	1.00	
Satd. Flow (perm)	234	2980	1333	328	2914		165	4221		165	4282	
Volume (vph)	35	784	93	158	1016	176	183	2078	220	90	2165	2
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	792	94	160	1026	178	185	2099	222	91	2187	2
RTOR Reduction (vph)	0	0	19	0	1	0	0	14	0	0	0	0
Lane Group Flow (vph)	35	792	75	160	1203	0	185	2307	0	91	2189	0
Turn Type	Perm		Perm	pm+pt		Perm		Perm		Perm		
Protected Phases		8		7	4			6				2
Permitted Phases	8		8	4			6			2		
Actuated Green, G (s)	35.0	35.0	35.0	43.0	43.0		37.0	37.0		37.0	37.0	
Effective Green, g (s)	36.0	36.0	36.0	44.0	44.0		38.0	38.0		38.0	38.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.49	0.49		0.42	0.42		0.42	0.42	
Clearance Time (s)	5.0	5.0	5.0	3.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	94	1192	533	212	1425		70	1782		70	1808	
v/s Ratio Prot		0.27		0.03	c0.41			0.55			0.51	
v/s Ratio Perm	0.15		0.06	0.34			c1.12			0.55		
v/c Ratio	0.37	0.66	0.14	0.75	0.84		2.64	1.29		1.30	1.21	
Uniform Delay, d1	19.0	22.1	17.2	18.7	20.0		26.0	26.0		26.0	26.0	
Progression Factor	1.43	1.44	1.66	1.00	1.00		1.00	1.00		0.33	0.35	
Incremental Delay, d2	1.0	0.3	0.1	14.1	6.3		778.6	136.9		144.4	95.3	
Delay (s)	28.1	32.0	28.6	32.9	26.3		804.6	162.9		153.1	104.3	
Level of Service	C	C	C	C	C		F	F		F	F	
Approach Delay (s)		31.5			27.1			210.3			106.3	
Approach LOS		C			C			F			F	

Intersection Summary

HCM Average Control Delay	118.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕↕		↕	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.91		1.00	0.91	
Frt		0.99			0.98		1.00	1.00		1.00	1.00	
Flt Protected		1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2954			2914		1490	4280		1490	4265	
Flt Permitted		1.00			1.00		0.19	1.00		0.19	1.00	
Satd. Flow (perm)		2954			2914		300	4280		300	4265	
Volume (vph)	0	1248	77	0	963	168	71	2334	10	108	2207	60
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1273	79	0	983	171	72	2382	10	110	2252	61
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	1352	0	0	1154	0	72	2391	0	110	2308	0
Turn Type		Perm		Perm		Perm		Perm		Perm		
Protected Phases		8		4		4		6		2		
Permitted Phases		8		4		6		2				
Actuated Green, G (s)		30.2		30.2		20.2		20.2		20.2		20.2
Effective Green, g (s)		31.1		31.1		20.9		20.9		20.9		20.9
Actuated g/C Ratio		0.52		0.52		0.35		0.35		0.35		0.35
Clearance Time (s)		4.9		4.9		4.7		4.7		4.7		4.7
Vehicle Extension (s)		3.0		3.0		3.0		3.0		3.0		3.0
Lane Grp Cap (vph)		1531		1510		105		1491		105		1486
v/s Ratio Prot		c0.46		0.40				c0.56				0.54
v/s Ratio Perm						0.24				0.37		
v/c Ratio		0.88		0.76		0.69		1.60		1.05		1.55
Uniform Delay, d1		12.8		11.5		16.7		19.6		19.6		19.6
Progression Factor		1.00		1.00		1.00		1.00		1.00		1.00
Incremental Delay, d2		6.4		2.4		30.7		274.9		101.2		252.4
Delay (s)		19.2		13.9		47.5		294.5		120.8		272.0
Level of Service		B		B		D		F		F		F
Approach Delay (s)		19.2		13.9				287.2				265.1
Approach LOS		B		B				F				F

Intersection Summary

HCM Average Control Delay	188.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.99		1.00	0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1489	4178		1490	4151		1490	4248		1490	4203	
Flt Permitted	0.13	1.00		0.13	1.00		0.13	1.00		0.95	1.00	
Satd. Flow (perm)	209	4178		209	4151		202	4248		1490	4203	
Volume (vph)	109	1823	143	242	1343	141	146	2032	64	148	1957	110
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	111	1860	146	247	1370	144	149	2073	65	151	1997	112
RTOR Reduction (vph)	0	10	0	0	14	0	0	4	0	0	7	0
Lane Group Flow (vph)	111	1996	0	247	1500	0	149	2134	0	151	2102	0
Conf. Peds. (#/hr)	145		153	153		145	164		89	89		164
Conf. Bikes (#/hr)			13			8			6			17
Turn Type	pm+pt			pm+pt			pm+pt			Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2			8					
Actuated Green, G (s)	36.5	30.0		36.5	30.0		37.5	31.0		7.5	32.0	
Effective Green, g (s)	36.0	30.0		36.0	30.0		37.0	31.0		7.0	32.0	
Actuated g/C Ratio	0.40	0.33		0.40	0.33		0.41	0.34		0.08	0.36	
Clearance Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		2.0	4.0	
Lane Grp Cap (vph)	169	1393		169	1384		169	1463		116	1494	
v/s Ratio Prot	0.04	0.48		c0.10	0.36		0.06	c0.50		c0.10	0.50	
v/s Ratio Perm	0.22			c0.49			0.30					
v/c Ratio	0.66	1.43		1.46	1.08		0.88	1.46		1.30	1.41	
Uniform Delay, d1	20.8	30.0		44.2	30.0		43.6	29.5		41.5	29.0	
Progression Factor	1.19	0.77		1.38	0.79		2.08	1.17		1.00	1.00	
Incremental Delay, d2	4.8	197.0		231.8	48.2		5.3	206.8		184.9	187.2	
Delay (s)	29.5	220.2		292.8	71.8		95.9	241.3		226.4	216.2	
Level of Service	C	F		F	E		F	F		F	F	
Approach Delay (s)		210.2			102.8			231.8			216.9	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM Average Control Delay	195.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	133.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
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	0.91		1.00	0.91	
Frbp, ped/bikes		0.99			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		0.97			0.98		1.00	1.00		1.00	1.00	
Flt Protected		1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1503			1507		1490	4264		1490	4258	
Flt Permitted		0.95			0.77		0.09	1.00		0.09	1.00	
Satd. Flow (perm)		1440			1175		147	4264		147	4258	
Volume (vph)	47	406	137	60	163	47	31	2131	39	19	2296	40
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	48	414	140	61	166	48	32	2174	40	19	2343	41
RTOR Reduction (vph)	0	1	0	0	1	0	0	2	0	0	2	0
Lane Group Flow (vph)	0	601	0	0	274	0	32	2212	0	19	2382	0
Conf. Peds. (#/hr)	10		12	12		10	57		25	25		57
Conf. Bikes (#/hr)			2						1			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		38.3			38.3		42.2	42.2		42.2	42.2	
Effective Green, g (s)		39.3			39.3		42.7	42.7		42.7	42.7	
Actuated g/C Ratio		0.44			0.44		0.47	0.47		0.47	0.47	
Clearance Time (s)		5.0			5.0		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		629			513		70	2023		70	2020	
v/s Ratio Prot								0.52			c0.56	
v/s Ratio Perm		c0.42			0.23		0.22			0.13		
v/c Ratio		0.96			0.53		0.46	1.09		0.27	1.18	
Uniform Delay, d1		24.5			18.6		15.9	23.6		14.3	23.6	
Progression Factor		1.00			1.00		1.00	1.00		0.53	0.61	
Incremental Delay, d2		25.2			1.1		20.0	50.7		0.9	81.1	
Delay (s)		49.7			19.7		35.9	74.3		8.4	95.5	
Level of Service		D			B		D	E		A	F	
Approach Delay (s)		49.7			19.7			73.8			94.8	
Approach LOS		D			B			E			F	
Intersection Summary												
HCM Average Control Delay			77.6				HCM Level of Service			E		
HCM Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)		8.0			
Intersection Capacity Utilization			102.7%				ICU Level of Service		G			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1490	4271		1490	4229		1490	4269		1490	4237	
Flt Permitted	0.13	1.00		0.11	1.00		0.95	1.00		0.10	1.00	
Satd. Flow (perm)	198	4271		176	4229		1490	4269		158	4237	
Volume (vph)	333	1917	36	57	1312	118	45	2116	45	189	2319	176
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	343	1976	37	59	1353	122	46	2181	46	195	2391	181
RTOR Reduction (vph)	0	2	0	0	11	0	0	2	0	0	8	0
Lane Group Flow (vph)	343	2011	0	59	1464	0	46	2225	0	195	2564	0
Turn Type	Perm		pm+pt			Prot		pm+pt				
Protected Phases	8		7		4		5		1			6
Permitted Phases	8		4					2		6		
Actuated Green, G (s)	30.3	30.3	41.0		41.0	5.6		34.2	48.2		38.6	
Effective Green, g (s)	31.7	31.7	42.4		42.4	5.6		35.6	49.6		40.0	
Actuated g/C Ratio	0.32	0.32	0.42		0.42	0.06		0.36	0.50		0.40	
Clearance Time (s)	5.4	5.4	4.0		5.4	4.0		5.4	4.0		5.4	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		3.0	4.0		3.0	
Lane Grp Cap (vph)	63	1354	163		1793	83		1520	212		1695	
v/s Ratio Prot	0.47		0.02		c0.35	0.03			c0.09		c0.61	
v/s Ratio Perm	c1.73		0.13					0.52	0.36			
v/c Ratio	5.44	1.49	0.36		0.82	0.55		1.46	0.92		1.51	
Uniform Delay, d1	34.1	34.1	23.6		25.4	46.0		32.2	46.6		30.0	
Progression Factor	1.00	1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	2034.4	222.3	1.4		4.2	7.8		212.4	40.2		233.9	
Delay (s)	2068.6	256.5	25.0		29.6	53.8		244.6	86.8		263.9	
Level of Service	F	F	C		C	D		F	F		F	
Approach Delay (s)	520.3		29.4			240.7		251.4				
Approach LOS	F		C			F		F				

Intersection Summary

HCM Average Control Delay	281.5	HCM Level of Service	F
HCM Volume to Capacity ratio	2.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	130.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑			↑↑↑			↑	↗		↕	
Ideal Flow (vphpl)	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Total Lost time (s)	4.0	4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	0.91			0.91			1.00	1.00		1.00	
Frbp, ped/bikes	1.00	0.97			0.99			1.00	0.96		0.99	
Flpb, ped/bikes	0.99	1.00			1.00			0.99	1.00		1.00	
Frt	1.00	0.99			0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00			1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1470	4113			4209			1525	1280		1507	
Flt Permitted	0.10	1.00			1.00			0.82	1.00		0.67	
Satd. Flow (perm)	152	4113			4209			1269	1280		1018	
Volume (vph)	239	1872	187	0	1485	65	79	200	148	50	114	18
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	266	2080	208	0	1650	72	88	222	164	56	127	20
RTOR Reduction (vph)	0	12	0	0	5	0	0	0	4	0	4	0
Lane Group Flow (vph)	266	2276	0	0	1717	0	0	310	160	0	199	0
Conf. Peds. (#/hr)	95		113	113		95	73		22	22		73
Conf. Bikes (#/hr)			13			15			3			3
Turn Type	Perm			Perm			Perm		Perm		Perm	
Protected Phases	6			2			8		8		4	
Permitted Phases	6						8		8		4	
Actuated Green, G (s)	58.1	58.1			58.1			24.4	24.4		24.4	
Effective Green, g (s)	57.6	57.6			57.6			24.4	24.4		24.4	
Actuated g/C Ratio	0.64	0.64			0.64			0.27	0.27		0.27	
Clearance Time (s)	3.5	3.5			3.5			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)	97	2632			2694			344	347		276	
v/s Ratio Prot		0.55			0.41							
v/s Ratio Perm	c1.75							c0.24	0.13		0.20	
v/c Ratio	2.74	0.86			0.64			0.90	0.46		0.72	
Uniform Delay, d1	16.2	13.1			9.9			31.6	27.3		29.7	
Progression Factor	1.27	1.21			0.27			1.00	1.00		1.00	
Incremental Delay, d2	805.0	3.1			0.1			25.5	1.0		8.7	
Delay (s)	825.5	18.9			2.7			57.1	28.3		38.4	
Level of Service	F	B			A			E	C		D	
Approach Delay (s)		102.9			2.7			47.1			38.4	
Approach LOS		F			A			D			D	

Intersection Summary			
HCM Average Control Delay	60.1	HCM Level of Service	E
HCM Volume to Capacity ratio	2.19		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑	↗		↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.86	0.86		1.00			1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.96			0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1583	4537		1583	4300	1218		1592			1584	
Flt Permitted	0.10	1.00		0.08	1.00	1.00		0.88			0.83	
Satd. Flow (perm)	168	4537		128	4300	1218		1412			1324	
Volume (vph)	136	1819	35	73	1401	99	36	170	84	79	223	132
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	149	1999	38	80	1540	109	40	187	92	87	245	145
RTOR Reduction (vph)	0	2	0	0	0	46	0	6	0	0	17	0
Lane Group Flow (vph)	149	2035	0	80	1540	63	0	313	0	0	460	0
Turn Type	Perm			Perm			Perm	Perm			Perm	
Protected Phases	6			2			2	8			4	
Permitted Phases	6			2			2	8			4	
Actuated Green, G (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Effective Green, g (s)	52.0	52.0		52.0	52.0	52.0		30.0			30.0	
Actuated g/C Ratio	0.58	0.58		0.58	0.58	0.58		0.33			0.33	
Clearance Time (s)	4.0	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			3.0	
Lane Grp Cap (vph)	97	2621		74	2484	704		471			441	
v/s Ratio Prot		0.45			0.36							
v/s Ratio Perm	c0.89			0.62			0.05	0.22			c0.35	
v/c Ratio	1.54	0.78		1.08	0.62	0.09		0.66			1.04	
Uniform Delay, d1	19.0	14.5		19.0	12.5	8.5		25.7			30.0	
Progression Factor	1.88	2.02		0.93	0.76	0.55		1.00			1.00	
Incremental Delay, d2	273.5	1.6		114.5	0.9	0.2		3.5			54.3	
Delay (s)	309.2	31.0		132.2	10.3	4.9		29.2			84.3	
Level of Service	F	C		F	B	A		C			F	
Approach Delay (s)		49.9			15.6			29.2			84.3	
Approach LOS		D			B			C			F	

Intersection Summary

HCM Average Control Delay	39.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↵	↑↑↑	↵	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0	4.0	
Lane Util. Factor	0.91		1.00	0.91	1.00	
Frt	1.00		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	4546		1583	4550	1534	
Flt Permitted	1.00		0.07	1.00	0.97	
Satd. Flow (perm)	4546		121	4550	1534	
Volume (vph)	1966	10	54	1491	76	47
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2069	11	57	1569	80	49
RTOR Reduction (vph)	0	0	0	0	4	0
Lane Group Flow (vph)	2080	0	57	1569	125	0
Turn Type			Perm			
Protected Phases	6			2	8	
Permitted Phases			2			
Actuated Green, G (s)	54.8		54.8	54.8	26.0	
Effective Green, g (s)	55.3		55.3	55.3	26.7	
Actuated g/C Ratio	0.61		0.61	0.61	0.30	
Clearance Time (s)	4.5		4.5	4.5	4.7	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2793		74	2796	455	
v/s Ratio Prot	0.46			0.34	c0.08	
v/s Ratio Perm			c0.47			
v/c Ratio	0.74		0.77	0.56	0.28	
Uniform Delay, d1	12.3		12.7	10.2	24.2	
Progression Factor	1.00		1.54	1.59	1.00	
Incremental Delay, d2	1.8		43.1	0.6	0.3	
Delay (s)	14.2		62.7	16.8	24.6	
Level of Service	B		E	B	C	
Approach Delay (s)	14.2			18.4	24.6	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	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	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1583	3167	1417	1583	3167	1417	1583	3167	1417	1583	3133	3133
Flt Permitted	0.17	1.00	1.00	0.10	1.00	1.00	0.15	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	289	3167	1417	167	3167	1417	247	3167	1417	215	3133	3133
Volume (vph)	106	1448	106	176	1120	214	121	1293	232	122	1271	96
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	110	1508	110	183	1167	223	126	1347	242	127	1324	100
RTOR Reduction (vph)	0	0	16	0	0	1	0	0	120	0	6	0
Lane Group Flow (vph)	110	1508	94	183	1167	222	126	1347	122	127	1418	0
Turn Type	Perm		Perm	pm+pt		pm+ov	Perm		Perm	pm+pt		
Protected Phases		6		5		2	7		8		7	4
Permitted Phases	6		6	2		2	8		8		4	
Actuated Green, G (s)	35.0	35.0	35.0	44.0	44.0	49.7	27.1	27.1	27.1	36.0	36.0	
Effective Green, g (s)	36.0	36.0	36.0	45.0	45.0	51.0	27.0	27.0	27.0	37.0	37.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.50	0.50	0.57	0.30	0.30	0.30	0.41	0.41	
Clearance Time (s)	5.0	5.0	5.0	3.2	5.0	4.3	3.9	3.9	3.9	4.3	5.0	
Vehicle Extension (s)	4.7	4.7	4.7	3.0	4.2	3.0	4.3	4.3	4.3	3.0	4.5	
Lane Grp Cap (vph)	116	1267	567	162	1584	866	74	950	425	180	1288	
v/s Ratio Prot		0.48		c0.06	0.37	0.02		0.43		0.05	c0.45	
v/s Ratio Perm	0.38		0.07	c0.50		0.14	c0.51		0.09	0.24		
v/c Ratio	0.95	1.19	0.17	1.13	0.74	0.26	1.70	1.42	0.29	0.71	1.10	
Uniform Delay, d1	26.1	27.0	17.3	44.7	17.8	9.9	31.5	31.5	24.1	42.6	26.5	
Progression Factor	1.00	1.00	1.00	2.38	0.25	0.30	0.51	0.51	0.14	1.11	1.15	
Incremental Delay, d2	70.6	93.7	0.6	66.0	0.3	0.0	321.4	188.6	0.2	6.8	52.7	
Delay (s)	96.7	120.7	18.0	172.5	4.8	3.0	337.6	204.7	3.5	54.0	83.1	
Level of Service	F	F	B	F	A	A	F	F	A	D	F	
Approach Delay (s)		112.6			24.0			186.1			80.8	
Approach LOS		F			C			F			F	

Intersection Summary

HCM Average Control Delay	103.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↕		↔	↕	↔	↔	↕		↔	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3142		1583	3167	1417	1583	3135		1583	3135	
Flt Permitted	0.19	1.00		0.12	1.00	1.00	0.14	1.00		0.12	1.00	
Satd. Flow (perm)	319	3142		196	3167	1417	238	3135		208	3135	
Volume (vph)	196	1324	73	126	829	196	123	1223	87	238	1373	98
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	200	1351	74	129	846	200	126	1248	89	243	1401	100
RTOR Reduction (vph)	0	4	0	0	0	28	0	6	0	0	6	0
Lane Group Flow (vph)	200	1421	0	129	846	172	126	1331	0	243	1495	0
Turn Type	pm+pt			pm+pt		pm+ov	Perm			pm+pt		
Protected Phases	1	6		5	2	7		8		7	4	
Permitted Phases	6			2		2	8			4		
Actuated Green, G (s)	40.1	32.3		39.7	32.1	37.9	26.1	26.1		35.1	35.1	
Effective Green, g (s)	41.2	34.2		40.8	34.0	39.0	28.0	28.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.38		0.45	0.38	0.43	0.31	0.31		0.41	0.41	
Clearance Time (s)	3.2	5.9		3.2	5.9	3.2	5.9	5.9		3.2	5.9	
Vehicle Extension (s)	3.0	4.6		3.0	4.7	3.0	4.7	4.7		3.0	4.7	
Lane Grp Cap (vph)	244	1194		194	1196	677	74	975		162	1289	
v/s Ratio Prot	c0.06	c0.45		0.05	0.27	0.01		0.42		c0.08	0.48	
v/s Ratio Perm	0.31			0.25		0.11	c0.53			0.53		
v/c Ratio	0.82	1.19		0.66	0.71	0.25	1.70	1.37		1.50	1.16	
Uniform Delay, d1	17.1	27.9		21.1	23.8	16.2	31.0	31.0		44.7	26.5	
Progression Factor	1.00	1.00		1.71	1.05	0.87	1.48	1.47		0.93	0.52	
Incremental Delay, d2	18.9	94.0		0.8	0.3	0.0	361.3	170.4		234.3	74.8	
Delay (s)	36.0	121.9		36.9	25.4	14.2	407.3	215.8		275.8	88.5	
Level of Service	D	F		D	C	B	F	F		F	F	
Approach Delay (s)	111.3			24.7			232.3			114.6		
Approach LOS	F			C			F			F		

Intersection Summary

HCM Average Control Delay	124.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖	↗	↖	↖↗	↗	↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.75	1.00	1.00	0.65	1.00	0.98	
Flpb, ped/bikes	0.84	1.00		1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1334	1630		3072	1667	1060	1583	3167	918	1497	3085	
Flt Permitted	0.57	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.18	1.00	
Satd. Flow (perm)	804	1630		3072	1667	1060	147	3167	918	288	3085	
Volume (vph)	19	440	27	160	297	158	6	1015	296	10	1271	67
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	20	458	28	167	309	165	6	1057	308	10	1324	70
RTOR Reduction (vph)	0	2	0	0	0	18	0	0	0	0	4	0
Lane Group Flow (vph)	20	484	0	167	309	147	6	1057	308	10	1390	0
Conf. Peds. (#/hr)	152		159	159		152	117		165	165		117
Conf. Bikes (#/hr)			5			9			7			6
Turn Type	Perm			Prot		Perm	Perm		pm+ov	Perm		
Protected Phases		8		7	4			6	7		2	
Permitted Phases	8					4	6		6		2	
Actuated Green, G (s)	20.2	20.2		10.0	34.2	34.2	46.2	46.2	56.2	46.2	46.2	
Effective Green, g (s)	21.0	21.0		10.0	35.0	35.0	47.0	47.0	57.0	47.0	47.0	
Actuated g/C Ratio	0.23	0.23		0.11	0.39	0.39	0.52	0.52	0.63	0.52	0.52	
Clearance Time (s)	4.8	4.8		4.0	4.8	4.8	4.8	4.8	4.0	4.8	4.8	
Vehicle Extension (s)	5.9	5.9		3.0	5.2	5.2	4.8	4.8	3.0	4.4	4.4	
Lane Grp Cap (vph)	188	380		341	648	412	77	1654	622	150	1611	
v/s Ratio Prot		c0.30		0.05	0.19			0.33	c0.05		c0.45	
v/s Ratio Perm	0.02					0.14	0.04		0.28	0.03		
v/c Ratio	0.11	1.27		0.49	0.48	0.36	0.08	0.64	0.50	0.07	0.86	
Uniform Delay, d1	27.1	34.5		37.6	20.6	19.5	10.7	15.4	8.8	10.6	18.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.30	0.27	0.33	0.36	0.79	
Incremental Delay, d2	1.1	141.9		1.1	2.5	2.4	0.2	0.2	0.1	0.1	0.6	
Delay (s)	28.3	176.4		38.7	23.1	21.9	3.4	4.3	3.0	3.9	15.5	
Level of Service	C	F		D	C	C	A	A	A	A	B	
Approach Delay (s)		170.6			26.9			4.0			15.4	
Approach LOS		F			C			A			B	

Intersection Summary

HCM Average Control Delay	33.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.94		1.00	1.00	0.82
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4323		1583	4403		1583	2905		1583	3167	1155
Flt Permitted	0.15	1.00		0.15	1.00		0.13	1.00		0.95	1.00	1.00
Satd. Flow (perm)	243	4323		243	4403		218	2905		1583	3167	1155
Volume (vph)	307	1945	325	191	1173	108	93	1287	236	159	1573	210
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	323	2047	342	201	1235	114	98	1355	248	167	1656	221
RTOR Reduction (vph)	0	26	0	0	12	0	0	17	0	0	0	107
Lane Group Flow (vph)	323	2363	0	201	1337	0	98	1587	0	167	1656	114
Confl. Peds. (#/hr)	152		159	159		152	163		211	211		163
Turn Type	pm+pt		pm+pt		pm+pt				Prot		Perm	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		2		8						4	
Actuated Green, G (s)	33.2	26.4		33.2	26.4		35.0	29.6		10.8	35.0	35.0
Effective Green, g (s)	33.4	27.4		33.4	27.4		35.2	30.6		10.0	36.0	36.0
Actuated g/C Ratio	0.37	0.30		0.37	0.30		0.39	0.34		0.11	0.40	0.40
Clearance Time (s)	3.2	5.0		3.2	5.0		3.2	5.0		3.2	5.0	5.0
Vehicle Extension (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	4.0
Lane Grp Cap (vph)	180	1316		180	1340		155	988		176	1267	462
v/s Ratio Prot	c0.12	0.55		0.07	0.30		0.03	c0.55		c0.11	c0.52	
v/s Ratio Perm	c0.55		0.34		0.22						0.10	
v/c Ratio	1.79	1.80		1.12	1.00		0.63	1.61		0.95	1.31	0.25
Uniform Delay, d1	25.6	31.3		44.2	31.3		23.0	29.7		39.7	27.0	18.0
Progression Factor	1.31	1.19		1.00	1.00		1.12	0.82		0.81	1.50	2.81
Incremental Delay, d2	372.0	360.2		101.8	24.1		6.8	276.5		45.4	142.8	1.0
Delay (s)	405.5	397.5		146.1	55.4		32.5	300.9		77.7	183.3	51.4
Level of Service	F	F		F	E		C	F		E	F	D
Approach Delay (s)		398.4			67.1			285.4			160.4	
Approach LOS		F			E			F			F	

Intersection Summary

HCM Average Control Delay	249.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	135.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗	↖	↔	↗		↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)			4.0	4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor			1.00	0.95	0.91	0.95		0.95		1.00	0.95	
Frbp, ped/bikes			0.98	1.00	0.98	0.97		0.99		1.00	1.00	
Flpb, ped/bikes			1.00	1.00	1.00	1.00		1.00		1.00	1.00	
Frt			0.86	1.00	0.93	0.85		0.99		1.00	1.00	
Flt Protected			1.00	0.95	0.97	1.00		1.00		0.95	1.00	
Satd. Flow (prot)			1413	1501	1354	1299		3100		1576	3167	
Flt Permitted			1.00	0.95	0.97	1.00		1.00		0.12	1.00	
Satd. Flow (perm)			1413	1501	1354	1299		3100		204	3167	
Volume (vph)	0	0	81	119	0	120	0	1302	127	186	1228	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	83	121	0	122	0	1329	130	190	1253	0
RTOR Reduction (vph)	0	0	78	0	33	71	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	5	73	54	12	0	1453	0	190	1253	0
Conf. Peds. (#/hr)	10		1	1		10	18		29	29		18
Conf. Bikes (#/hr)			1			2			3			3
Turn Type			custom	Perm		Perm				Perm		
Protected Phases					3			2			2	
Permitted Phases			4	3		3				2		
Actuated Green, G (s)			4.8	12.3	12.3	12.3		58.5		58.5	58.5	
Effective Green, g (s)			5.7	13.2	13.2	13.2		59.1		59.1	59.1	
Actuated g/C Ratio			0.06	0.15	0.15	0.15		0.66		0.66	0.66	
Clearance Time (s)			4.9	4.9	4.9	4.9		4.6		4.6	4.6	
Vehicle Extension (s)			3.0	3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)			89	220	199	191		2036		134	2080	
v/s Ratio Prot								0.47			0.40	
v/s Ratio Perm			c0.00	c0.05	0.04	0.01				c0.93		
v/c Ratio			0.06	0.33	0.27	0.06		0.71		1.42	0.60	
Uniform Delay, d1			39.6	34.4	34.1	33.1		10.0		15.4	8.8	
Progression Factor			1.00	1.00	1.00	1.00		1.00		1.14	0.69	
Incremental Delay, d2			0.3	0.9	0.7	0.1		2.2		192.1	0.1	
Delay (s)			39.9	35.3	34.9	33.2		12.1		209.7	6.2	
Level of Service			D	D	C	C		B		F	A	
Approach Delay (s)		39.9			34.4			12.1			33.0	
Approach LOS		D			C			B			C	
Intersection Summary												
HCM Average Control Delay			23.9									HCM Level of Service C
HCM Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			78.9%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑		↔	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0			4.0	
Lane Util. Factor		0.91			0.91		1.00	0.86			0.86	
Frt		0.99			0.96		1.00	1.00			1.00	
Flt Protected		1.00			1.00		0.95	1.00			1.00	
Satd. Flow (prot)		4493			4373		1583	5733			5733	
Flt Permitted		1.00			1.00		0.17	1.00			1.00	
Satd. Flow (perm)		4493			4373		284	5733			5733	
Volume (vph)	0	1953	176	0	1240	434	71	1259	0	0	1529	0
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1993	180	0	1265	443	72	1285	0	0	1560	0
RTOR Reduction (vph)	0	11	0	0	63	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2162	0	0	1645	0	72	1285	0	0	1560	0
Turn Type							Perm					
Protected Phases		6			6			2			2	
Permitted Phases							2					
Actuated Green, G (s)		22.1			22.1		24.5	24.5			24.5	
Effective Green, g (s)		23.0			23.0		23.5	23.5			23.5	
Actuated g/C Ratio		0.23			0.23		0.24	0.24			0.24	
Clearance Time (s)		4.9			4.9		3.0	3.0			3.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1033			1006		67	1347			1347	
v/s Ratio Prot		c0.48			0.38			0.22			c0.27	
v/s Ratio Perm							0.25					
v/c Ratio		2.09			1.64		1.07	0.95			1.16	
Uniform Delay, d1		38.5			38.5		38.2	37.7			38.2	
Progression Factor		0.69			1.00		1.00	1.00			0.71	
Incremental Delay, d2		492.2			290.3		132.0	15.7			72.0	
Delay (s)		518.8			328.8		170.3	53.5			99.3	
Level of Service		F			F		F	D			F	
Approach Delay (s)		518.8			328.8			59.7			99.3	
Approach LOS		F			F			E			F	

Intersection Summary

HCM Average Control Delay	283.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	53.5
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗		↑↑↑	↗		↑↗		↘	↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.86	1.00		0.91	1.00		0.95		1.00	0.95	
Frt	1.00	1.00	0.85		1.00	0.85		1.00		1.00	0.99	
Flt Protected	0.95	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1583	5733	1417		4550	1417		3165		1583	3145	
Flt Permitted	0.17	1.00	1.00		1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	284	5733	1417		4550	1417		3165		1583	3145	
Volume (vph)	23	1406	34	0	1348	327	0	1084	3	172	1189	57
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	23	1435	35	0	1376	334	0	1106	3	176	1213	58
RTOR Reduction (vph)	0	0	27	0	0	256	0	0	0	0	3	0
Lane Group Flow (vph)	23	1435	8	0	1376	78	0	1109	0	176	1268	0
Turn Type	Perm		Perm		Perm				Prot			
Protected Phases	2		2		2		8		7		4	
Permitted Phases	2		2		2							
Actuated Green, G (s)	24.5	24.5	24.5		24.5	24.5		31.0		5.0	31.0	
Effective Green, g (s)	23.5	23.5	23.5		23.5	23.5		32.5		5.0	32.5	
Actuated g/C Ratio	0.24	0.24	0.24		0.24	0.24		0.32		0.05	0.32	
Clearance Time (s)	3.0	3.0	3.0		3.0	3.0		5.5		4.0	5.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		5.0		3.0	4.0	
Lane Grp Cap (vph)	67	1347	333		1069	333		1029		79	1022	
v/s Ratio Prot		0.25			c0.30			0.35		c0.11	c0.40	
v/s Ratio Perm	0.08		0.01			0.06						
v/c Ratio	0.34	1.07	0.02		1.29	0.24		1.08		2.23	1.24	
Uniform Delay, d1	31.8	38.2	29.4		38.2	31.0		33.8		47.5	33.8	
Progression Factor	1.00	1.00	1.00		0.83	1.83		0.40		1.00	1.00	
Incremental Delay, d2	13.4	44.0	0.1		129.9	0.1		37.0		591.2	116.6	
Delay (s)	45.3	82.2	29.6		161.5	56.9		50.4		638.7	150.3	
Level of Service	D	F	C		F	E		D		F	F	
Approach Delay (s)		80.4			141.1			50.4			209.7	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	125.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶↶			↶↶	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.99			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4543		1583	4545		1583	3145			3055	
Flt Permitted	0.17	1.00		0.17	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	290	4543		290	4545		1583	3145			3055	
Volume (vph)	247	2137	21	64	1229	9	33	775	37	0	941	289
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	252	2181	21	65	1254	9	34	791	38	0	960	295
RTOR Reduction (vph)	0	1	0	0	1	0	0	3	0	0	29	0
Lane Group Flow (vph)	252	2201	0	65	1262	0	34	826	0	0	1226	0
Turn Type	Perm		Perm		Prot							
Protected Phases	6		6		3		8				4	
Permitted Phases	6		6									
Actuated Green, G (s)	22.1	22.1		22.1	22.1		5.0	31.0			31.0	
Effective Green, g (s)	23.0	23.0		23.0	23.0		5.0	32.5			32.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.05	0.32			0.32	
Clearance Time (s)	4.9	4.9		4.9	4.9		4.0	5.5			5.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	5.0			4.0	
Lane Grp Cap (vph)	67	1045		67	1045		79	1022			993	
v/s Ratio Prot		0.48			0.28		c0.02	0.26			c0.40	
v/s Ratio Perm	c0.87			0.22								
v/c Ratio	3.76	2.11		0.97	1.21		0.43	0.81			1.23	
Uniform Delay, d1	38.5	38.5		38.2	38.5		46.1	30.9			33.8	
Progression Factor	1.00	1.00		0.71	0.70		1.00	1.00			0.27	
Incremental Delay, d2	1278.1	501.2		26.5	94.4		3.7	6.9			106.4	
Delay (s)	1316.6	539.7		53.6	121.5		49.9	37.8			115.5	
Level of Service	F	F		D	F		D	D			F	
Approach Delay (s)		619.4			118.2			38.2			115.5	
Approach LOS		F			F			D			F	

Intersection Summary

HCM Average Control Delay	314.4	HCM Level of Service	F
HCM Volume to Capacity ratio	2.14		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	39.5
Intersection Capacity Utilization	104.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↗	↗↘		↗	↗↘		↗	↗↘	↗	↗	↗↘	↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	
Total Lost time (s)	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	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1583	3145		1583	3153		1583	3167	1417	1583	3167	1417	
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	222	3145		222	3153		1583	3167	1417	1583	3167	1417	
Volume (vph)	135	1374	65	32	841	24	97	681	187	79	930	80	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	141	1431	68	33	876	25	101	709	195	82	969	83	
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	61	0	0	46	
Lane Group Flow (vph)	141	1495	0	33	899	0	101	709	134	82	969	37	
Turn Type	Perm			Perm			Prot			Perm	Prot		Perm
Protected Phases	6			2			3		8		7		4
Permitted Phases	6			2					8				4
Actuated Green, G (s)	29.0	29.0		29.0	29.0		7.8	39.3	39.3	7.7	39.2	39.2	
Effective Green, g (s)	30.0	30.0		30.0	30.0		7.8	40.3	40.3	7.7	40.2	40.2	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.09	0.45	0.45	0.09	0.45	0.45	
Clearance Time (s)	5.0	5.0		5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	74	1048		74	1051		137	1418	635	135	1415	633	
v/s Ratio Prot		0.48			0.29		c0.06	0.22		0.05	c0.31		
v/s Ratio Perm	c0.63			0.15					0.09			0.03	
v/c Ratio	1.91	1.43		0.45	0.86		0.74	0.50	0.21	0.61	0.68	0.06	
Uniform Delay, d1	30.0	30.0		23.5	28.0		40.1	17.7	15.2	39.7	19.8	14.1	
Progression Factor	0.83	0.82		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	412.0	192.5		18.2	8.9		18.5	1.3	0.8	7.5	2.7	0.2	
Delay (s)	437.0	217.1		41.7	36.9		58.6	18.9	15.9	47.2	22.6	14.3	
Level of Service	F	F		D	D		E	B	B	D	C	B	
Approach Delay (s)		236.0			37.1			22.3			23.7		
Approach LOS		F			D			C			C		

Intersection Summary

HCM Average Control Delay	100.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↑↑			↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			0.95			0.95	
Frt	1.00	0.99		1.00	0.99			0.99			0.99	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4508		1583	4488			3137			3147	
Flt Permitted	0.11	1.00		0.09	1.00			1.00			0.85	
Satd. Flow (perm)	179	4508		147	4488			3137			2682	
Volume (vph)	148	1979	128	83	1333	133	0	1031	68	19	857	30
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	151	2019	131	85	1360	136	0	1052	69	19	874	31
RTOR Reduction (vph)	0	8	0	0	13	0	0	2	0	0	3	0
Lane Group Flow (vph)	151	2142	0	85	1483	0	0	1119	0	0	921	0
Turn Type	Perm		Perm				Perm					
Protected Phases	6		2				8				4	
Permitted Phases	6		2								4	
Actuated Green, G (s)	43.7	43.7		43.7	43.7			34.6			34.6	
Effective Green, g (s)	45.4	45.4		45.4	45.4			36.6			36.6	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.41			0.41	
Clearance Time (s)	5.7	5.7		5.7	5.7			6.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	90	2274		74	2264			1276			1091	
v/s Ratio Prot		0.48			0.33			c0.36				
v/s Ratio Perm	c0.85			0.58							0.34	
v/c Ratio	1.68	0.94		1.15	0.66			0.88			0.84	
Uniform Delay, d1	22.3	21.1		22.3	16.5			24.6			24.1	
Progression Factor	0.40	0.36		0.53	0.27			1.00			1.00	
Incremental Delay, d2	309.4	1.1		119.1	0.7			7.1			6.1	
Delay (s)	318.3	8.6		131.0	5.2			31.7			30.2	
Level of Service	F	A		F	A			C			C	
Approach Delay (s)		28.9			12.0			31.7			30.2	
Approach LOS		C			B			C			C	

Intersection Summary

HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑↑		↗	↑↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	1.00
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4473		1583	4475		1583	4380		1583	4550	1417
Flt Permitted	0.13	1.00		0.13	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	215	4473		215	4475		1583	4380		1583	4550	1417
Volume (vph)	294	1799	230	373	1178	145	77	957	317	231	1670	244
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	306	1874	240	389	1227	151	80	997	330	241	1740	254
RTOR Reduction (vph)	0	18	0	0	17	0	0	27	0	0	0	102
Lane Group Flow (vph)	306	2096	0	389	1361	0	80	1300	0	241	1740	152
Turn Type	Perm			Perm			Prot			Prot		Perm
Protected Phases	4			8			5			1		6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	29.0	29.0		29.0	29.0		7.9	32.0		14.0	37.1	37.1
Effective Green, g (s)	31.0	31.0		31.0	31.0		8.9	33.0		14.0	38.1	38.1
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.10	0.37		0.16	0.42	0.42
Clearance Time (s)	6.0	6.0		6.0	6.0		5.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0		4.0	4.0		2.0	4.0		2.0	4.0	4.0
Lane Grp Cap (vph)	74	1541		74	1541		157	1606		246	1926	600
v/s Ratio Prot	0.47			0.30			0.05			c0.15	c0.38	
v/s Ratio Perm	1.42			c1.81			0.30					0.11
v/c Ratio	4.14	1.36		5.26	0.88		0.51	0.81		0.98	0.90	0.25
Uniform Delay, d1	29.5	29.5		29.5	27.8		38.5	25.7		37.9	24.2	16.8
Progression Factor	1.00	1.00		0.37	0.31		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1442.2	166.3		1941.2	6.8		0.9	4.5		50.9	7.5	1.0
Delay (s)	1471.7	195.8		1952.2	15.4		39.4	30.2		88.7	31.7	17.8
Level of Service	F			F			D			F		B
Approach Delay (s)	357.1			441.8			30.7			36.3		
Approach LOS	F			F			C			D		

Intersection Summary

HCM Average Control Delay	226.0	HCM Level of Service	F
HCM Volume to Capacity ratio	2.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↗↗↗		↗	↗↗↗			↕			↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00			0.99			1.00	0.92
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	1.00
Satd. Flow (prot)	1561	4540		1577	4511			1584			1645	1306
Flt Permitted	0.13	1.00		0.06	1.00			0.96			0.92	1.00
Satd. Flow (perm)	219	4540		98	4511			1532			1523	1306
Volume (vph)	80	2008	14	25	1396	39	25	182	50	23	117	262
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	2136	15	27	1485	41	27	194	53	24	124	279
RTOR Reduction (vph)	0	1	0	0	3	0	0	8	0	0	0	34
Lane Group Flow (vph)	85	2150	0	27	1523	0	0	266	0	0	148	245
Confl. Peds. (#/hr)	67		64	64		67	46		45	45		46
Confl. Bikes (#/hr)			7			5			5			6
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	69.0	69.0		69.0	69.0			25.0			25.0	25.0
Effective Green, g (s)	68.0	68.0		68.0	68.0			24.0			24.0	24.0
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.24			0.24	0.24
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	3.0
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	3.0
Lane Grp Cap (vph)	149	3087		67	3067			368			366	313
v/s Ratio Prot		c0.47			0.34							
v/s Ratio Perm	0.39			0.28				0.17			0.10	c0.19
v/c Ratio	0.57	0.70		0.40	0.50			0.72			0.40	0.78
Uniform Delay, d1	8.4	9.7		7.1	7.7			34.9			32.0	35.6
Progression Factor	0.70	0.45		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	1.4	0.1		17.1	0.6			11.6			3.3	17.5
Delay (s)	7.3	4.5		24.1	8.3			46.5			35.3	53.1
Level of Service	A	A		C	A			D			D	D
Approach Delay (s)		4.6			8.6			46.5			46.9	
Approach LOS		A			A			D			D	

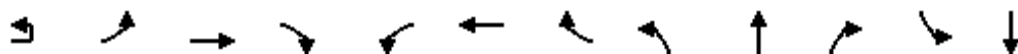
Intersection Summary			
HCM Average Control Delay	12.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘↗	↑↑↗		↘↗	↑↑↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95	1.00	1.00	0.95		0.97	0.91		0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.75	1.00	0.93		1.00	0.98		1.00	0.94	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		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)	1576	3167	1060	1583	2834		3072	4402		3072	4196	
Flt Permitted	0.13	1.00	1.00	0.12	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	212	3167	1060	196	2834		3072	4402		3072	4196	
Volume (vph)	357	1168	85	254	558	169	61	2124	118	159	1563	291
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	380	1243	90	270	594	180	65	2260	126	169	1663	310
RTOR Reduction (vph)	0	0	46	0	24	0	0	5	0	0	22	0
Lane Group Flow (vph)	380	1243	45	270	750	0	65	2381	0	169	1951	0
Conf. Peds. (#/hr)	211		160	160		211	310		128	128		310
Conf. Bikes (#/hr)			10			8			9			7
Turn Type	pm+pt		Perm	pm+pt		Prot		Prot		Prot		
Protected Phases	1	6		5	2	3	8		7	4		
Permitted Phases	6		6	2								
Actuated Green, G (s)	51.6	34.6	34.6	47.6	32.6	9.6	44.1		8.9	43.4		
Effective Green, g (s)	52.0	36.0	36.0	48.0	34.0	9.6	45.1		8.9	44.4		
Actuated g/C Ratio	0.43	0.30	0.30	0.40	0.28	0.08	0.38		0.07	0.37		
Clearance Time (s)	3.0	5.4	5.4	3.0	5.4	4.0	5.0		4.0	5.0		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	274	950	318	240	803	246	1654		228	1553		
v/s Ratio Prot	c0.19	0.39		0.13	0.26	0.02	c0.54		0.06	c0.46		
v/s Ratio Perm	c0.42		0.04	0.32								
v/c Ratio	1.39	1.31	0.14	1.12	0.93	0.26	1.44		0.74	1.26		
Uniform Delay, d1	32.9	42.0	30.7	55.2	41.9	51.9	37.5		54.4	37.8		
Progression Factor	1.31	0.99	1.26	1.00	1.00	0.95	0.92		1.20	0.45		
Incremental Delay, d2	176.2	139.5	0.0	95.9	19.3	0.4	200.0		1.2	115.8		
Delay (s)	219.2	181.0	38.7	151.0	61.2	49.7	234.4		66.6	132.8		
Level of Service	F	F	D	F	E	D	F		E	F		
Approach Delay (s)		182.0			84.5		229.5			127.6		
Approach LOS		F			F		F			F		

Intersection Summary

HCM Average Control Delay	168.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	119.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↔	↑↑↑	↔	↔		↔	↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0		4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00		0.91		1.00	0.86	0.86	1.00		1.00	0.97	
Frt	1.00		1.00		1.00	0.96	0.85	1.00		0.85	1.00	
Flt Protected	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (prot)	1583		4537		1583	4112	1218	1583		1417	3072	
Flt Permitted	0.95		1.00		0.95	1.00	1.00	0.95		1.00	0.95	
Satd. Flow (perm)	1583		4537		1583	4112	1218	1583		1417	3072	
Volume (vph)	21	0	1127	22	14	861	904	36	0	46	1027	0
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	22	0	1199	23	15	916	962	38	0	49	1093	0
RTOR Reduction (vph)	0	0	2	0	0	60	326	0	0	47	0	0
Lane Group Flow (vph)	22	0	1220	0	15	1233	259	38	0	2	1093	0
Turn Type	Prot				Prot		Perm	Prot			custom	custom
Protected Phases	5		2		1	6		7				
Permitted Phases							6			7	8	
Actuated Green, G (s)	4.1		54.2		2.0	51.2	51.2	4.8		4.8	37.2	
Effective Green, g (s)	6.0		55.2		3.9	53.1	53.1	5.8		5.8	39.1	
Actuated g/C Ratio	0.05		0.46		0.03	0.44	0.44	0.05		0.05	0.33	
Clearance Time (s)	5.9		5.0		5.9	5.9	5.9	5.0		5.0	5.9	
Vehicle Extension (s)	3.0		3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79		2087		51	1820	539	77		68	1001	
v/s Ratio Prot	0.01		c0.27		0.01	c0.30		c0.02				
v/s Ratio Perm							0.21			0.00	c0.36	
v/c Ratio	0.28		0.58		0.29	0.68	0.48	0.49		0.03	1.09	
Uniform Delay, d1	54.9		23.9		56.7	26.6	23.7	55.7		54.4	40.5	
Progression Factor	1.07		1.16		1.02	1.68	9.64	1.00		1.00	1.15	
Incremental Delay, d2	0.2		0.1		1.9	1.2	1.8	4.9		0.2	50.1	
Delay (s)	59.0		27.9		59.6	46.0	230.2	60.6		54.6	96.7	
Level of Service	E		C		E	D	F	E		D	F	
Approach Delay (s)			28.4			103.0			57.2			94.4
Approach LOS			C			F			E			F

Intersection Summary

HCM Average Control Delay	78.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	7
Ideal Flow (vphpl)	1700
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1417
Flt Permitted	1.00
Satd. Flow (perm)	1417
Volume (vph)	62
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	66
RTOR Reduction (vph)	38
Lane Group Flow (vph)	28
Turn Type	custom
Protected Phases	
Permitted Phases	8
Actuated Green, G (s)	37.2
Effective Green, g (s)	39.1
Actuated g/C Ratio	0.33
Clearance Time (s)	5.9
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	462
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.06
Uniform Delay, d1	27.8
Progression Factor	2.00
Incremental Delay, d2	0.1
Delay (s)	55.6
Level of Service	E
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑	↑	↑↑↑			↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor		0.86	1.00		0.86	1.00	1.00	0.91			0.91	
Frt		1.00	0.85		1.00	0.85	1.00	1.00			0.98	
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)		5733	1417		5733	1417	1583	4549			4439	
Flt Permitted		1.00	1.00		1.00	1.00	0.95	1.00			1.00	
Satd. Flow (perm)		5733	1417		5733	1417	1583	4549			4439	
Volume (vph)	0	1621	374	0	1275	390	168	2037	2	0	1735	339
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1671	386	0	1314	402	173	2100	2	0	1789	349
RTOR Reduction (vph)	0	0	3	0	0	8	0	0	0	0	24	0
Lane Group Flow (vph)	0	1671	383	0	1314	394	173	2102	0	0	2114	0
Turn Type		pm+ov			Perm		Prot					
Protected Phases		8	1		4		1	6			2	
Permitted Phases		8	8			4						
Actuated Green, G (s)		34.2	47.7		34.2	34.2	13.5	73.8			54.8	
Effective Green, g (s)		36.2	51.2		36.2	36.2	15.0	75.8			56.8	
Actuated g/C Ratio		0.30	0.43		0.30	0.30	0.12	0.63			0.47	
Clearance Time (s)		6.0	5.5		6.0	6.0	5.5	6.0			6.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)		1729	652		1729	427	198	2873			2101	
v/s Ratio Prot		c0.29	0.07		0.23		c0.11	0.46			c0.48	
v/s Ratio Perm			0.20			0.28						
v/c Ratio		0.97	0.59		0.76	0.92	0.87	0.73			1.01	
Uniform Delay, d1		41.3	26.3		38.0	40.6	51.6	15.1			31.6	
Progression Factor		1.29	1.22		1.00	1.00	1.07	0.75			0.30	
Incremental Delay, d2		10.3	0.8		3.2	28.0	23.7	1.1			7.4	
Delay (s)		63.5	32.9		41.2	68.6	78.8	12.6			16.9	
Level of Service		E	C		D	E	E	B			B	
Approach Delay (s)		57.8			47.6			17.6			16.9	
Approach LOS		E			D			B			B	

Intersection Summary

HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frt		0.98			0.97		1.00	0.99		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1598			1606		1583	4527		1583	4508	
Flt Permitted		0.81			0.94		0.08	1.00		0.06	1.00	
Satd. Flow (perm)		1326			1519		130	4527		103	4508	
Volume (vph)	205	180	66	10	48	17	47	1982	69	130	1772	118
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	209	184	67	10	49	17	48	2022	70	133	1808	120
RTOR Reduction (vph)	0	5	0	0	8	0	0	3	0	0	6	0
Lane Group Flow (vph)	0	455	0	0	68	0	48	2089	0	133	1922	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	4		8		8		2		2		6	
Permitted Phases	4		8		8		2		2		6	
Actuated Green, G (s)	30.0		30.0		30.0		83.4		83.4		83.4	
Effective Green, g (s)	29.0		29.0		29.0		83.0		83.0		83.0	
Actuated g/C Ratio	0.24		0.24		0.24		0.69		0.69		0.69	
Clearance Time (s)	3.0		3.0		3.0		3.6		3.6		3.6	
Vehicle Extension (s)	3.0		3.0		3.0		5.0		5.0		5.0	
Lane Grp Cap (vph)	320		367		367		90		3131		71	
v/s Ratio Prot							0.46				0.43	
v/s Ratio Perm	c0.34		0.04		0.37		0.37				c1.30	
v/c Ratio	1.42		0.18		0.53		0.67		0.67		1.87	
Uniform Delay, d1	45.5		36.1		9.0		10.6		18.5		9.9	
Progression Factor	1.00		1.00		1.00		1.00		0.60		0.35	
Incremental Delay, d2	206.8		1.1		20.8		1.1		411.5		0.3	
Delay (s)	252.3		37.2		29.8		11.7		422.6		3.8	
Level of Service	F		D		C		B		F		A	
Approach Delay (s)	252.3		37.2		12.1		30.8					
Approach LOS	F		D		B		C					

Intersection Summary

HCM Average Control Delay	44.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↶↶↶		↶	↶↶↶		↶	↶↶↶		↶	↶↶↶	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	0.94		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	
Frt	1.00	0.97		1.00	0.99		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4170		1583	4471		1583	4475		1583	4400	
Flt Permitted	0.11	1.00		0.11	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	190	4170		190	4471		194	4475		196	4400	
Volume (vph)	214	1935	471	194	1414	58	232	1903	119	111	1566	187
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	228	2059	501	206	1504	62	247	2024	127	118	1666	199
RTOR Reduction (vph)	0	41	0	0	5	0	0	7	0	0	15	0
Lane Group Flow (vph)	228	2519	0	206	1561	0	247	2144	0	118	1850	0
Conf. Peds. (#/hr)	124		194	124		194	103		84	84		103
Conf. Bikes (#/hr)			6			13			4			11
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	44.5	35.5		44.5	35.5		42.4	34.4		41.6	34.0	
Effective Green, g (s)	43.0	35.0		43.0	35.0		41.4	34.4		40.6	34.0	
Actuated g/C Ratio	0.43	0.35		0.43	0.35		0.41	0.34		0.41	0.34	
Clearance Time (s)	3.0	3.5		3.0	3.5		3.0	4.0		3.0	4.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	193	1460		193	1565		178	1539		171	1496	
v/s Ratio Prot	c0.09	c0.60		0.09	0.35		c0.10	c0.48		0.05	0.42	
v/s Ratio Perm	0.41			0.37			0.48			0.23		
v/c Ratio	1.18	1.73		1.07	1.00		1.39	1.39		0.69	1.24	
Uniform Delay, d1	23.4	32.5		48.2	32.5		48.7	32.8		24.8	33.0	
Progression Factor	0.85	0.84		1.52	0.97		1.74	0.81		1.00	1.00	
Incremental Delay, d2	107.5	328.1		78.5	20.4		191.9	179.2		9.3	112.6	
Delay (s)	127.4	355.3		152.0	51.8		276.5	205.8		34.1	145.6	
Level of Service	F	F		F	D		F	F		C	F	
Approach Delay (s)		336.7			63.5			213.1			138.9	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM Average Control Delay	205.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	133.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕↕↕		↗	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.91		1.00	0.91	
Frbp, ped/bikes		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	
Frt		0.95			0.99		1.00	0.99		1.00	1.00	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1502			1604		1583	4485		1583	4498	
Flt Permitted		0.86			0.34		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1310			562		104	4485		104	4498	
Volume (vph)	125	303	276	116	106	19	57	2041	116	24	2030	60
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	132	319	291	122	112	20	60	2148	122	25	2137	63
RTOR Reduction (vph)	0	5	0	0	3	0	0	6	0	0	3	0
Lane Group Flow (vph)	0	737	0	0	251	0	60	2264	0	25	2197	0
Conf. Peds. (#/hr)	29		64	64		29	102		42	42		102
Conf. Bikes (#/hr)			4			5			5			15
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0			29.0		64.2	64.2		64.2	64.2	
Effective Green, g (s)		28.0			28.0		64.0	64.0		64.0	64.0	
Actuated g/C Ratio		0.28			0.28		0.64	0.64		0.64	0.64	
Clearance Time (s)		3.0			3.0		3.8	3.8		3.8	3.8	
Vehicle Extension (s)		3.0			3.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)		367			157		67	2870		67	2879	
v/s Ratio Prot								0.50			0.49	
v/s Ratio Perm		c0.56			0.45		c0.58			0.24		
v/c Ratio		2.01			1.60		0.90	0.79		0.37	0.76	
Uniform Delay, d1		36.0			36.0		15.2	13.1		8.5	12.7	
Progression Factor		1.00			1.00		1.00	1.00		1.28	1.16	
Incremental Delay, d2		463.2			297.5		83.2	2.3		1.4	0.2	
Delay (s)		499.2			333.5		98.3	15.4		12.4	14.8	
Level of Service		F			F		F	B		B	B	
Approach Delay (s)		499.2			333.5			17.5			14.8	
Approach LOS		F			F			B			B	

Intersection Summary

HCM Average Control Delay	95.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑↑		↖	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4505		1583	4533		1583	4513		1583	4447	
Flt Permitted	0.14	1.00		0.12	1.00		0.12	1.00		0.12	1.00	
Satd. Flow (perm)	236	4505		207	4533		200	4513		200	4447	
Volume (vph)	338	2437	171	106	1669	44	147	1788	102	246	1774	315
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	363	2620	184	114	1795	47	158	1923	110	265	1908	339
RTOR Reduction (vph)	0	8	0	0	3	0	0	7	0	0	25	0
Lane Group Flow (vph)	363	2796	0	114	1839	0	158	2026	0	265	2222	0
Turn Type	Perm		pm+pt		pm+pt		pm+pt		pm+pt			
Protected Phases	6		5		2		3		8		7	
Permitted Phases	6		2				8				4	
Actuated Green, G (s)	27.2	27.2		36.7	36.7		39.3	32.3		39.3	32.3	
Effective Green, g (s)	28.2	28.2		37.7	37.7		40.3	33.3		40.3	33.3	
Actuated g/C Ratio	0.31	0.31		0.42	0.42		0.45	0.37		0.45	0.37	
Clearance Time (s)	5.0	5.0		3.5	5.0		4.0	5.0		4.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1412		171	1899		197	1670		197	1645	
v/s Ratio Prot		0.62		0.04	c0.41		0.06	0.45		c0.10	c0.50	
v/s Ratio Perm	c1.54			0.24			0.30			0.50		
v/c Ratio	4.91	1.98		0.67	0.97		0.80	1.21		1.35	1.35	
Uniform Delay, d1	30.9	30.9		42.7	25.6		42.5	28.4		43.7	28.4	
Progression Factor	1.42	1.42		1.00	1.00		1.69	0.44		1.00	1.00	
Incremental Delay, d2	1760.2	441.2		9.4	14.4		2.2	96.5		185.2	162.1	
Delay (s)	1803.9	485.0		52.2	40.0		74.1	108.9		228.9	190.4	
Level of Service	F	F		D	D		E	F		F	F	
Approach Delay (s)		636.2			40.7			106.3			194.5	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	286.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	133.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	3107		1583	3121		1583	4470		1583	4479	
Flt Permitted	0.29	1.00		0.13	1.00		0.12	1.00		0.14	1.00	
Satd. Flow (perm)	477	3107		222	3121		202	4470		230	4479	
Volume (vph)	194	1370	197	179	778	82	349	1793	239	99	1980	230
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	209	1473	212	192	837	88	375	1928	257	106	2129	247
RTOR Reduction (vph)	0	13	0	0	2	0	0	19	0	0	16	0
Lane Group Flow (vph)	209	1672	0	192	923	0	375	2166	0	106	2360	0
Turn Type	Perm		pm+pt		pm+pt		Perm					
Protected Phases	8		7		4		1		6		2	
Permitted Phases	8		4				6				2	
Actuated Green, G (s)	25.0	25.0		38.0	38.0		42.0	42.0		28.0	28.0	
Effective Green, g (s)	26.0	26.0		39.0	39.0		43.0	43.0		29.0	29.0	
Actuated g/C Ratio	0.29	0.29		0.43	0.43		0.48	0.48		0.32	0.32	
Clearance Time (s)	5.0	5.0		3.0	5.0		4.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	138	898		232	1352		250	2136		74	1443	
v/s Ratio Prot	c0.54		c0.08		0.30		c0.17		0.48		c0.53	
v/s Ratio Perm	0.44		0.28				0.55				0.46	
v/c Ratio	1.51	1.86		0.83	0.68		1.50	1.01		1.43	1.64	
Uniform Delay, d1	32.0	32.0		41.5	20.5		42.2	23.5		30.5	30.5	
Progression Factor	1.00	1.00		1.83	1.78		1.00	1.00		0.86	0.86	
Incremental Delay, d2	265.1	392.2		14.6	1.9		244.8	23.0		201.6	286.4	
Delay (s)	297.1	424.2		90.4	38.3		287.1	46.5		227.8	312.5	
Level of Service	F	F		F	D		F	D		F	F	
Approach Delay (s)	410.2				47.2		81.8				308.9	
Approach LOS	F				D		F				F	

Intersection Summary

HCM Average Control Delay	224.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	143.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↗	↕		↗	↕		↗	↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.97		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	0.96	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1524	3064		1583	3007		1583	3023		1560	3045	
Flt Permitted	0.22	1.00		0.09	1.00		0.11	1.00		0.12	1.00	
Satd. Flow (perm)	356	3064		153	3007		175	3023		199	3045	
Volume (vph)	112	1143	158	27	761	131	86	872	166	279	973	111
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	115	1178	163	28	785	135	89	899	171	288	1003	114
RTOR Reduction (vph)	0	9	0	0	12	0	0	13	0	0	7	0
Lane Group Flow (vph)	115	1332	0	28	908	0	89	1057	0	288	1110	0
Confl. Peds. (#/hr)	100		100	100		100	100		100	100		100
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Actuated Green, G (s)	59.6	59.6		59.6	59.6		49.1	49.1		49.1	49.1	
Effective Green, g (s)	61.5	61.5		61.5	61.5		50.5	50.5		50.5	50.5	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.42	0.42		0.42	0.42	
Clearance Time (s)	5.9	5.9		5.9	5.9		5.4	5.4		5.4	5.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	182	1570		78	1541		74	1272		84	1281	
v/s Ratio Prot		c0.43			0.30			0.35			0.36	
v/s Ratio Perm	0.32			0.18			0.51			c1.45		
v/c Ratio	0.63	0.85		0.36	0.59		1.20	0.83		3.43	0.87	
Uniform Delay, d1	21.1	25.2		17.5	20.4		34.8	30.9		34.8	31.7	
Progression Factor	1.00	1.00		0.65	0.61		0.81	0.84		1.00	1.00	
Incremental Delay, d2	15.5	5.9		3.3	0.4		160.9	5.5		1122.3	8.0	
Delay (s)	36.6	31.1		14.6	12.9		189.0	31.4		1157.1	39.7	
Level of Service	D	C		B	B		F	C		F	D	
Approach Delay (s)		31.6			12.9			43.5			268.8	
Approach LOS		C			B			D			F	

Intersection Summary

HCM Average Control Delay	97.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.4%	ICU Level of Service	H
Analysis Period (min)	15		

























c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00			1.00	
Frt	1.00	0.99		1.00	1.00			0.97			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1583	4512		1583	4542			1612			1634	
Flt Permitted	0.08	1.00		0.06	1.00			0.97			0.98	
Satd. Flow (perm)	127	4512		100	4542			1573			1611	
Volume (vph)	46	2350	139	71	1768	21	12	102	31	14	215	33
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	49	2527	149	76	1901	23	13	110	33	15	231	35
RTOR Reduction (vph)	0	7	0	0	1	0	0	5	0	0	5	0
Lane Group Flow (vph)	49	2669	0	76	1923	0	0	152	0	0	276	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	68.0	68.0		68.0	68.0			26.0			26.0	
Effective Green, g (s)	67.0	67.0		67.0	67.0			25.0			25.0	
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			3.0			3.0	
Lane Grp Cap (vph)	85	3023		67	3043			393			403	
v/s Ratio Prot		0.59			0.42							
v/s Ratio Perm	0.38			c0.76				0.10			c0.17	
v/c Ratio	0.58	0.88		1.13	0.63			0.39			0.68	
Uniform Delay, d1	8.9	13.3		16.5	9.4			31.1			33.9	
Progression Factor	0.55	0.60		0.84	0.50			1.00			1.00	
Incremental Delay, d2	2.6	0.4		76.6	0.1			2.8			9.1	
Delay (s)	7.4	8.4		90.4	4.8			34.0			43.0	
Level of Service	A	A		F	A			C			D	
Approach Delay (s)		8.4			8.0			34.0			43.0	
Approach LOS		A			A			C			D	

Intersection Summary

HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	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)	1583	3167	1417	1583	4550	1417	1583	1667	1417	1583	1645	
Flt Permitted	0.27	1.00	1.00	0.27	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	444	3167	1417	444	4550	1417	1583	1667	1417	1583	1645	
Volume (vph)	193	854	174	111	956	58	83	697	33	231	655	62
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	205	909	185	118	1017	62	88	741	35	246	697	66
RTOR Reduction (vph)	0	0	139	0	0	47	0	0	4	0	6	0
Lane Group Flow (vph)	205	909	46	118	1017	16	88	741	31	246	757	0
Turn Type	Perm		Perm	Perm		Perm	Prot		Perm	Prot		
Protected Phases		4			4		1	2		1	6	
Permitted Phases	4		4	4		4			2			
Actuated Green, G (s)	14.0	14.0	14.0	14.0	14.0	14.0	4.0	28.2	28.2	4.0	28.2	
Effective Green, g (s)	15.0	15.0	15.0	15.0	15.0	15.0	4.0	29.0	29.0	4.0	29.0	
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25	0.25	0.07	0.48	0.48	0.07	0.48	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.8	4.8	4.0	4.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	792	354	111	1138	354	106	806	685	106	795	
v/s Ratio Prot		0.29			0.22		0.06	0.44		c0.16	c0.46	
v/s Ratio Perm	c0.46		0.03	0.27		0.01			0.02			
v/c Ratio	1.85	1.15	0.13	1.06	0.89	0.04	0.83	0.92	0.05	2.32	0.95	
Uniform Delay, d1	22.5	22.5	17.4	22.5	21.7	17.1	27.7	14.4	8.2	28.0	14.8	
Progression Factor	1.00	1.00	1.00	1.25	1.21	1.02	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	413.7	81.0	0.8	97.6	9.6	0.2	39.8	17.3	0.1	622.8	22.3	
Delay (s)	436.2	103.5	18.2	125.7	35.9	17.7	67.4	31.7	8.3	650.8	37.1	
Level of Service	F	F	B	F	D	B	E	C	A	F	D	
Approach Delay (s)		143.8			43.8			34.4			186.7	
Approach LOS		F			D			C			F	
Intersection Summary												
HCM Average Control Delay		104.7					HCM Level of Service		F			
HCM Volume to Capacity ratio		1.35										
Actuated Cycle Length (s)		60.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		103.4%					ICU Level of Service		G			
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗↘		↖	↖↗↘		↖	↖↗		↖	↖↗	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4504		1583	4533		1583	3090		1583	3142	
Flt Permitted	0.10	1.00		0.10	1.00		0.13	1.00		0.19	1.00	
Satd. Flow (perm)	161	4504		161	4533		218	3090		315	3142	
Volume (vph)	147	2471	178	215	1635	43	189	616	119	73	732	41
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	152	2547	184	222	1686	44	195	635	123	75	755	42
RTOR Reduction (vph)	0	8	0	0	3	0	0	15	0	0	4	0
Lane Group Flow (vph)	152	2723	0	222	1727	0	195	743	0	75	793	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	50.4	42.4		50.4	42.4		39.6	31.6		35.6	29.6	
Effective Green, g (s)	48.4	41.4		48.4	41.4		37.6	30.6		33.6	28.6	
Actuated g/C Ratio	0.48	0.41		0.48	0.41		0.38	0.31		0.34	0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	177	1865		177	1877		178	946		169	899	
v/s Ratio Prot	0.06	c0.60		c0.09	0.38		c0.08	0.24		0.02	0.25	
v/s Ratio Perm	0.35			0.52			c0.34			0.13		
v/c Ratio	0.86	1.46		1.25	0.92		1.10	0.79		0.44	0.88	
Uniform Delay, d1	20.3	29.3		48.7	27.7		26.7	31.7		24.2	34.1	
Progression Factor	1.87	1.50		1.65	1.76		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.8	207.3		145.0	7.1		95.3	6.5		0.7	12.2	
Delay (s)	41.9	251.2		225.4	56.0		122.0	38.2		24.9	46.2	
Level of Service	D	F		F	E		F	D		C	D	
Approach Delay (s)		240.2			75.3			55.4			44.4	
Approach LOS		F			E			E			D	

Intersection Summary

HCM Average Control Delay	139.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	120.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑		↖	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1583	4536		1583	4530		1583	3069		1583	3015	
Flt Permitted	0.11	1.00		0.10	1.00		0.15	1.00		0.17	1.00	
Satd. Flow (perm)	183	4536		172	4530		255	3069		282	3015	
Volume (vph)	82	2717	57	428	1498	46	210	849	221	53	656	307
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	87	2890	61	455	1594	49	223	903	235	56	698	327
RTOR Reduction (vph)	0	2	0	0	3	0	0	25	0	0	61	0
Lane Group Flow (vph)	87	2949	0	455	1640	0	223	1113	0	56	964	0
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	43.1	37.4		47.7	39.7		35.1	27.1		30.1	24.6	
Effective Green, g (s)	41.1	36.4		45.7	38.7		33.1	26.1		28.1	23.6	
Actuated g/C Ratio	0.46	0.40		0.51	0.43		0.37	0.29		0.31	0.26	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0		2.0	3.0	
Lane Grp Cap (vph)	157	1835		197	1948		197	890		153	791	
v/s Ratio Prot	0.03	0.65		c0.18	0.36		c0.09	c0.36		0.02	0.32	
v/s Ratio Perm	0.22			c0.99			0.33			0.10		
v/c Ratio	0.55	1.61		2.31	0.84		1.13	1.25		0.37	1.22	
Uniform Delay, d1	16.8	26.8		43.7	22.9		43.7	31.9		42.1	33.2	
Progression Factor	1.00	1.00		1.45	0.70		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	275.7		590.8	0.4		104.1	122.1		0.5	109.7	
Delay (s)	19.2	302.5		654.0	16.5		147.8	154.1		42.6	142.9	
Level of Service	B	F		F	B		F	F		D	F	
Approach Delay (s)		294.4			154.8			153.1			137.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	208.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	144.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖↖		↖	↖↖↖		↖	↑	↖	↖	↖↖	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.99		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)	1583	4520		1583	4522		1583	1667	1417	1583	3083	
Flt Permitted	0.09	1.00		0.10	1.00		0.21	1.00	1.00	0.35	1.00	
Satd. Flow (perm)	147	4520		161	4522		342	1667	1417	580	3083	
Volume (vph)	245	2608	121	1	1889	80	109	372	25	15	507	108
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	261	2774	129	1	2010	85	116	396	27	16	539	115
RTOR Reduction (vph)	0	5	0	0	5	0	0	0	18	0	18	0
Lane Group Flow (vph)	261	2898	0	1	2090	0	116	396	9	16	636	0
Turn Type	pm+pt			pm+pt			pm+pt			Perm	pm+pt	
Protected Phases	5	2		1	6		3	8	8		7	4
Permitted Phases	2			6			8		8		4	
Actuated Green, G (s)	53.4	49.4		43.4	42.4		40.6	35.2	35.2	33.2	30.8	
Effective Green, g (s)	52.4	48.4		41.4	41.4		39.6	34.2	34.2	31.2	29.8	
Actuated g/C Ratio	0.52	0.48		0.41	0.41		0.40	0.34	0.34	0.31	0.30	
Clearance Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	178	2188		67	1872		207	570	485	195	919	
v/s Ratio Prot	c0.10	0.64			0.46		c0.03	c0.24		0.00	0.21	
v/s Ratio Perm	c0.67			0.01			0.19		0.01	0.02		
v/c Ratio	1.47	1.32		0.01	1.12		0.56	0.69	0.02	0.08	0.69	
Uniform Delay, d1	27.0	25.8		17.3	29.3		21.3	28.4	21.8	24.4	31.0	
Progression Factor	0.81	1.10		1.90	1.84		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	232.2	148.7		0.0	56.7		2.1	6.8	0.1	0.1	4.3	
Delay (s)	254.2	176.9		32.9	110.7		23.4	35.2	21.9	24.5	35.3	
Level of Service	F	F		C	F		C	D	C	C	D	
Approach Delay (s)		183.3			110.6			32.0			35.1	
Approach LOS		F			F			C			D	

Intersection Summary

HCM Average Control Delay	131.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2226		1118	2223		1118	2175		1118	2216	
Flt Permitted	0.07	1.00		0.07	1.00		0.36	1.00		0.21	1.00	
Satd. Flow (perm)	77	2226		77	2223		428	2175		249	2216	
Volume (vph)	13	2274	67	87	1879	72	91	474	105	100	390	23
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	13	2344	69	90	1937	74	94	489	108	103	402	24
RTOR Reduction (vph)	0	2	0	0	3	0	0	7	0	0	5	0
Lane Group Flow (vph)	13	2411	0	90	2008	0	94	590	0	103	421	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	60.5	60.5		60.5	60.5		20.8	20.8		20.8	20.8	
Effective Green, g (s)	61.0	61.0		61.0	61.0		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	52	1509		52	1507		100	508		58	517	
v/s Ratio Prot		1.08			0.90			0.27			0.19	
v/s Ratio Perm	0.17			c1.17			0.22			c0.41		
v/c Ratio	0.25	1.60		1.73	1.33		0.94	1.16		1.78	0.82	
Uniform Delay, d1	5.6	14.5		14.5	14.5		33.9	34.5		34.5	32.7	
Progression Factor	0.44	0.32		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	269.2		396.8	154.3		74.8	92.7		409.7	13.2	
Delay (s)	3.5	273.8		411.3	168.8		108.7	127.2		444.2	45.9	
Level of Service	A	F		F	F		F	F		F	D	
Approach Delay (s)		272.4			179.2			124.7			123.4	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	206.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	159.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		0.99						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		0.99						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3058						3084			3131	
Flt Permitted		0.99						1.00			0.80	
Satd. Flow (perm)		3058						3084			2512	
Volume (vph)	196	571	76	0	0	0	0	387	51	71	435	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	213	621	83	0	0	0	0	421	55	77	473	0
RTOR Reduction (vph)	0	7	0	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	0	910	0	0	0	0	0	459	0	0	550	0
Conf. Peds. (#/hr)	5		38					63		59	59	63
Conf. Bikes (#/hr)			5							1		1
Turn Type	Perm						Perm					
Protected Phases		2						8			4	
Permitted Phases	2									4		
Actuated Green, G (s)		37.0						17.0			17.0	
Effective Green, g (s)		36.0						16.0			16.0	
Actuated g/C Ratio		0.60						0.27			0.27	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		5.0						3.0			3.0	
Lane Grp Cap (vph)		1835						822			670	
v/s Ratio Prot								0.15				
v/s Ratio Perm		0.30									c0.22	
v/c Ratio		0.50						0.56			0.82	
Uniform Delay, d1		6.8						19.0			20.7	
Progression Factor		0.62						1.00			1.00	
Incremental Delay, d2		0.4						2.7			10.9	
Delay (s)		4.6						21.7			31.5	
Level of Service		A						C			C	
Approach Delay (s)		4.6			0.0			21.7			31.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑				↗		↖	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0				4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91				1.00		1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	0.99				0.94		1.00	0.92
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		0.95	1.00
Frt	1.00	1.00		1.00	0.98				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (prot)	1583	4521		1583	4397				1355		1513	1302
Flt Permitted	0.95	1.00		0.95	1.00				1.00		0.95	1.00
Satd. Flow (perm)	1583	4521		1583	4397				1355		1513	1302
Volume (vph)	124	1941	46	36	1697	290	0	0	79	384	10	229
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	129	2022	48	38	1768	302	0	0	82	400	10	239
RTOR Reduction (vph)	0	2	0	0	24	0	0	0	59	0	0	98
Lane Group Flow (vph)	129	2068	0	38	2046	0	0	0	23	0	410	141
Conf. Peds. (#/hr)	26		44	44		26	50		36	36		50
Conf. Bikes (#/hr)			5			6						3
Turn Type	Prot			Prot					custom	Perm		Perm
Protected Phases	5	2		1	6						4	
Permitted Phases									8	4		4
Actuated Green, G (s)	9.9	58.4		3.6	52.1				29.0		29.0	29.0
Effective Green, g (s)	8.9	57.4		2.6	51.1				28.0		28.0	28.0
Actuated g/C Ratio	0.09	0.57		0.03	0.51				0.28		0.28	0.28
Clearance Time (s)	3.0	3.0		3.0	3.0				3.0		3.0	3.0
Vehicle Extension (s)	2.0	5.0		2.0	5.0				3.0		3.0	3.0
Lane Grp Cap (vph)	141	2595		41	2247				379		424	365
v/s Ratio Prot	c0.08	0.46		0.02	c0.47							
v/s Ratio Perm									0.02		0.27	0.11
v/c Ratio	0.91	0.80		0.93	0.91				0.06		0.97	0.39
Uniform Delay, d1	45.2	16.7		48.6	22.4				26.4		35.5	29.1
Progression Factor	1.00	1.00		0.63	1.69				1.00		1.00	1.00
Incremental Delay, d2	49.9	2.6		24.5	0.7				0.3		36.2	3.1
Delay (s)	95.1	19.4		55.2	38.5				26.7		71.7	32.1
Level of Service	F	B		E	D				C		E	C
Approach Delay (s)		23.8			38.8			26.7			57.2	
Approach LOS		C			D			C			E	
Intersection Summary												
HCM Average Control Delay			34.4			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			92.9%			ICU Level of Service		F				
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1118	2229		1118	2228		1118	2181		1118	2200	
Flt Permitted	0.07	1.00		0.07	1.00		0.18	1.00		0.16	1.00	
Satd. Flow (perm)	83	2229		83	2228		215	2181		188	2200	
Volume (vph)	51	2113	43	110	1851	42	79	847	162	57	610	72
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	53	2201	45	115	1928	44	82	882	169	59	635	75
RTOR Reduction (vph)	0	1	0	0	2	0	0	7	0	0	10	0
Lane Group Flow (vph)	53	2245	0	115	1970	0	82	1045	0	59	700	0
Turn Type	Perm		Perm		Perm		Perm		Perm			
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	56.5	56.5		56.5	56.5		24.8	24.8		24.8	24.8	
Effective Green, g (s)	57.0	57.0		57.0	57.0		25.0	25.0		25.0	25.0	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.28	0.28		0.28	0.28	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	53	1412		53	1411		60	606		52	611	
v/s Ratio Prot		1.01			0.88			c0.48			0.32	
v/s Ratio Perm	0.64			c1.39			0.38			0.31		
v/c Ratio	1.00	1.59		2.17	1.40		1.37	1.72		1.13	1.15	
Uniform Delay, d1	16.5	16.5		16.5	16.5		32.5	32.5		32.5	32.5	
Progression Factor	1.00	1.00		0.64	0.62		0.50	0.49		1.00	1.00	
Incremental Delay, d2	123.6	268.7		532.0	178.7		174.5	326.3		166.6	83.6	
Delay (s)	140.1	285.2		542.6	189.0		190.7	342.1		199.1	116.1	
Level of Service	F	F		F	F		F	F		F	F	
Approach Delay (s)		281.9			208.5			331.1			122.5	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	246.9	HCM Level of Service	F
HCM Volume to Capacity ratio	2.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	167.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖		↕	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00		0.95	
Frt	1.00	0.99		1.00	1.00		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1118	2202		1118	2226		1118	2235	1000		2215	
Flt Permitted	0.17	1.00		0.08	1.00		0.22	1.00	1.00		1.00	
Satd. Flow (perm)	204	2202		92	2226		255	2235	1000		2215	
Volume (vph)	112	1651	180	70	1054	30	82	938	192	0	671	44
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	118	1738	189	74	1109	32	86	987	202	0	706	46
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	11	0	5	0
Lane Group Flow (vph)	118	1918	0	74	1139	0	86	987	191	0	747	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	2		6		6		8		8		4	
Permitted Phases	2		6		6		8		8		4	
Actuated Green, G (s)	50.5	50.5		50.5	50.5		30.8	30.8	30.8		30.8	
Effective Green, g (s)	51.0	51.0		51.0	51.0		31.0	31.0	31.0		31.0	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.34	0.34	0.34		0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.2	4.2	4.2		4.2	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	116	1248		52	1261		88	770	344		763	
v/s Ratio Prot	c0.87		0.51		0.51		c0.44		0.34		0.34	
v/s Ratio Perm	0.58		0.80		0.80		0.34		0.19		0.19	
v/c Ratio	1.02	1.54		1.42	0.90		0.98	1.28	0.55		0.98	
Uniform Delay, d1	19.5	19.5		19.5	17.3		29.2	29.5	23.9		29.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		0.49	
Incremental Delay, d2	88.2	245.6		271.9	10.7		89.9	136.7	6.3		6.0	
Delay (s)	107.7	265.1		291.4	28.0		119.0	166.2	30.2		20.3	
Level of Service	F	F		F	C		F	F	C		C	
Approach Delay (s)	256.0		44.0		44.0		141.5		141.5		20.3	
Approach LOS	F		D		D		F		F		C	

Intersection Summary

HCM Average Control Delay	146.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	141.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕			↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						0.95			0.95	
Frbp, ped/bikes		1.00						0.97			1.00	
Flpb, ped/bikes		0.99						1.00			1.00	
Frt		0.98						0.98			1.00	
Flt Protected		0.99						1.00			0.99	
Satd. Flow (prot)		3027						2993			3143	
Flt Permitted		0.99						1.00			0.64	
Satd. Flow (perm)		3027						2993			2008	
Volume (vph)	159	549	132	0	0	0	0	936	176	97	852	0
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	185	638	153	0	0	0	0	1088	205	113	991	0
RTOR Reduction (vph)	0	25	0	0	0	0	0	26	0	0	0	0
Lane Group Flow (vph)	0	951	0	0	0	0	0	1267	0	0	1104	0
Conf. Peds. (#/hr)	60								223	223		
Conf. Bikes (#/hr)			1							3		
Turn Type	Perm						Perm					
Protected Phases		4						2			6	
Permitted Phases	4									6		
Actuated Green, G (s)		21.0						33.0			33.0	
Effective Green, g (s)		20.0						32.0			32.0	
Actuated g/C Ratio		0.33						0.53			0.53	
Clearance Time (s)		3.0						3.0			3.0	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1009						1596			1071	
v/s Ratio Prot								0.42				
v/s Ratio Perm		0.31									c0.55	
v/c Ratio		0.94						0.79			1.03	
Uniform Delay, d1		19.4						11.3			14.0	
Progression Factor		1.41						1.00			1.00	
Incremental Delay, d2		10.5						4.2			35.7	
Delay (s)		37.9						15.5			49.7	
Level of Service		D						B			D	
Approach Delay (s)		37.9			0.0			15.5			49.7	
Approach LOS		D			A			B			D	
Intersection Summary												
HCM Average Control Delay			33.2					HCM Level of Service			C	
HCM Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		8.0		
Intersection Capacity Utilization			102.8%					ICU Level of Service		G		
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑	↗		↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95	1.00		0.95	1.00
Frbp, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00	0.80		1.00	0.84
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1583	4334		1583	4397		1583	3167	1133		3167	1189
Flt Permitted	0.09	1.00		0.09	1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (perm)	152	4334		149	4397		1583	3167	1133		3167	1189
Volume (vph)	133	2044	231	195	1653	137	298	1012	105	0	947	377
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	141	2174	246	207	1759	146	317	1077	112	0	1007	401
RTOR Reduction (vph)	0	14	0	0	10	0	0	0	73	0	0	123
Lane Group Flow (vph)	141	2406	0	207	1895	0	317	1077	39	0	1007	278
Conf. Peds. (#/hr)	213		275	275		213	112		142	142		112
Conf. Bikes (#/hr)			9			5			5			3
Turn Type	pm+pt			pm+pt			Prot		Perm			Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6					8			4
Actuated Green, G (s)	53.3	45.0		54.7	45.7		8.9	34.9	34.9		22.9	22.9
Effective Green, g (s)	51.3	44.0		52.7	44.7		8.0	34.0	34.0		22.0	22.0
Actuated g/C Ratio	0.52	0.45		0.54	0.46		0.08	0.35	0.35		0.22	0.22
Clearance Time (s)	3.0	3.0		3.0	3.0		3.1	3.1	3.1		3.1	3.1
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	186	1946		197	2006		129	1099	393		711	267
v/s Ratio Prot	0.06	c0.56		c0.09	0.43		c0.20	0.34			c0.32	
v/s Ratio Perm	0.34			0.48					0.03			0.23
v/c Ratio	0.76	1.24		1.05	0.94		2.46	0.98	0.10		1.42	1.04
Uniform Delay, d1	18.5	27.0		47.2	25.5		45.0	31.7	21.6		38.0	38.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	14.5	110.9		78.1	10.7		678.6	22.7	0.5		195.6	66.7
Delay (s)	33.0	137.9		125.3	36.2		723.6	54.4	22.1		233.6	104.7
Level of Service	C	F		F	D		F	D	C		F	F
Approach Delay (s)		132.2			44.9			192.9			196.9	
Approach LOS		F			D			F			F	

Intersection Summary

HCM Average Control Delay	131.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕		↕	↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frt		0.96			0.97		1.00	0.99		1.00	0.99	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3011			3037		1583	3140		1583	3148	
Flt Permitted		0.83			0.72		0.09	1.00		0.09	1.00	
Satd. Flow (perm)		2513			2222		146	3140		148	3148	
Volume (vph)	62	230	114	81	206	72	84	1252	75	68	1197	50
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	68	253	125	89	226	79	92	1376	82	75	1315	55
RTOR Reduction (vph)	0	45	0	0	25	0	0	4	0	0	3	0
Lane Group Flow (vph)	0	401	0	0	369	0	92	1454	0	75	1367	0
Turn Type		Perm		Perm		pm+pt		pm+pt		pm+pt		
Protected Phases		4		8		5		2		1		6
Permitted Phases		4		8		2				6		
Actuated Green, G (s)		29.0		29.0		52.5		46.6		51.5		46.1
Effective Green, g (s)		28.0		28.0		50.5		45.6		49.5		45.1
Actuated g/C Ratio		0.31		0.31		0.56		0.51		0.55		0.50
Clearance Time (s)		3.0		3.0		3.0		3.0		3.0		3.0
Vehicle Extension (s)		3.0		3.0		2.0		5.0		2.0		5.0
Lane Grp Cap (vph)		782		691		160		1591		152		1577
v/s Ratio Prot						c0.03		c0.46		0.02		0.43
v/s Ratio Perm		0.16		c0.17		0.29				0.25		
v/c Ratio		0.51		0.53		0.57		0.91		0.49		0.87
Uniform Delay, d1		25.4		25.6		14.5		20.4		15.1		19.8
Progression Factor		1.00		1.00		1.00		1.00		1.00		1.00
Incremental Delay, d2		2.4		0.8		3.1		9.6		0.9		6.7
Delay (s)		27.8		26.4		17.6		30.0		16.0		26.5
Level of Service		C		C		B		C		B		C
Approach Delay (s)		27.8		26.4		29.3				25.9		
Approach LOS		C		C		C				C		

Intersection Summary

HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖	↑↑↑		↖	↑↑			↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95			0.95	
Frt	1.00	1.00		1.00	1.00		1.00	0.96			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1583	4532		1583	4550		1583	3053			3085	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1583	4532		1583	4550		1583	3053			3085	
Volume (vph)	68	2987	81	16	2353	0	5	334	106	0	629	130
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	71	3111	84	17	2451	0	5	348	110	0	655	135
RTOR Reduction (vph)	0	3	0	0	0	0	0	34	0	0	19	0
Lane Group Flow (vph)	71	3192	0	17	2451	0	5	424	0	0	771	0
Turn Type	Prot		Prot		Split							
Protected Phases	1!	2!		5!	6!		8	8			7	
Permitted Phases												
Actuated Green, G (s)	6.6	32.4		4.3	33.7		14.0	14.0			22.0	
Effective Green, g (s)	6.1	31.9		4.3	33.7		14.0	14.0			22.0	
Actuated g/C Ratio	0.07	0.35		0.05	0.37		0.16	0.16			0.24	
Clearance Time (s)	3.5	3.5		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			3.0	
Lane Grp Cap (vph)	107	1606		76	1704		246	475			754	
v/s Ratio Prot	c0.04	c0.70		0.01	0.54		0.00	c0.14			c0.25	
v/s Ratio Perm												
v/c Ratio	0.66	1.99		0.22	1.44		0.02	0.89			1.02	
Uniform Delay, d1	40.9	29.1		41.2	28.1		32.2	37.3			34.0	
Progression Factor	1.22	0.52		1.53	0.30		1.00	1.00			1.00	
Incremental Delay, d2	1.4	444.5		0.1	197.6		0.0	18.8			38.6	
Delay (s)	51.3	459.6		63.2	206.1		32.2	56.0			72.6	
Level of Service	D	F		E	F		C	E			E	
Approach Delay (s)		450.8			205.1			55.8			72.6	
Approach LOS		F			F			E			E	

Intersection Summary

HCM Average Control Delay	295.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑		↑	↑↑		↑	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt		0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4517		1583	4518		1583	3161		1583	3167	
Flt Permitted		1.00		0.95	1.00		0.18	1.00		0.18	1.00	
Satd. Flow (perm)		4517		1583	4518		303	3161		303	3167	
Volume (vph)	0	2947	148	15	2248	111	109	820	10	14	928	0
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	3038	153	15	2318	114	112	845	10	14	957	0
RTOR Reduction (vph)	0	6	0	0	6	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	3185	0	15	2426	0	112	854	0	14	957	0
Turn Type				Prot			Perm			Perm		
Protected Phases		2!		5!	6		7		7		7	
Permitted Phases							7			7		
Actuated Green, G (s)		32.4		4.3	33.7		22.0	22.0		22.0	22.0	
Effective Green, g (s)		31.9		4.3	33.7		22.0	22.0		22.0	22.0	
Actuated g/C Ratio		0.35		0.05	0.37		0.24	0.24		0.24	0.24	
Clearance Time (s)		3.5		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	3.0	
Lane Grp Cap (vph)		1601		76	1692		74	773		74	774	
v/s Ratio Prot		c0.71		c0.01	0.54			0.27			0.30	
v/s Ratio Perm							c0.37			0.05		
v/c Ratio		1.99		0.20	1.43		1.51	1.11		0.19	1.24	
Uniform Delay, d1		29.1		41.2	28.1		34.0	34.0		26.9	34.0	
Progression Factor		0.28		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		445.5		1.3	198.8		288.5	65.1		5.6	117.4	
Delay (s)		453.5		42.5	226.9		322.5	99.1		32.5	151.4	
Level of Service		F		D	F		F	F		C	F	
Approach Delay (s)		453.5			225.8			125.0			149.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	299.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	30.0
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕						↕↕		↕	↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0						4.0		4.0	4.0	
Lane Util. Factor		0.95						0.95		1.00	0.95	
Frbp, ped/bikes		0.99						0.94		1.00	1.00	
Flpb, ped/bikes		0.94						1.00		0.83	1.00	
Frt		0.99						0.97		1.00	1.00	
Flt Protected		0.99						1.00		0.95	1.00	
Satd. Flow (prot)		2892						2914		1314	3167	
Flt Permitted		0.99						1.00		0.43	1.00	
Satd. Flow (perm)		2892						2914		598	3167	
Volume (vph)	158	631	31	0	0	0	0	337	67	84	609	0
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	166	664	33	0	0	0	0	355	71	88	641	0
RTOR Reduction (vph)	0	4	0	0	0	0	0	28	0	0	0	0
Lane Group Flow (vph)	0	859	0	0	0	0	0	398	0	88	641	0
Conf. Peds. (#/hr)	173		248	248			173	221		404	404	221
Conf. Bikes (#/hr)			3				2			1		4
Turn Type		Perm									Perm	
Protected Phases		2						4			4	
Permitted Phases		2									4	
Actuated Green, G (s)		17.0						17.0		17.0	17.0	
Effective Green, g (s)		16.0						16.0		16.0	16.0	
Actuated g/C Ratio		0.27						0.27		0.27	0.27	
Clearance Time (s)		3.0						3.0		3.0	3.0	
Vehicle Extension (s)		5.0						3.0		3.0	3.0	
Lane Grp Cap (vph)		771						777		159	845	
v/s Ratio Prot								0.14			c0.20	
v/s Ratio Perm		0.30								0.15		
v/c Ratio		1.11						0.51		0.55	0.76	
Uniform Delay, d1		22.0						18.7		18.9	20.2	
Progression Factor		1.00						1.00		1.00	1.00	
Incremental Delay, d2		68.3						2.4		13.2	6.3	
Delay (s)		90.3						21.1		32.1	26.5	
Level of Service		F						C		C	C	
Approach Delay (s)		90.3			0.0			21.1			27.2	
Approach LOS		F			A			C			C	
Intersection Summary												
HCM Average Control Delay			52.9					HCM Level of Service			D	
HCM Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			60.0					Sum of lost time (s)		28.0		
Intersection Capacity Utilization			82.0%					ICU Level of Service			D	
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑			↑↑↑		↖	↗		↖	↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91			0.91		1.00	1.00		1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00			0.98		1.00	0.87		1.00	1.00	0.78
Flpb, ped/bikes	1.00	1.00			1.00		0.86	1.00		1.00	1.00	1.00
Frt	1.00	1.00			0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1583	4521			4383		1363	1353		1583	1667	1102
Flt Permitted	0.08	1.00			1.00		0.57	1.00		0.95	1.00	1.00
Satd. Flow (perm)	140	4521			4383		822	1353		1583	1667	1102
Volume (vph)	100	2209	29	0	2221	194	111	97	82	153	302	146
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	102	2254	30	0	2266	198	113	99	84	156	308	149
RTOR Reduction (vph)	0	1	0	0	11	0	0	0	0	0	0	0
Lane Group Flow (vph)	102	2283	0	0	2453	0	113	183	0	156	308	149
Conf. Peds. (#/hr)	244		131	131		244	166		211	211		166
Conf. Bikes (#/hr)			3			5			2			3
Turn Type	Perm			Perm			Prot			custom		
Protected Phases	2			6			8			7		
Permitted Phases	2						8			4 4		
Actuated Green, G (s)	48.5	48.5			48.5		21.0	21.0		11.5	35.5	35.5
Effective Green, g (s)	47.5	47.5			47.5		20.0	20.0		10.5	34.5	34.5
Actuated g/C Ratio	0.53	0.53			0.53		0.22	0.22		0.12	0.38	0.38
Clearance Time (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Vehicle Extension (s)	5.0	5.0			5.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	74	2386			2313		183	301		185	639	422
v/s Ratio Prot		0.50			0.56			0.14		c0.10		
v/s Ratio Perm	c0.73						c0.14			0.18 0.14		
v/c Ratio	1.38	0.96			1.06		0.62	0.61		0.84	0.48	0.35
Uniform Delay, d1	21.2	20.3			21.2		31.6	31.5		38.9	21.0	19.8
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	234.6	10.7			37.2		14.6	8.8		27.9	2.6	2.3
Delay (s)	255.8	31.0			58.4		46.2	40.3		66.8	23.6	22.1
Level of Service	F	C			E		D	D		E	C	C
Approach Delay (s)		40.6			58.4			42.6			34.2	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM Average Control Delay	47.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBR2
Lane Configurations		↔	↔↔↔		↔	↔↔↔			↔
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0	4.0			4.0
Lane Util. Factor		1.00	0.91		1.00	0.91			1.00
Frbp, ped/bikes		1.00	0.98		1.00	0.97			1.00
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00
Frt		1.00	0.99		1.00	0.98			0.86
Flt Protected		0.95	1.00		0.95	1.00			1.00
Satd. Flow (prot)		1583	4435		1583	4321			1442
Flt Permitted		0.95	1.00		0.95	1.00			1.00
Satd. Flow (perm)		1583	4435		1583	4321			1442
Volume (vph)	220	612	2170	121	592	1458	110	69	306
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	227	631	2237	125	610	1503	113	71	315
RTOR Reduction (vph)	0	0	6	0	0	0	0	0	277
Lane Group Flow (vph)	0	858	2356	0	610	1687	0	0	38
Conf. Peds. (#/hr)	99	154		137	137		99	154	155
Conf. Bikes (#/hr)				6			7	10	2
Turn Type	Prot	Prot			Prot				custom
Protected Phases	1	1	2		8	6			1
Permitted Phases									
Actuated Green, G (s)		13.0	52.0		26.0	81.0			13.0
Effective Green, g (s)		12.0	51.0		25.0	80.0			12.0
Actuated g/C Ratio		0.12	0.51		0.25	0.80			0.12
Clearance Time (s)		3.0	3.0		3.0	3.0			3.0
Vehicle Extension (s)		2.5	5.0		3.0	5.0			2.5
Lane Grp Cap (vph)		190	2262		396	3457			173
v/s Ratio Prot		c0.54	c0.53		c0.39	0.39			0.03
v/s Ratio Perm									
v/c Ratio		4.52	1.04		1.54	0.49			0.22
Uniform Delay, d1		44.0	24.5		37.5	3.3			39.8
Progression Factor		1.18	1.54		1.00	1.00			1.00
Incremental Delay, d2		1583.2	20.4		255.5	0.5			0.5
Delay (s)		1634.9	58.1		293.0	3.8			40.2
Level of Service		F	E		F	A			D
Approach Delay (s)			478.3			80.6			
Approach LOS			F			F			
Intersection Summary									
HCM Average Control Delay			298.0			HCM Level of Service			F
HCM Volume to Capacity ratio			1.66						
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			12.0
Intersection Capacity Utilization			94.9%			ICU Level of Service			F
Analysis Period (min)			15						
c Critical Lane Group									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗			↕	↖		↖↗	↖
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	0.86	0.86		1.00	0.91			0.95	1.00		0.86	0.86
Frt	1.00	1.00		1.00	1.00			1.00	0.85		0.98	0.85
Flt Protected	0.95	0.99		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	961	3002		1118	3209			2235	1000		2988	860
Flt Permitted	0.95	0.69		0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (perm)	961	2091		1118	3209			2235	1000		2988	860
Volume (vph)	758	1600	24	191	1816	10	0	1148	561	0	1350	925
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	861	1818	27	217	2064	11	0	1305	638	0	1534	1051
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	211	0	13	325
Lane Group Flow (vph)	447	2258	0	217	2074	0	0	1305	427	0	1699	548
Turn Type	Prot		Prot				Perm				Over	
Protected Phases	7	4		3	8			2			6	7
Permitted Phases									2			
Actuated Green, G (s)	15.9	41.4		14.9	40.4			29.4	29.4		29.4	15.9
Effective Green, g (s)	17.0	42.0		16.0	41.0			30.0	30.0		30.0	17.0
Actuated g/C Ratio	0.17	0.42		0.16	0.41			0.30	0.30		0.30	0.17
Clearance Time (s)	5.1	4.6		5.1	4.6			4.6	4.6		4.6	5.1
Vehicle Extension (s)	3.0	3.0		5.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	163	1033		179	1316			671	300		896	146
v/s Ratio Prot	0.47	0.37		0.19	c0.65			c0.58			0.57	c0.64
v/s Ratio Perm		c0.55							0.43			
v/c Ratio	2.74	2.19		1.21	1.58			1.94	1.42		1.90	3.76
Uniform Delay, d1	41.5	29.0		42.0	29.5			35.0	35.0		35.0	41.5
Progression Factor	1.00	1.00		1.18	0.58			1.00	1.00		1.00	1.00
Incremental Delay, d2	801.1	536.8		114.6	260.8			430.6	208.3		407.3	1257.1
Delay (s)	842.6	565.8		164.1	278.1			465.6	243.3		442.3	1298.6
Level of Service	F	F		F	F			F	F		F	F
Approach Delay (s)		611.5			267.3			392.6			731.5	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	516.6	HCM Level of Service	F
HCM Volume to Capacity ratio	2.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	173.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑		↑	↑↑↑		↑	↑↑	↑	↑	↑↑	
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91		1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt		1.00		1.00	1.00		1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.99		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		3178		1118	3205		1118	2235	1000	1118	2095	
Flt Permitted		0.67		0.95	1.00		0.13	1.00	1.00	0.15	1.00	
Satd. Flow (perm)		2155		1118	3205		157	2235	1000	177	2095	
Volume (vph)	479	1894	10	356	1359	21	10	778	334	28	594	425
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	489	1933	10	363	1387	21	10	794	341	29	606	434
RTOR Reduction (vph)	0	1	0	0	2	0	0	0	209	0	129	0
Lane Group Flow (vph)	0	2431	0	363	1406	0	10	794	132	29	911	0
Turn Type		Prot		Prot		Perm		Perm	Perm			
Protected Phases		7	4	3	8			2				6
Permitted Phases							2		2		6	
Actuated Green, G (s)		41.4		14.9	40.4		29.4	29.4	29.4	29.4	29.4	
Effective Green, g (s)		42.0		16.0	41.0		30.0	30.0	30.0	30.0	30.0	
Actuated g/C Ratio		0.42		0.16	0.41		0.30	0.30	0.30	0.30	0.30	
Clearance Time (s)		4.6		5.1	4.6		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0		5.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1079		179	1314		47	671	300	53	629	
v/s Ratio Prot		c0.38		c0.32	0.44			0.36			c0.43	
v/s Ratio Perm		c0.56					0.06		0.13	0.16		
v/c Ratio		2.25		2.03	1.07		0.21	1.18	0.44	0.55	1.45	
Uniform Delay, d1		29.0		42.0	29.5		26.2	35.0	28.2	29.3	35.0	
Progression Factor		0.79		0.93	1.44		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		564.3		480.3	45.1		10.1	97.2	4.7	35.0	210.7	
Delay (s)		587.3		519.4	87.7		36.2	132.2	32.9	64.3	245.7	
Level of Service		F		F	F		D	F	C	E	F	
Approach Delay (s)		587.3			176.2			101.8			240.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	329.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	173.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.86	1.00	0.97	0.86	0.97	0.88
Frbp, ped/bikes		1.00	0.94	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	0.85
Flt Protected		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)		4047	940	2168	4047	2168	1760
Flt Permitted		1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)		4047	940	2168	4047	2168	1760
Volume (vph)	0	2272	266	550	1667	392	1168
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	2342	274	567	1719	404	1204
RTOR Reduction (vph)	0	0	64	0	0	0	680
Lane Group Flow (vph)	0	2342	210	567	1719	404	524
Conf. Peds. (#/hr)			60	60		1	4
Conf. Bikes (#/hr)			23				4
Turn Type	Prot		pm+ov	Prot			Over
Protected Phases	1	6	4	3	2 3	4	3
Permitted Phases			6				
Actuated Green, G (s)		47.5	73.1	31.0	84.5	25.6	31.0
Effective Green, g (s)		49.5	78.0	30.0	83.5	28.5	30.0
Actuated g/C Ratio		0.41	0.65	0.25	0.70	0.24	0.25
Clearance Time (s)		6.0	6.9	3.0		6.9	3.0
Vehicle Extension (s)		3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		1669	642	542	2816	515	440
v/s Ratio Prot		c0.58	0.08	0.26	0.42	c0.19	c0.30
v/s Ratio Perm			0.15				
v/c Ratio		1.40	0.33	1.05	0.61	0.78	1.19
Uniform Delay, d1		35.2	9.3	45.0	9.7	42.9	45.0
Progression Factor		0.90	3.10	1.00	1.00	1.00	1.00
Incremental Delay, d2		182.3	0.1	51.3	0.4	7.7	106.3
Delay (s)		214.2	29.0	96.3	10.0	50.6	151.3
Level of Service		F	C	F	B	D	F
Approach Delay (s)		194.8			31.4	126.0	
Approach LOS		F			C	F	
Intersection Summary							
HCM Average Control Delay			120.4		HCM Level of Service		F
HCM Volume to Capacity ratio			1.18				
Actuated Cycle Length (s)			120.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization			123.9%		ICU Level of Service		H
Analysis Period (min)			15				
c Critical Lane Group							



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘		↖		↖	↑↑↑		↖	↑↑	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	0.88				1.00	0.91			0.95	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1504	1504	2493				1583	4550			3167	1417
Flt Permitted	0.95	0.95	1.00				0.10	1.00			1.00	1.00
Satd. Flow (perm)	1504	1504	2493				159	4550			3167	1417
Volume (vph)	608	0	628	0	0	0	155	566	0	0	1135	231
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	691	0	714	0	0	0	176	643	0	0	1290	262
RTOR Reduction (vph)	0	0	595	0	0	0	0	0	0	0	0	181
Lane Group Flow (vph)	346	345	119	0	0	0	176	643	0	0	1290	81
Turn Type	Split	custom					pm+pt			Perm		Over
Protected Phases	4	4	7 1		3		5	2			6	4
Permitted Phases							2			6		
Actuated Green, G (s)	16.5	16.5	14.4				45.7	40.7			40.7	16.5
Effective Green, g (s)	17.1	17.1	15.0				46.9	41.9			41.9	17.1
Actuated g/C Ratio	0.19	0.19	0.17				0.52	0.47			0.47	0.19
Clearance Time (s)	4.6	4.6					4.0	5.2			5.2	4.6
Vehicle Extension (s)	3.0	3.0					3.0	3.2			3.4	3.0
Lane Grp Cap (vph)	286	286	416				162	2118			1474	269
v/s Ratio Prot	c0.23	0.23	c0.05				c0.06	0.14			0.41	0.06
v/s Ratio Perm							c0.51					
v/c Ratio	1.21	1.21	0.29				1.09	0.30			0.88	0.30
Uniform Delay, d1	36.5	36.5	32.8				17.8	15.0			21.7	31.3
Progression Factor	1.00	1.00	5.00				2.25	1.17			1.00	1.00
Incremental Delay, d2	120.7	119.4	0.4				77.8	0.2			7.5	2.9
Delay (s)	157.3	156.0	164.3				118.0	17.8			29.2	34.2
Level of Service	F	F	F				F	B			C	C
Approach Delay (s)		160.5			0.0			39.3			30.1	
Approach LOS		F			A			D			C	

Intersection Summary			
HCM Average Control Delay	80.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑		↑↑	↑↑↑		↑↑	↑↑	↑↑
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0	4.0		4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor		0.91	1.00		0.86		0.97	0.91		0.97	0.95	0.88
Frt		1.00	0.85		0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		4550	1417		5645		3072	4475		3072	3167	2493
Flt Permitted		1.00	1.00		1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)		4550	1417		5645		3072	4475		3072	3167	2493
Volume (vph)	0	2918	530	0	2567	292	10	858	107	358	496	259
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	3008	546	0	2646	301	10	885	110	369	511	267
RTOR Reduction (vph)	0	0	63	0	22	0	0	1	0	0	0	177
Lane Group Flow (vph)	0	3008	483	0	2925	0	10	994	0	369	511	90
Turn Type		pm+ov					Prot			Prot		Perm
Protected Phases		6	3		2		3	8		7	4	
Permitted Phases		6										4
Actuated Green, G (s)		38.5	46.2		38.5		7.7	27.7		9.0	29.0	29.0
Effective Green, g (s)		40.0	47.7		40.0		7.7	29.0		9.0	30.3	30.3
Actuated g/C Ratio		0.44	0.53		0.44		0.09	0.32		0.10	0.34	0.34
Clearance Time (s)		5.5	4.0		5.5		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)		4.9	3.0		5.2		3.0	5.1		3.0	5.1	5.1
Lane Grp Cap (vph)		2022	814		2509		263	1442		307	1066	839
v/s Ratio Prot		c0.66	0.05		0.52		0.00	c0.22		c0.12	0.16	
v/s Ratio Perm			0.29									0.04
v/c Ratio		1.49	0.59		1.17		0.04	0.69		1.20	0.48	0.11
Uniform Delay, d1		25.0	14.5		25.0		37.8	26.6		40.5	23.6	20.5
Progression Factor		1.00	1.00		0.97		1.00	1.00		1.26	1.04	2.86
Incremental Delay, d2		222.1	1.2		75.1		0.1	2.7		107.2	0.4	0.1
Delay (s)		247.1	15.7		99.4		37.8	29.3		158.3	25.0	58.7
Level of Service		F	B		F		D	C		F	C	E
Approach Delay (s)		211.6			99.4		29.4			75.8		
Approach LOS		F			F		C			E		

Intersection Summary

HCM Average Control Delay	134.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔	↑↑↑	↗	↖↗	↑↑↑	↖↗	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.86	1.00	0.97	0.91	0.94	0.88
Frbp, 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	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1118	4047	1000	2168	3212	3152	1760
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1118	4047	1000	2168	3212	3152	1760
Volume (vph)	16	1960	341	293	1727	836	570
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	16	1980	344	296	1744	844	576
RTOR Reduction (vph)	0	0	197	0	0	0	458
Lane Group Flow (vph)	16	1980	147	296	1744	844	118
Conf. Peds. (#/hr)			86	86		1	218
Conf. Bikes (#/hr)			19				3
Turn Type	Prot		Over	Prot			Over
Protected Phases	1	6	8	5	2	8	5
Permitted Phases							
Actuated Green, G (s)	2.5	47.7	30.1	24.6	68.8	30.1	24.6
Effective Green, g (s)	3.5	50.4	33.0	24.6	71.5	33.0	24.6
Actuated g/C Ratio	0.03	0.42	0.28	0.21	0.60	0.28	0.21
Clearance Time (s)	5.0	6.7	6.9	4.0	6.7	6.9	4.0
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	3.0	3.0
Lane Grp Cap (vph)	33	1700	275	444	1914	867	361
v/s Ratio Prot	0.01	c0.49	0.15	0.14	c0.54	c0.27	0.07
v/s Ratio Perm							
v/c Ratio	0.48	1.16	0.53	0.67	0.91	0.97	0.33
Uniform Delay, d1	57.4	34.8	37.0	43.9	21.4	43.1	40.6
Progression Factor	0.87	1.53	1.37	0.87	0.70	1.00	1.00
Incremental Delay, d2	1.0	74.8	0.2	2.9	6.3	24.1	0.5
Delay (s)	50.8	128.0	51.0	41.2	21.3	67.1	41.2
Level of Service	D	F	D	D	C	E	D
Approach Delay (s)		116.1			24.2	56.6	
Approach LOS		F			C	E	
Intersection Summary							
HCM Average Control Delay			69.2		HCM Level of Service		E
HCM Volume to Capacity ratio			1.03				
Actuated Cycle Length (s)			120.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization			93.4%		ICU Level of Service		F
Analysis Period (min)			15				
c Critical Lane Group							



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗↗	↘	↘	↗↗	↘	↘↘	↗↗↗	↘	↘↘	↗↗↗	↘
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frbp, ped/bikes	1.00	1.00	0.89	1.00	1.00	0.86	1.00	1.00	0.87	1.00	0.91	
Flpb, ped/bikes	0.99	1.00	1.00	0.96	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	0.94	
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)	1569	3167	1260	1520	3167	1217	3072	4550	1231	3072	3904	
Flt Permitted	0.27	1.00	1.00	0.36	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	442	3167	1260	575	3167	1217	3072	4550	1231	3072	3904	
Volume (vph)	53	690	666	308	625	411	265	655	154	220	706	439
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	750	724	335	679	447	288	712	167	239	767	477
RTOR Reduction (vph)	0	0	2	0	0	168	0	0	57	0	115	0
Lane Group Flow (vph)	58	750	722	335	679	279	288	712	110	239	1129	0
Conf. Peds. (#/hr)	134		119	119		134	175		101	101		175
Conf. Bikes (#/hr)			4			5			4			3
Turn Type	pm+pt		pm+ov	Perm		Perm	Prot		Perm	Prot		
Protected Phases	1	6	3		2		3	8		7	4	
Permitted Phases	6		6	2		2			8			
Actuated Green, G (s)	43.4	43.4	49.4	35.5	35.5	35.5	6.0	20.3	20.3	12.3	26.6	
Effective Green, g (s)	44.9	44.9	50.9	37.0	37.0	37.0	6.0	20.8	20.8	12.3	27.1	
Actuated g/C Ratio	0.50	0.50	0.57	0.41	0.41	0.41	0.07	0.23	0.23	0.14	0.30	
Clearance Time (s)	3.5	5.5	4.0	5.5	5.5	5.5	4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	3.0	4.0	2.0	4.0	4.0	4.0	2.0	3.0	3.0	2.0	3.0	
Lane Grp Cap (vph)	269	1580	769	236	1302	500	205	1052	284	420	1176	
v/s Ratio Prot	0.01	0.24	c0.06		0.21		c0.09	0.16		0.08	c0.29	
v/s Ratio Perm	0.10		0.51	c0.58		0.23			0.09			
v/c Ratio	0.22	0.47	0.94	1.42	0.52	0.56	1.40	0.68	0.39	0.57	1.06dr	
Uniform Delay, d1	12.8	14.8	18.1	26.5	19.9	20.3	42.0	31.5	29.2	36.4	30.9	
Progression Factor	0.87	0.88	0.88	1.07	1.09	1.25	1.05	1.13	1.17	1.00	1.00	
Incremental Delay, d2	0.4	0.3	17.8	211.6	0.5	1.7	208.4	3.4	3.9	1.1	18.3	
Delay (s)	11.5	13.3	33.7	240.0	22.1	26.9	252.6	39.1	38.2	37.4	49.2	
Level of Service	B	B	C	F	C	C	F	D	D	D	D	
Approach Delay (s)		22.9			73.5			91.7			47.3	
Approach LOS		C			E			F			D	

Intersection Summary

HCM Average Control Delay	56.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↑↑↑	↕	↕	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor					1.00	1.00	1.00	0.91	1.00	1.00	0.91	
Frt					1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected					0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)					1583	1417	1583	4550	1417	1583	4550	
Flt Permitted					0.76	1.00	0.09	1.00	1.00	0.36	1.00	
Satd. Flow (perm)					1262	1417	149	4550	1417	602	4550	
Volume (vph)	0	0	0	125	0	199	1	672	95	173	1730	0
Peak-hour factor, PHF	0.92	0.92	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	136	0	216	1	730	103	188	1880	0
RTOR Reduction (vph)	0	0	0	0	0	176	0	0	28	0	0	0
Lane Group Flow (vph)	0	0	0	0	136	40	1	730	75	188	1880	0
Turn Type	Perm			Perm			Perm	Perm	Perm		Perm	
Protected Phases		4			4			2			2	
Permitted Phases	4			4		4	2		2	2		
Actuated Green, G (s)					15.5	15.5	64.5	64.5	64.5	64.5	64.5	
Effective Green, g (s)					16.5	16.5	65.5	65.5	65.5	65.5	65.5	
Actuated g/C Ratio					0.18	0.18	0.73	0.73	0.73	0.73	0.73	
Clearance Time (s)					5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)					3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)					231	260	108	3311	1031	438	3311	
v/s Ratio Prot								0.16			c0.41	
v/s Ratio Perm					c0.11	0.03	0.01		0.05	0.31		
v/c Ratio					0.59	0.15	0.01	0.22	0.07	0.43	0.57	
Uniform Delay, d1					33.6	30.9	3.4	4.0	3.5	4.8	5.7	
Progression Factor					1.00	1.00	2.04	1.61	3.77	0.94	0.97	
Incremental Delay, d2					3.8	0.3	0.2	0.1	0.1	1.1	0.3	
Delay (s)					37.4	31.1	7.0	6.6	13.4	5.7	5.7	
Level of Service					D	C	A	A	B	A	A	
Approach Delay (s)		0.0			33.6			7.4			5.7	
Approach LOS		A			C			A			A	

Intersection Summary

HCM Average Control Delay	9.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



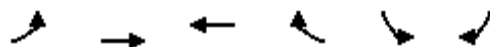
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕	↗	↖	↕↕↕		↖↖	↕↕↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95	0.95	1.00	0.91		0.97	0.91	
Frt		0.96			0.96	0.85	1.00	0.96		1.00	1.00	
Flt Protected		0.97			0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2961			1501	1346	1583	4385		3072	4541	
Flt Permitted		0.80			0.90	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2424			1366	1346	1583	4385		3072	4541	
Volume (vph)	84	31	42	10	16	69	11	626	199	132	1678	22
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	86	32	43	10	16	70	11	639	203	135	1712	22
RTOR Reduction (vph)	0	36	0	0	8	33	0	33	0	0	1	0
Lane Group Flow (vph)	0	125	0	0	27	28	11	809	0	135	1733	0
Turn Type		Perm		Perm		pm+ov		Prot			Prot	
Protected Phases		8		4	4	5	1	6		5	2	
Permitted Phases		8		4		4						
Actuated Green, G (s)		12.6			12.6	20.8	1.4	55.0		8.2	61.8	
Effective Green, g (s)		14.1			14.1	22.3	1.4	55.7		8.2	62.5	
Actuated g/C Ratio		0.16			0.16	0.25	0.02	0.62		0.09	0.69	
Clearance Time (s)		5.5			5.5	4.0	4.0	4.7		4.0	4.7	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		380			214	393	25	2714		280	3153	
v/s Ratio Prot						0.01	0.01	0.18		c0.04	c0.38	
v/s Ratio Perm		c0.05			0.02	0.01						
v/c Ratio		0.33			0.13	0.07	0.44	0.30		0.48	0.55	
Uniform Delay, d1		33.7			32.7	25.9	43.9	8.0		38.9	6.8	
Progression Factor		1.00			1.00	1.00	0.69	2.00		0.97	0.88	
Incremental Delay, d2		0.5			0.3	0.1	11.4	0.3		1.1	0.6	
Delay (s)		34.2			32.9	26.0	41.9	16.3		38.6	6.5	
Level of Service		C			C	C	D	B		D	A	
Approach Delay (s)		34.2			28.5			16.7			8.9	
Approach LOS		C			C			B			A	

Intersection Summary

HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔		↔	↔		↔	↔↔	↑↑↑		↔	↑↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0		4.0	4.0		4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97		1.00	1.00		1.00	0.97	0.91		1.00	0.91	
Frt	1.00		0.85	1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3072		1417	1583		1417	3072	4520		1583	4544	
Flt Permitted	0.95		1.00	0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3072		1417	1583		1417	3072	4520		1583	4544	
Volume (vph)	128	0	179	15	0	75	19	661	30	79	1566	15
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	141	0	197	16	0	82	21	726	33	87	1721	16
RTOR Reduction (vph)	0	0	154	0	0	62	0	4	0	0	1	0
Lane Group Flow (vph)	141	0	43	16	0	20	21	755	0	87	1736	0
Turn Type	Prot		custom	Prot		custom	Prot			Prot		
Protected Phases	3		3 5	4		1 4	5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.2		19.4	9.9		22.8	6.2	41.0		8.0	42.8	
Effective Green, g (s)	14.1		19.5	10.8		22.0	5.4	41.9		7.2	43.7	
Actuated g/C Ratio	0.16		0.22	0.12		0.24	0.06	0.47		0.08	0.49	
Clearance Time (s)	4.9			4.9			3.2	4.9		3.2	4.9	
Vehicle Extension (s)	3.0			3.0			3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	481		307	190		346	184	2104		127	2206	
v/s Ratio Prot	c0.05		0.03	c0.01		0.01	0.01	0.17		c0.05	c0.38	
v/s Ratio Perm												
v/c Ratio	0.29		0.14	0.08		0.06	0.11	0.36		0.69	0.79	
Uniform Delay, d1	33.5		28.5	35.2		26.1	40.0	15.4		40.3	19.3	
Progression Factor	1.00		1.00	1.00		1.00	1.39	0.39		0.81	1.16	
Incremental Delay, d2	0.3		0.2	0.2		0.1	0.0	0.0		12.6	2.6	
Delay (s)	33.9		28.7	35.4		26.1	55.7	6.1		45.4	24.9	
Level of Service	C		C	D		C	E	A		D	C	
Approach Delay (s)		30.9			27.6			7.5			25.9	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM Average Control Delay			21.8									HCM Level of Service C
HCM Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			90.0									Sum of lost time (s) 12.0
Intersection Capacity Utilization			59.9%									ICU Level of Service B
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑↑	↑↑↑↗		↖↗	↘↙
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.91	0.91		0.97	0.88
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)	3072	4550	4480		3072	2493
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3072	4550	4480		3072	2493
Volume (vph)	493	1835	1717	195	572	1134
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	536	1995	1866	212	622	1233
RTOR Reduction (vph)	0	0	16	0	0	340
Lane Group Flow (vph)	536	1995	2062	0	622	893
Turn Type	Prot					Prot
Protected Phases	5	2 5	6		4	4
Permitted Phases						
Actuated Green, G (s)	12.0	49.5	32.5		30.0	30.0
Effective Green, g (s)	13.0	51.0	34.0		31.0	31.0
Actuated g/C Ratio	0.14	0.57	0.38		0.34	0.34
Clearance Time (s)	5.0		5.5		5.0	5.0
Vehicle Extension (s)	2.0		3.0		3.0	3.0
Lane Grp Cap (vph)	444	2578	1692		1058	859
v/s Ratio Prot	c0.17	0.44	c0.46		0.20	c0.36
v/s Ratio Perm						
v/c Ratio	1.21	0.77	1.22		0.59	1.04
Uniform Delay, d1	38.5	15.0	28.0		24.2	29.5
Progression Factor	1.00	1.00	1.00		1.26	1.49
Incremental Delay, d2	112.8	2.3	104.1		0.6	35.9
Delay (s)	151.3	17.4	132.1		31.2	79.9
Level of Service	F	B	F		C	E
Approach Delay (s)		45.7	132.1		63.6	
Approach LOS		D	F		E	

Intersection Summary

HCM Average Control Delay	78.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑	↑↓	↑↑↑	↑↓	↑
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	0.91
Frbp, 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	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3212	1000	2168	3212	2168	910
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3212	1000	2168	3212	2168	910
Volume (vph)	2141	472	130	2459	782	271
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2207	487	134	2535	806	279
RTOR Reduction (vph)	0	199	0	0	0	205
Lane Group Flow (vph)	2207	288	134	2535	806	74
Confl. Peds. (#/hr)		145	145		56	
Confl. Bikes (#/hr)		19				
Turn Type		Over	Prot			Perm
Protected Phases	6	4	5	2	4	
Permitted Phases						4
Actuated Green, G (s)	66.1	28.1	10.7	80.8	28.1	28.1
Effective Green, g (s)	67.3	30.0	10.7	82.0	30.0	30.0
Actuated g/C Ratio	0.56	0.25	0.09	0.68	0.25	0.25
Clearance Time (s)	5.2	5.9	4.0	5.2	5.9	5.9
Vehicle Extension (s)	3.7	3.8	1.0	3.5	3.8	3.8
Lane Grp Cap (vph)	1801	250	193	2195	542	228
v/s Ratio Prot	c0.69	0.29	0.06	c0.79	c0.37	
v/s Ratio Perm						0.08
v/c Ratio	1.23	1.15	0.69	1.15	1.49	0.33
Uniform Delay, d1	26.4	45.0	53.1	19.0	45.0	36.7
Progression Factor	1.66	1.33	0.97	0.87	1.00	1.00
Incremental Delay, d2	101.9	73.4	3.9	72.3	228.9	3.8
Delay (s)	145.6	133.4	55.2	89.0	273.9	40.5
Level of Service	F	F	E	F	F	D
Approach Delay (s)	143.4			87.3	213.9	
Approach LOS	F			F	F	

Intersection Summary			
HCM Average Control Delay	132.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	121.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
74: Constellation Blvd & Century Park West



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖↗	↖↗	↕	↖	↗	↕
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	0.95	1.00	1.00	0.91
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3072	2493	3167	1417	1583	4550
Flt Permitted	0.95	1.00	1.00	1.00	0.41	1.00
Satd. Flow (perm)	3072	2493	3167	1417	683	4550
Volume (vph)	604	434	406	322	371	321
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	664	477	446	354	408	353
RTOR Reduction (vph)	0	297	0	4	0	0
Lane Group Flow (vph)	664	180	446	350	408	353
Turn Type		Perm		pm+ov	pm+pt	
Protected Phases	4		2	4	1	6
Permitted Phases		4		2	6	
Actuated Green, G (s)	33.4	33.4	38.6	72.0	46.6	46.6
Effective Green, g (s)	33.9	33.9	40.1	74.0	48.1	48.1
Actuated g/C Ratio	0.38	0.38	0.45	0.82	0.53	0.53
Clearance Time (s)	4.5	4.5	5.5	4.5	3.0	5.5
Vehicle Extension (s)	3.0	3.0	5.0	3.0	3.0	5.0
Lane Grp Cap (vph)	1157	939	1411	1228	405	2432
v/s Ratio Prot	c0.22		0.14	0.11	c0.04	0.08
v/s Ratio Perm		0.07		0.14	c0.49	
v/c Ratio	0.57	0.19	0.32	0.29	1.01	0.15
Uniform Delay, d1	22.3	18.8	16.1	1.9	21.9	10.6
Progression Factor	1.09	3.87	1.33	0.81	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.6	0.1	46.6	0.1
Delay (s)	24.6	72.9	21.9	1.6	68.4	10.7
Level of Service	C	E	C	A	E	B
Approach Delay (s)	44.8		13.0			41.7
Approach LOS	D		B			D

Intersection Summary

HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
75: Olympic Blvd & Century Park West



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	0.91	1.00	0.97	0.88
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)	3072	4550	4550	1417	3072	2493
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3072	4550	4550	1417	3072	2493
Volume (vph)	170	2309	2464	102	4	836
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	173	2356	2514	104	4	853
RTOR Reduction (vph)	0	0	0	44	0	0
Lane Group Flow (vph)	173	2356	2514	60	4	853
Turn Type	Prot			Perm		Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	10.2	54.8	40.6	40.6	25.3	25.3
Effective Green, g (s)	10.2	56.0	41.8	41.8	26.0	26.0
Actuated g/C Ratio	0.11	0.62	0.46	0.46	0.29	0.29
Clearance Time (s)	4.0	5.2	5.2	5.2	4.7	4.7
Vehicle Extension (s)	3.0	4.8	4.6	4.6	3.0	3.0
Lane Grp Cap (vph)	348	2831	2113	658	887	720
v/s Ratio Prot	0.06	c0.52	c0.55		0.00	
v/s Ratio Perm				0.04		c0.34
v/c Ratio	0.50	0.83	1.19	0.09	0.00	1.18
Uniform Delay, d1	37.5	13.3	24.1	13.5	22.8	32.0
Progression Factor	0.53	2.27	1.00	1.00	0.97	0.78
Incremental Delay, d2	0.1	0.3	90.4	0.3	0.0	95.9
Delay (s)	19.9	30.5	114.5	13.7	22.2	120.9
Level of Service	B	C	F	B	C	F
Approach Delay (s)		29.8	110.5		120.4	
Approach LOS		C	F		F	

Intersection Summary

HCM Average Control Delay	77.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↑↑↑	↔	↔	↑↑↑		↔	↑↑		↔	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.99		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)	1583	4550	1417	1583	4514		1583	3149		1583	3118	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.13	1.00		0.15	1.00	
Satd. Flow (perm)	1583	4550	1417	1583	4514		215	3149		247	3118	
Volume (vph)	146	2602	348	106	2262	124	193	1102	43	117	927	105
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	151	2682	359	109	2332	128	199	1136	44	121	956	108
RTOR Reduction (vph)	0	0	115	0	5	0	0	2	0	0	7	0
Lane Group Flow (vph)	151	2682	244	109	2455	0	199	1178	0	121	1057	0
Turn Type	Prot		Perm	Prot		pm+pt				Perm		
Protected Phases	1	6		5	2		3	8				4
Permitted Phases			6				8			4		
Actuated Green, G (s)	13.7	54.1	54.1	11.9	52.3		40.0	40.0		26.0	26.0	
Effective Green, g (s)	13.7	55.1	55.1	11.9	53.3		41.0	41.0		27.0	27.0	
Actuated g/C Ratio	0.11	0.46	0.46	0.10	0.44		0.34	0.34		0.22	0.22	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		3.5	5.0		5.0	5.0	
Vehicle Extension (s)	2.0	4.0	4.0	2.0	4.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	181	2089	651	157	2005		187	1076		56	702	
v/s Ratio Prot	c0.10	c0.59		0.07	0.54		0.09	c0.37			0.34	
v/s Ratio Perm			0.17				0.27			c0.49		
v/c Ratio	0.83	1.28	0.37	0.69	1.22		1.06	1.09		2.16	1.51	
Uniform Delay, d1	52.0	32.5	21.2	52.3	33.4		57.2	39.5		46.5	46.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.62	1.48		1.00	1.00	
Incremental Delay, d2	25.8	131.5	1.6	10.2	105.7		39.4	44.3		576.5	235.0	
Delay (s)	77.8	164.0	22.8	62.5	139.0		131.9	102.7		623.0	281.5	
Level of Service	E	F	C	E	F		F	F		F	F	
Approach Delay (s)		144.0			135.8			106.9			316.4	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	159.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	120.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗↘	↗↗↗	↗	↗↘	↗↗↗	↗	↗↘	↗↗	↗	↗↘	↗↗	↗
Ideal Flow (vphpl)	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
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	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2168	3212	1000	2168	3212	1000	2168	2235	1000	2168	2235	1000
Volume (vph)	92	2125	124	106	2655	461	81	1051	73	387	1295	86
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	95	2191	128	109	2737	475	84	1084	75	399	1335	89
RTOR Reduction (vph)	0	0	53	0	0	18	0	0	44	0	0	39
Lane Group Flow (vph)	95	2191	75	109	2737	457	84	1084	31	399	1335	50
Turn Type	Prot		Perm	Prot	pm+ov	Prot		Perm	Prot		Perm	
Protected Phases	1	6		5	2	7	3	8		7	4	
Permitted Phases			6			2			8			4
Actuated Green, G (s)	6.9	26.7	26.7	11.0	30.8	53.6	7.8	39.6	39.6	22.8	54.6	54.6
Effective Green, g (s)	6.9	28.2	28.2	11.0	32.3	55.1	7.8	42.0	42.0	22.8	57.0	57.0
Actuated g/C Ratio	0.06	0.23	0.23	0.09	0.27	0.46	0.06	0.35	0.35	0.19	0.48	0.48
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	4.0	4.0	6.4	6.4	4.0	6.4	6.4
Vehicle Extension (s)	2.0	4.5	4.5	2.0	5.2	2.0	2.0	4.7	4.7	2.0	4.7	4.7
Lane Grp Cap (vph)	125	755	235	199	865	459	141	782	350	412	1062	475
v/s Ratio Prot	0.04	c0.68		0.05	c0.85	0.19	0.04	c0.48		0.18	c0.60	
v/s Ratio Perm			0.08			0.27			0.03			0.05
v/c Ratio	0.76	2.90	0.32	0.55	3.16	0.99	0.60	1.39	0.09	0.97	1.26	0.11
Uniform Delay, d1	55.7	45.9	38.0	52.1	43.9	32.3	54.6	39.0	26.2	48.2	31.5	17.4
Progression Factor	1.00	0.44	0.16	0.95	0.94	0.90	1.00	1.00	1.00	0.63	0.51	0.19
Incremental Delay, d2	2.3	856.2	0.3	0.1	974.1	11.3	4.4	181.7	0.2	19.7	118.7	0.1
Delay (s)	57.8	876.6	6.3	49.9	1015.5	40.3	59.0	220.7	26.4	50.3	134.7	3.5
Level of Service	E	F	A	D	F	D	E	F	C	D	F	A
Approach Delay (s)		798.2			844.3			198.0			109.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	588.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	154.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	1.00	0.86		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00		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)	1583	4550	1417	1583	5712		1583	3167	1417	1583	3167	1417
Flt Permitted	0.11	1.00	1.00	0.11	1.00		0.15	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	183	4550	1417	188	5712		252	3167	1417	219	3167	1417
Volume (vph)	322	2302	153	186	3167	82	35	791	59	226	1044	343
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	332	2373	158	192	3265	85	36	815	61	233	1076	354
RTOR Reduction (vph)	0	0	25	0	4	0	0	0	4	0	0	0
Lane Group Flow (vph)	332	2373	133	192	3346	0	36	815	57	233	1076	354
Turn Type	pm+pt		Perm	pm+pt		Perm		pm+ov	pm+pt		pm+ov	
Protected Phases	1	6		5	2			8	5	7	4	1
Permitted Phases	6		6	2		8	8	8	4			4
Actuated Green, G (s)	43.0	36.0	36.0	41.0	35.0	25.0	25.0	31.0	34.0	34.0	41.0	
Effective Green, g (s)	43.5	36.5	36.5	41.5	35.5	26.5	26.5	32.5	35.5	35.5	42.5	
Actuated g/C Ratio	0.48	0.41	0.41	0.46	0.39	0.29	0.29	0.36	0.39	0.39	0.47	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5	5.5	5.5	4.0	4.0	5.5	4.0	
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0	5.0	5.0	3.0	3.0	5.0	3.0	
Lane Grp Cap (vph)	197	1845	575	180	2253	74	933	575	162	1249	732	
v/s Ratio Prot	c0.13	0.52		0.07	0.59		0.26	0.01	c0.08	0.34	0.04	
v/s Ratio Perm	c0.68		0.09	0.42		0.14		0.03	c0.49		0.21	
v/c Ratio	1.69	1.29	0.23	1.07	1.49	0.49	0.87	0.10	1.44	0.86	0.48	
Uniform Delay, d1	43.7	26.8	17.5	44.2	27.2	26.1	30.2	19.0	24.7	25.0	16.2	
Progression Factor	2.25	0.68	0.76	1.67	1.46	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	310.4	129.2	0.1	40.6	218.6	10.2	9.8	0.1	228.7	6.9	0.5	
Delay (s)	408.8	147.4	13.4	114.4	258.5	36.3	40.0	19.1	253.3	31.9	16.8	
Level of Service	F	F	B	F	F	D	D	B	F	C	B	
Approach Delay (s)		170.3			250.7		38.4			59.7		
Approach LOS		F			F		D			E		

Intersection Summary

HCM Average Control Delay	168.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.96			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1583	3164		1583	3154			1600			1620	
Flt Permitted	0.14	1.00		0.14	1.00			0.99			0.90	
Satd. Flow (perm)	228	3164		228	3154			1583			1468	
Volume (vph)	167	1792	10	49	1113	32	13	325	136	41	208	46
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	174	1867	10	51	1159	33	14	339	142	43	217	48
RTOR Reduction (vph)	0	1	0	0	3	0	0	1	0	0	13	0
Lane Group Flow (vph)	174	1876	0	51	1189	0	0	494	0	0	295	0
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases	6		2		2		8		8		4	
Permitted Phases	6		2		2		8		8		4	
Actuated Green, G (s)	28.9	28.9		28.9	28.9			21.9			21.9	
Effective Green, g (s)	29.2	29.2		29.2	29.2			22.8			22.8	
Actuated g/C Ratio	0.49	0.49		0.49	0.49			0.38			0.38	
Clearance Time (s)	4.3	4.3		4.3	4.3			4.9			4.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	111	1540		111	1535			602			558	
v/s Ratio Prot		0.59			0.38							
v/s Ratio Perm	c0.76			0.22				c0.31			0.20	
v/c Ratio	1.57	1.22		0.46	0.77			0.82			0.53	
Uniform Delay, d1	15.4	15.4		10.2	12.7			16.8			14.4	
Progression Factor	1.71	1.82		1.00	1.00			1.00			1.00	
Incremental Delay, d2	259.4	98.9		13.1	3.9			8.8			0.9	
Delay (s)	285.7	126.9		23.3	16.6			25.5			15.3	
Level of Service	F	F		C	B			C			B	
Approach Delay (s)		140.3			16.8			25.5			15.3	
Approach LOS		F			B			C			B	

Intersection Summary

HCM Average Control Delay	79.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	↗
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)					4.0			4.0		4.0	4.0	
Lane Util. Factor					1.00			0.95		1.00	0.95	
Frbp, ped/bikes					1.00			0.99		1.00	1.00	
Flpb, ped/bikes					0.99			1.00		1.00	1.00	
Frt					0.92			0.99		1.00	1.00	
Flt Protected					0.98			1.00		0.95	1.00	
Satd. Flow (prot)					1486			3121		1583	3167	
Flt Permitted					0.87			1.00		0.06	1.00	
Satd. Flow (perm)					1316			3121		108	3167	
Volume (vph)	0	0	0	96	0	128	0	1866	77	124	1499	0
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	0	0	110	0	147	0	2145	89	143	1723	0
RTOR Reduction (vph)	0	0	0	0	5	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	252	0	0	2231	0	143	1723	0
Conf. Peds. (#/hr)			20	20			47		58	58		47
Conf. Bikes (#/hr)			1						7			1
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					29.5			62.0		62.0	62.0	
Effective Green, g (s)					30.0			62.0		62.0	62.0	
Actuated g/C Ratio					0.30			0.62		0.62	0.62	
Clearance Time (s)					4.5			4.0		4.0	4.0	
Vehicle Extension (s)					3.0			5.0		5.0	5.0	
Lane Grp Cap (vph)					395			1935		67	1964	
v/s Ratio Prot								0.71			0.54	
v/s Ratio Perm					c0.19					c1.33		
v/c Ratio					0.64			1.15		2.13	0.88	
Uniform Delay, d1					30.3			19.0		19.0	15.8	
Progression Factor					1.00			1.00		1.00	1.00	
Incremental Delay, d2					7.7			75.2		556.8	5.9	
Delay (s)					38.0			94.2		575.8	21.7	
Level of Service					D			F		F	C	
Approach Delay (s)		0.0			38.0			94.2			64.2	
Approach LOS		A			D			F			E	
Intersection Summary												
HCM Average Control Delay			78.1									HCM Level of Service E
HCM Volume to Capacity ratio			1.65									
Actuated Cycle Length (s)			100.0									Sum of lost time (s) 8.0
Intersection Capacity Utilization			96.4%									ICU Level of Service F
Analysis Period (min)			15									
c Critical Lane Group												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑		↗	↑↑	↗	↗	↑↑↔	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95		1.00	0.95	1.00	1.00	0.91	
Frbp, ped/bikes	1.00	1.00	0.74	1.00	0.99		1.00	1.00	0.79	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	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3072	3167	1048	3072	3095		1583	3167	1113	1583	4403	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.09	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	3072	3167	1048	3072	3095		153	3167	1113	168	4403	
Volume (vph)	131	1599	105	464	729	57	406	1820	453	12	1374	113
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	138	1683	111	488	767	60	427	1916	477	13	1446	119
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	74	0	8	0
Lane Group Flow (vph)	138	1683	111	488	822	0	427	1916	403	13	1557	0
Confl. Peds. (#/hr)	102		193	193		102	173		149	149		173
Confl. Bikes (#/hr)			6			6			9			5
Turn Type	Prot		pm+ov	Prot			pm+pt		pm+ov		pm+pt	
Protected Phases	5	2	3	1	6		3	8	1	7	4	
Permitted Phases			2				8		8		4	
Actuated Green, G (s)	8.0	48.0	55.0	8.0	48.0		49.3	42.6	50.6	41.0	38.3	
Effective Green, g (s)	8.0	49.3	56.3	8.0	49.3		50.7	44.0	52.0	42.4	39.7	
Actuated g/C Ratio	0.07	0.41	0.47	0.07	0.41		0.42	0.37	0.43	0.35	0.33	
Clearance Time (s)	4.0	5.3	4.0	4.0	5.3		4.0	5.4	4.0	4.0	5.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	205	1301	527	205	1272		148	1161	519	91	1457	
v/s Ratio Prot	0.04	c0.53	0.01	c0.16	0.27		c0.17	0.61	0.05	0.00	0.35	
v/s Ratio Perm			0.09				c1.05		0.31	0.05		
v/c Ratio	0.67	1.29	0.21	2.38	0.65		2.89	1.65	0.78	0.14	1.07	
Uniform Delay, d1	54.7	35.4	18.8	56.0	28.4		29.4	38.0	29.0	31.9	40.1	
Progression Factor	0.89	0.81	0.67	1.10	0.70		1.19	1.12	1.81	1.00	1.00	
Incremental Delay, d2	0.8	132.7	0.0	631.5	1.8		850.0	293.0	0.7	0.7	44.3	
Delay (s)	49.4	161.3	12.7	693.4	21.7		885.0	335.5	53.2	32.6	84.4	
Level of Service	D	F	B	F	C		F	F	D	C	F	
Approach Delay (s)		144.8			271.0			371.0			84.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM Average Control Delay	237.4	HCM Level of Service	F
HCM Volume to Capacity ratio	2.08		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	137.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑		↘	↑↑	↗	↘	↑↑	
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Total Lost time (s)	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	0.95	1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3167	1417	1583	3017		1583	3167	1417	1583	3117	
Flt Permitted	0.19	1.00	1.00	0.07	1.00		0.12	1.00	1.00	0.18	1.00	
Satd. Flow (perm)	311	3167	1417	119	3017		203	3167	1417	304	3117	
Volume (vph)	174	1517	147	117	617	285	209	913	209	196	967	113
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	185	1614	156	124	656	303	222	971	222	209	1029	120
RTOR Reduction (vph)	0	0	30	0	36	0	0	0	5	0	7	0
Lane Group Flow (vph)	185	1614	126	124	923	0	222	971	217	209	1142	0
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		6			2			8			4	
Permitted Phases	6		6	2			8		8		4	
Actuated Green, G (s)	54.1	54.1	54.1	54.1	54.1		54.5	54.5	54.5	54.5	54.5	
Effective Green, g (s)	56.0	56.0	56.0	56.0	56.0		56.0	56.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	145	1478	661	56	1408		95	1478	661	142	1455	
v/s Ratio Prot		0.51			0.31			0.31			0.37	
v/s Ratio Perm	0.59		0.09	c1.04			c1.09		0.15	0.69		
v/c Ratio	1.28	1.09	0.19	2.21	0.66		2.34	0.66	0.33	1.47	0.78	
Uniform Delay, d1	32.0	32.0	18.7	32.0	24.6		32.0	24.6	20.2	32.0	26.9	
Progression Factor	1.16	1.17	1.28	0.72	0.72		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	129.1	42.7	0.1	551.7	0.2		633.1	2.3	1.3	246.4	4.3	
Delay (s)	166.3	80.0	24.0	574.7	17.8		665.1	26.9	21.5	278.4	31.2	
Level of Service	F	E	C	F	B		F	C	C	F	C	
Approach Delay (s)		83.7			81.6			126.2			69.3	
Approach LOS		F			F			F			E	

Intersection Summary

HCM Average Control Delay	90.3	HCM Level of Service	F
HCM Volume to Capacity ratio	2.29		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕	↖	↖	↕	↖
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
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	0.95		1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	3151		1583	3076		1583	1667	1417	1583	1635	
Flt Permitted	0.20	1.00		0.20	1.00		0.18	1.00	1.00	0.30	1.00	
Satd. Flow (perm)	327	3151		327	3076		293	1667	1417	502	1635	
Volume (vph)	99	1468	49	91	701	165	74	570	157	78	640	91
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	103	1529	51	95	730	172	77	594	164	81	667	95
RTOR Reduction (vph)	0	4	0	0	34	0	0	0	1	0	9	0
Lane Group Flow (vph)	103	1576	0	95	868	0	77	594	163	81	753	0
Turn Type	Perm			Perm			Perm			Perm	Perm	
Protected Phases	6			2			8			8	4	
Permitted Phases	6			2			8			8	4	
Actuated Green, G (s)	20.1	20.1		20.1	20.1		31.0	31.0	31.0	31.0	31.0	
Effective Green, g (s)	20.4	20.4		20.4	20.4		31.6	31.6	31.6	31.6	31.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.53	0.53	0.53	0.53	0.53	
Clearance Time (s)	4.3	4.3		4.3	4.3		4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	111	1071		111	1046		154	878	746	264	861	
v/s Ratio Prot	c0.50			0.28			0.36			c0.46		
v/s Ratio Perm	0.32			0.29			0.26			0.12		0.16
v/c Ratio	0.93	1.47		0.86	0.83		0.50	0.68	0.22	0.31	0.88	
Uniform Delay, d1	19.1	19.8		18.4	18.2		9.1	10.4	7.6	8.0	12.5	
Progression Factor	1.00	1.00		1.06	1.01		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	67.7	217.3		7.7	0.7		11.1	4.2	0.7	3.0	12.1	
Delay (s)	86.7	237.1		27.2	19.1		20.3	14.6	8.3	11.0	24.5	
Level of Service	F	F		C	B		C	B	A	B	C	
Approach Delay (s)	227.9			19.9			13.9			23.2		
Approach LOS	F			B			B			C		

Intersection Summary

HCM Average Control Delay	99.7	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	120.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			