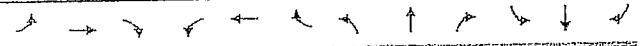
APPENDIX L

YEAR 2030 WITHOUT PROJECT SYNCHRO WORKSHEETS

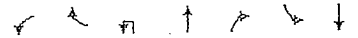


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	380	500	690	460	10	450	5	190	10	10	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	3433	3528		1681	1687	1583		1750	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.74	0.71	1.00		0.89	
Satd. Flow (perm)	1770	3539	1583	3433	3528		1302	1251	1583		1579	
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)	11	422	556	767	511	11	500	6	211	11	11	11
RTOR Reduction (vph)	0	0	392	0	2	0	0	0	158	0	8	0
Lane Group Flow (vph)	11	422	164	767	520	0	255	251	53	0	25	0
Turn Type	Prot		Perm	Prot			Perm		Perm	Perm		
Protected Phases	7			3	8			2			6	
Permitted Phases			4				2		2	6		
Actuated Green, G (s)	0.8	17.3	17.3	14.6	31.1		14.6	14.6	14.6		14.6	
Effective Green, g (s)	0.8	17.3	17.3	14.6	31.1		14.6	14.6	14.6		14.6	
Actuated g/C Ratio	0.01	0.30	0.30	0.25	0.53		0.25	0.25	0.25		0.25	
Clearance Time (s)	4.0	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		3.0	
Lane Grp Cap (vph)	24	1047	468	857	1876		325	312	395		394	
v/s Ratio Prot	0.01	c0.12		c0.22	0.15							
v/s Ratio Perm			0.10				0.20	c0.20	0.03		0.02	
v/c Ratio	0.46	0.40	0.35	0.89	0.28		0.78	0.80	0.13		0.06	
Uniform Delay, d1	28.6	16.5	16.2	21.2	7.5		20.5	20.6	17.0		16.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	13.2	0.3	0.5	11.8	0.1		11.7	13.9	0.2		0.1	
Delay (s)	41.9	16.7	16.6	33.0	7.6		32.2	34.5	17.2		16.8	
Level of Service	D	B	B	C	A		C	C	B		B	
Approach Delay (s)		17.0			22.7			28.6			16.8	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	58.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations							
Volume (vph)	530	390	0	340	970	340	880
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00		1.00	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)	3433	1583		1863	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		1863	1583	1770	3539
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	589	433	0	378	411	378	978
RTOR Reduction (vph)	0	329	0	0	185	0	0
Lane Group Flow (vph)	589	104	0	378	226	378	978
Turn Type		custom	Prot		custom	Prot	
Protected Phases	1		5	8		7	
Permitted Phases		8			4		6
Actuated Green, G (s)	20.4	15.2		15.2	34.6	15.4	20.4
Effective Green, g (s)	20.4	15.2		15.2	34.6	15.4	20.4
Actuated g/C Ratio	0.32	0.24		0.24	0.55	0.24	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)	1112	382		449	869	433	1146
v/s Ratio Prot	0.17			c0.20		c0.21	
v/s Ratio Perm		0.07			0.14	c0.28	
v/c Ratio	0.53	0.27		0.84	0.26	0.87	0.85
Uniform Delay, d1	17.4	19.4		22.8	7.5	22.9	19.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.4		13.4	0.2	17.4	6.3
Delay (s)	17.6	19.8		36.1	7.6	40.2	26.2
Level of Service	B	B		D	A	D	C
Approach Delay (s)	18.7			21.9		30.1	
Approach LOS	B			C		C	

Intersection Summary			
HCM Average Control Delay	24.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	95	8	0	1499	62	3	901
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		4.0	4.0
Lane Util. Factor	0.97			0.95		1.00	0.95
Frt	0.99			0.99		1.00	1.00
Flt Protected	0.96			1.00		0.95	1.00
Satd. Flow (prot)	3414			3489		1770	3539
Flt Permitted	0.96			1.00		0.95	1.00
Satd. Flow (perm)	3414			3489		1770	3539
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	106	9	0	554	68	3	1001
RTOR Reduction (vph)	8	0	0	12	0	0	0
Lane Group Flow (vph)	107	0	0	600	0	3	1001
Turn Type			Prot			Prot	
Protected Phases	6		5	2		1	6
Permitted Phases							
Actuated Green, G (s)	3.3			16.7		0.6	21.3
Effective Green, g (s)	3.3			16.7		0.6	21.3
Actuated g/C Ratio	0.10			0.51		0.02	0.65
Clearance Time (s)	4.0			4.0		4.0	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	346			1787		33	2312
v/s Ratio Prot	c0.03			0.17		0.00	c0.28
v/s Ratio Perm							
v/c Ratio	0.31			0.34		0.09	0.43
Uniform Delay, d1	13.6			4.7		15.7	2.7
Progression Factor	1.00			1.00		1.00	1.00
Incremental Delay, d2	0.5			0.1		1.2	0.1
Delay (s)	14.1			4.8		16.9	2.9
Level of Service	B			A		B	A
Approach Delay (s)	14.1			4.8			2.9
Approach LOS	B			A			A

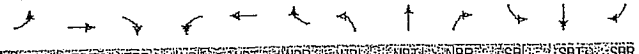
Intersection Summary				
HCM Average Control Delay	4.3	HCM Level of Service		A
HCM Volume to Capacity ratio	0.42			
Actuated Cycle Length (s)	32.6	Sum of lost time (s)		8.0
Intersection Capacity Utilization	34.9%	ICU Level of Service		A
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	114	21	61	84	168	6	338	13	165	732	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total 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	0.98		1.00	0.90		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)	1770	1820		1770	1676		1770	3520		1770	3471	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1820		1770	1676		1770	3520		1770	3471	
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)	29	127	23	68	93	187	7	376	14	183	813	119
RTOR Reduction (vph)	0	12	0	0	123	0	0	4	0	0	17	0
Lane Group Flow (vph)	29	138	0	68	157	0	7	386	0	183	915	0
Turn Type	Prot			Prot				Prot			Prot	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.8	10.7		2.8	12.7		0.7	14.4		5.4	19.1	
Effective Green, g (s)	0.8	10.7		2.8	12.7		0.7	14.4		5.4	19.1	
Actuated g/C Ratio	0.02	0.22		0.06	0.26		0.01	0.29		0.11	0.39	
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)	29	395		101	432		25	1028		194	1345	
v/s Ratio Prot	0.02	0.08		c0.04	c0.09		0.00	0.11		c0.10	c0.26	
v/s Ratio Perm												
v/c Ratio	1.00	0.35		0.67	0.36		0.28	0.38		0.94	0.68	
Uniform Delay, d1	24.2	16.4		22.8	15.0		24.1	13.9		21.8	12.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	167.1	0.5		16.3	0.5		6.0	0.2		48.3	1.4	
Delay (s)	191.4	16.9		39.1	15.5		30.1	14.1		70.1	14.0	
Level of Service	F	B		D	B		C	B		E	B	
Approach Delay (s)		45.2			20.1			14.4			23.2	
Approach LOS		D			C			B			C	

Intersection Summary				
HCM Average Control Delay	22.9	HCM Level of Service		C
HCM Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	49.3	Sum of lost time (s)		8.0
Intersection Capacity Utilization	58.4%	ICU Level of Service		B
Analysis Period (min)	15			
c Critical Lane Group				

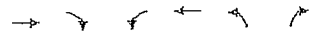
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	85	79	95	141	41	41	357	64	42	821	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.97		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)	1770	1863	1583	1770	1799		1770	3470		1770	3535	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1799		1770	3470		1770	3535	
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)	7	94	88	106	157	46	46	397	60	47	912	8
RTOR Reduction (vph)	0	0	72	0	19	0	0	17	0	0	1	0
Lane Group Flow (vph)	7	94	16	106	184	0	46	440	0	47	919	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	0.6	8.7	8.7	3.5	11.6		1.4	18.6		1.4	18.6	
Effective Green, g (s)	0.6	8.7	8.7	3.5	11.6		1.4	18.6		1.4	18.6	
Actuated g/C Ratio	0.01	0.18	0.18	0.07	0.24		0.03	0.39		0.03	0.39	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	22	336	286	129	433		51	1339		51	1364	
v/s Ratio Prot	0.00	0.05		c0.06	c0.10		0.03	0.13		c0.03	c0.26	
v/s Ratio Perm			0.01									
v/c Ratio	0.32	0.28	0.06	0.82	0.42		0.90	0.33		0.92	0.67	
Uniform Delay, d1	23.6	17.0	16.3	22.0	15.5		23.3	10.4		23.3	12.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.2	0.5	0.1	32.6	0.7		89.8	0.1		96.7	1.3	
Delay (s)	31.8	17.5	16.4	54.6	16.2		113.2	10.6		120.0	13.6	
Level of Service	C	B	B	D	B		F	B		F	B	
Approach Delay (s)		17.6			29.3			19.9			18.8	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.2%	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												
Volume (vph)	130	970	40	90	1150	230	60	60	140	460	40	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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	0.95			1.00	1.00	0.95	0.95	
Frt	1.00	0.99		1.00	0.97			1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00	0.95	0.98	
Satd. Flow (prot)	1770	6055		1770	3451			1811	1583	1681	1633	
Flt Permitted	0.95	1.00		0.95	1.00			0.49	1.00	0.62	0.71	
Satd. Flow (perm)	1770	6055		1770	3451			912	1583	1090	1189	
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)	144	1078	44	100	1278	256	89	67	156	511	44	122
RTOR Reduction (vph)	0	4	0	0	18	0	0	0	106	0	22	0
Lane Group Flow (vph)	144	1118	0	100	1516	0	0	156	50	337	310	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)	8.8	41.0		8.4	40.6			28.7	28.7	28.7	28.7	
Effective Green, g (s)	8.8	41.0		8.4	40.6			28.7	28.7	28.7	28.7	
Actuated g/C Ratio	0.10	0.46		0.09	0.45			0.32	0.32	0.32	0.32	
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)	173	2300		165	1555			291	504	347	379	
v/s Ratio Prot	c0.08	0.22		0.06	c0.44			0.17	0.03	c0.31	0.27	
v/s Ratio Perm												
v/c Ratio	0.83	0.49		0.61	0.97			0.54	0.10	0.97	0.84	
Uniform Delay, d1	39.9	17.2		39.3	24.2			25.2	21.6	30.3	28.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	27.5	0.2		6.2	17.0			1.9	0.1	40.4	14.8	
Delay (s)	67.5	17.3		45.4	41.3			27.1	21.7	70.7	43.4	
Level of Service	E	B		D	D			C	C	E	D	
Approach Delay (s)		29.0			41.5			24.4		57.0		
Approach LOS		C			D			C		E		

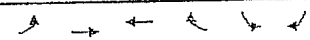
Intersection Summary			
HCM Average Control Delay	36.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	90.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱		↑↑		↱
Volume (veh/h)	1450	60	0	1550	0	170
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1611	67	0	1722	0	189
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	575			607		
pX, platoon unblocked			0.87		0.87	0.87
vC, conflicting volume			1678		2506	570
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1259		2209	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	80
cM capacity (veh/h)			477		33	944

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	644	644	389	861	861	189
Volume Left	0	0	0	0	0	0
Volume Right	0	0	67	0	0	189
cSH	1700	1700	1700	1700	1700	944
Volume to Capacity	0.38	0.38	0.23	0.51	0.51	0.20
Queue Length 95th (ft)	0	0	0	0	0	19
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.8
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.8
Approach LOS						A

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		

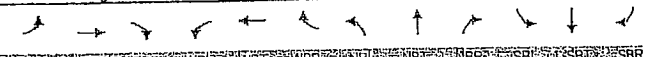


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↰↑	↱
Volume (vph)	0	960	1000	0	880	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.95	0.95		0.97	0.91
Frt		1.00	1.00		0.98	0.85
Flt Protected		1.00	1.00		0.96	1.00
Satd. Flow (prot)		3539	3539		3404	1441
Flt Permitted		1.00	1.00		0.96	1.00
Satd. Flow (perm)		3539	3539		3404	1441
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1067	1111	0	978	611
RTOR Reduction (vph)	0	0	0	0	14	53
Lane Group Flow (vph)	0	1067	1111	0	1080	442
Turn Type						Perm
Protected Phases		2 6	6 2		4	
Permitted Phases						4
Actuated Green, G (s)		39.4	39.4		22.6	22.6
Effective Green, g (s)		39.4	39.4		22.6	22.6
Actuated g/C Ratio		0.56	0.56		0.32	0.32
Clearance Time (s)					4.0	4.0
Vehicle Extension (s)					3.0	3.0
Lane Grp Cap (vph)		1992	1992		1099	465
v/s Ratio Prot		0.30	c0.31		c0.32	
v/s Ratio Perm						0.31
v/c Ratio		0.54	0.56		0.98	0.95
Uniform Delay, d1		9.6	9.7		23.5	23.1
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.3	0.3		23.0	28.9
Delay (s)		9.9	10.1		46.5	52.1
Level of Service		A	B		D	D
Approach Delay (s)		9.9	10.1		48.2	
Approach LOS		A	B		D	

Intersection Summary				
HCM Average Control Delay	26.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	143.6%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

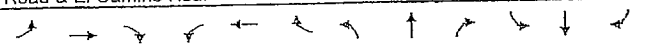
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	1580	0	0	1850	800	400	60	1110	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.95	0.91	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.87	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	1681	1478	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	1681	1478	1504			
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)	411	1756	0	0	2056	889	444	67	1233	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	294	0	8	8	0	0	0
Lane Group Flow (vph)	411	1756	0	0	2056	595	400	670	658	0	0	0
Turn Type	Prot					Prot	Split		Prot			
Protected Phases	5	2			6	6	8		8			
Permitted Phases												
Actuated Green, G (s)	16.5	70.0			49.5	49.5	52.0	52.0	52.0			
Effective Green, g (s)	16.5	70.0			49.5	49.5	52.0	52.0	52.0			
Actuated g/C Ratio	0.13	0.54			0.38	0.38	0.40	0.40	0.40			
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)	436	1906			1936	603	672	591	602			
v/s Ratio Prot	0.12	c0.50			c0.40	0.38	0.24	c0.45	0.44			
v/s Ratio Perm												
v/c Ratio	0.94	0.92			1.06	0.99	0.60	1.13	1.09			
Uniform Delay, d1	56.3	27.5			40.2	39.9	30.7	39.0	39.0			
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	28.9	8.8			39.2	33.5	1.4	79.8	64.7			
Delay (s)	85.2	36.3			79.5	73.4	32.1	118.8	103.7			
Level of Service	F	D			E	E	C	F	F			
Approach Delay (s)		45.6			77.6			93.2		0.0		
Approach LOS		D			E			F		A		

Intersection Summary			
HCM Average Control Delay	71.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
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												
Volume (vph)	120	1499	840	210	1763	110	290	90	30	120	70	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.97	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.92		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)	1770	5085	1583	1770	5041		3433	3274		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5041		3433	3274		1770	1863	1583
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)	133	1664	933	233	1959	122	322	33	33	133	78	444
RTOR Reduction (vph)	0	0	412	0	8	0	0	28	0	0	0	141
Lane Group Flow (vph)	133	1664	521	233	2073	0	322	38	0	133	78	303
Turn Type	Prot		Perm	Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	6
Permitted Phases			4									6
Actuated Green, G (s)	8.2	33.0	33.0	12.9	37.7		9.4	14.6		13.8	19.0	19.0
Effective Green, g (s)	8.2	33.0	33.0	12.9	37.7		9.4	14.6		13.8	19.0	19.0
Actuated g/C Ratio	0.06	0.37	0.37	0.14	0.42		0.10	0.16		0.15	0.21	0.21
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)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	161	1858	579	253	2105		357	529		270	392	333
v/s Ratio Prot	0.08	0.33		c0.13	c0.41		c0.09	0.01		0.08	0.04	
v/s Ratio Perm			0.33									c0.19
v/c Ratio	0.83	0.89	0.90	0.92	0.99		0.90	0.07		0.49	0.20	0.91
Uniform Delay, d1	40.3	26.9	27.1	38.2	26.0		40.0	32.1		35.0	29.4	34.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	27.9	5.8	17.1	35.9	16.1		24.9	0.1		1.4	0.3	28.0
Delay (s)	68.2	32.7	44.2	74.1	42.1		64.9	32.2		36.5	29.6	62.8
Level of Service	E	C	D	E	D		E	C		D	C	E
Approach Delay (s)		38.4			45.3			59.3			53.5	
Approach LOS		D			D			E			D	

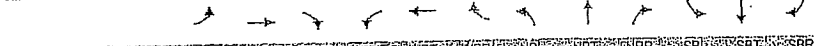
Intersection Summary			
HCM Average Control Delay	44.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	241	976	458	243	1540	150	220	150	83	170	510	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.95		1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	4842		3433	5017		3433	5085	1583	3433	4732	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	4842		3433	5017		3433	5085	1583	3433	4732	
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)	268	1084	509	270	1711	167	244	167	92	189	567	489
RTOR Reduction (vph)	0	113	0	0	16	0	0	0	71	0	156	0
Lane Group Flow (vph)	268	1480	0	270	1862	0	244	167	21	189	900	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	7.2	26.9		8.5	28.2		6.6	17.5	17.5	6.0	16.9	
Effective Green, g (s)	7.2	26.9		8.5	28.2		6.6	17.5	17.5	6.0	16.9	
Actuated g/C Ratio	0.10	0.36		0.11	0.38		0.09	0.23	0.23	0.08	0.23	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	330	1739		390	1889		303	1188	370	275	1068	
v/s Ratio Prot	0.08	0.31		c0.08	c0.37		c0.07	0.03		0.06	c0.19	
v/s Ratio Perm									0.01			
v/c Ratio	0.81	0.85		0.69	0.99		0.81	0.14	0.06	0.69	0.95	
Uniform Delay, d1	33.2	22.2		31.9	23.2		33.5	22.7	22.3	33.5	27.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	14.1	4.2		5.2	17.3		14.4	0.1	0.1	7.0	6.2	
Delay (s)	47.3	26.4		37.2	40.5		47.9	22.8	22.4	40.5	33.9	
Level of Service	D	C		D	D		D	C	C	D	C	
Approach Delay (s)		29.4			40.1			34.9			34.9	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	35.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	74.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

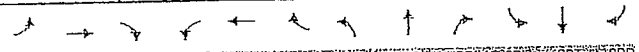
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	190	849	284	289	1392	170	360	200	240	200	310	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.91		0.97	0.91		0.97	0.91		1.00	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	0.92		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	3433	4894		3433	5002		3433	4669		1770	3307	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	4894		3433	5002		3433	4669		1770	3307	
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)	211	943	316	321	1547	189	400	222	267	222	344	267
RTOR Reduction (vph)	0	66	0	0	17	0	0	178	0	0	131	0
Lane Group Flow (vph)	211	1193	0	321	1719	0	400	311	0	222	480	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	7.0	29.1		11.0	33.1		12.6	16.6		13.4	17.4	
Effective Green, g (s)	7.0	29.1		11.0	33.1		12.6	16.6		13.4	17.4	
Actuated g/C Ratio	0.09	0.34		0.13	0.38		0.15	0.19		0.16	0.20	
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)	279	1654		439	1923		502	900		275	668	
v/s Ratio Prot	0.06	0.24		c0.09	c0.34		0.12	0.07		c0.13	c0.15	
v/s Ratio Perm												
v/c Ratio	0.76	0.72		0.73	0.89		0.80	0.35		0.81	0.72	
Uniform Delay, d1	38.7	25.0		36.1	24.9		35.5	30.1		35.1	32.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.1	1.6		6.2	5.8		8.6	0.2		15.8	3.7	
Delay (s)	49.8	26.5		42.3	30.7		44.1	30.3		50.9	35.8	
Level of Service	D	C		D	C		D	C		D	D	
Approach Delay (s)		29.9			32.5			36.5			39.8	
Approach LOS		C			C			D			D	

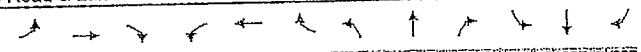
Intersection Summary			
HCM Average Control Delay	33.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	86.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	212	889	116	81	1426	216	111	156	16	78	62	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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	0.98		1.00	0.98		1.00	0.99		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4998		1770	4985		1770	1836		1770	1655	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4998		1770	4985		1770	1836		1770	1655	
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)	236	988	129	90	1584	240	123	173	18	87	69	200
RTOR Reduction (vph)	0	16	0	0	21	0	0	4	0	0	124	0
Lane Group Flow (vph)	236	1100	0	90	1803	0	123	187	0	87	145	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	13.5	40.2		7.4	34.1		8.0	15.7		5.8	13.5	
Effective Green, g (s)	13.5	40.2		7.4	34.1		8.0	15.7		5.8	13.5	
Actuated g/C Ratio	0.16	0.47		0.09	0.40		0.09	0.18		0.07	0.16	
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)	281	2361		154	1998		166	339		121	263	
v/s Ratio Prot	c0.13	0.22		0.05	c0.36		c0.07	c0.10		0.05	0.09	
v/s Ratio Perm												
v/c Ratio	0.84	0.47		0.58	0.90		0.74	0.55		0.72	0.55	
Uniform Delay, d1	34.8	15.2		37.4	23.9		37.5	31.5		38.9	33.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	19.3	0.1		5.6	6.1		16.2	1.9		18.4	2.5	
Delay (s)	54.0	15.3		42.9	30.1		53.8	33.4		57.5	35.5	
Level of Service	D	B		D	C		D	C		E	D	
Approach Delay (s)		22.1			30.7			41.4			40.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	85.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.9%	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												
Volume (vph)	149	784	35	67	1534	36	62	26	76	69	60	454
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5053		1770	5066		1770	1655		1770	1616	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5053		1770	5066		1770	1655		1770	1616	
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)	166	871	39	74	1704	40	69	29	84	77	67	504
RTOR Reduction (vph)	0	6	0	0	3	0	0	64	0	0	197	0
Lane Group Flow (vph)	166	904	0	74	1741	0	69	49	0	77	374	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.3	29.3		6.4	27.4		3.5	17.3		4.8	18.6	
Effective Green, g (s)	8.3	29.3		6.4	27.4		3.5	17.3		4.8	18.6	
Actuated g/C Ratio	0.11	0.40		0.09	0.37		0.05	0.23		0.07	0.25	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	6.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	199	2006		153	1882		84	388		115	407	
v/s Ratio Prot	c0.09	0.18		0.04	c0.34		0.04	0.03		c0.04	c0.23	
v/s Ratio Perm												
v/c Ratio	0.83	0.45		0.48	0.93		0.82	0.13		0.67	0.92	
Uniform Delay, d1	32.1	16.3		32.1	22.2		34.8	22.3		33.7	26.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.8	0.2		2.4	8.3		45.0	0.1		13.8	25.4	
Delay (s)	56.9	16.5		34.5	30.5		79.8	22.4		47.5	52.3	
Level of Service	E	B		C	C		E	C		D	D	
Approach Delay (s)		22.7			30.6			44.2			51.7	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	32.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	73.8	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	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↰	↑↑↑	↰↰	↱
Volume (vph)	897	204	661	1389	356	548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
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	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4944		1770	5085	3433	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4944		1770	5085	3433	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	997	227	734	1543	396	609
RTOR Reduction (vph)	40	0	0	0	0	501
Lane Group Flow (vph)	1184	0	734	1543	396	108
Turn Type			Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	22.1		37.7	63.8	15.5	15.5
Effective Green, g (s)	22.1		37.7	63.8	15.5	15.5
Actuated g/C Ratio	0.25		0.43	0.73	0.18	0.18
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1252		764	3716	610	281
v/s Ratio Prot	c0.24		c0.41	0.30	c0.12	
v/s Ratio Perm						0.07
v/c Ratio	0.95		0.96	0.42	0.65	0.38
Uniform Delay, d1	32.0		24.1	4.5	33.4	31.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	14.2		23.3	0.1	2.5	0.9
Delay (s)	46.3		47.4	4.6	35.9	32.6
Level of Service	D		D	A	D	C
Approach Delay (s)	46.3			18.4	33.9	
Approach LOS	D			B	C	

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	87.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	WBR2	SEL	SER	NEU	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↰		↱			⇃		↑↑↑		↰↰	↑↑↑	
Volume (vph)	114	0	130	0	0	0	0	383	101	165	962	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0		4.0	4.0	
Lane Util. Factor	1.00		1.00					0.91		0.97	0.91	
Frt	1.00		0.85					0.97		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1770		1583					4926		3433	5085	
Flt Permitted	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1770		1583					4926		3433	5085	
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)	127	0	144	0	0	0	0	426	112	183	1069	0
RTOR Reduction (vph)	0	0	91	0	0	0	0	70	0	0	0	0
Lane Group Flow (vph)	127	0	53	0	0	0	0	468	0	183	1069	0
Turn Type			custom			Prot				Prot		
Protected Phases	2					1		6		7	4	
Permitted Phases			8									
Actuated Green, G (s)	4.4		12.8					12.8		5.3	22.1	
Effective Green, g (s)	4.4		12.8					12.8		5.3	22.1	
Actuated g/C Ratio	0.13		0.37					0.37		0.15	0.64	
Clearance Time (s)	4.0		4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0		3.0					5.0		3.0	3.0	
Lane Grp Cap (vph)	226		587					1828		527	3257	
v/s Ratio Prot	c0.07							0.09		0.05	c0.21	
v/s Ratio Perm			0.03									
v/c Ratio	0.56		0.09					0.26		0.35	0.33	
Uniform Delay, d1	14.1		7.1					7.5		13.1	2.8	
Progression Factor	1.00		1.00					1.00		1.00	1.00	
Incremental Delay, d2	3.2		0.1					0.1		0.4	0.1	
Delay (s)	17.3		7.1					7.6		13.5	2.9	
Level of Service	B		A					A		B	A	
Approach Delay (s)	11.9			0.0				7.6			4.4	
Approach LOS	B			A				A			A	

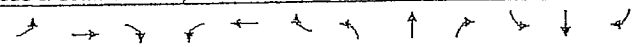
Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	34.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	100	130	60	210	200	150	500	20	100	450	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Frt	1.00	1.00	0.85	1.00	0.93		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)	1770	1863	1583	1770	1726		1770	3519		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1726		1770	3519		1770	3539	1583
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)	189	111	144	67	233	222	167	556	22	111	500	194
RTOR Reduction (vph)	0	0	87	0	41	0	0	4	0	0	0	151
Lane Group Flow (vph)	189	111	57	67	414	0	167	574	0	111	500	43
Turn Type	Prot		Perm	Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	12.7	30.1	30.1	4.1	21.5		9.0	19.7		6.0	16.7	16.7
Effective Green, g (s)	12.7	30.1	30.1	4.1	21.5		9.0	19.7		6.0	16.7	16.7
Actuated g/C Ratio	0.17	0.40	0.40	0.05	0.28		0.12	0.26		0.08	0.22	0.22
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)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	296	739	628	96	489		210	913		140	779	348
v/s Ratio Prot	c0.11	0.06		0.04	c0.24		c0.09	c0.16		0.06	0.14	
v/s Ratio Perm			0.04									0.03
v/c Ratio	0.64	0.15	0.09	0.70	0.85		0.80	0.63		0.79	0.64	0.12
Uniform Delay, d1	29.5	14.7	14.3	35.3	25.6		32.6	24.9		34.3	26.9	23.7
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	4.5	0.1	0.1	19.8	12.8		18.5	1.4		25.7	1.8	0.2
Delay (s)	33.9	14.8	14.4	55.1	38.4		51.0	26.2		60.0	28.7	23.9
Level of Service	C	B	B	E	D		D	C		E	C	C
Approach Delay (s)		22.0			40.6			31.5			31.9	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	75.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

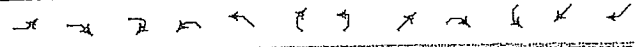
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	100	75	10	240	60	120	210	460	110	150	800	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1830		1770	1863	1583	1770	4938		1770	4933	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1830		1770	1863	1583	1770	4938		1770	4933	
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)	111	83	11	267	67	133	122	511	122	167	889	222
RTOR Reduction (vph)	0	7	0	0	0	105	0	51	0	0	52	0
Lane Group Flow (vph)	111	87	0	267	67	28	122	582	0	167	1059	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						
Actuated Green, G (s)	6.9	6.8		13.4	13.3	13.3	5.8	16.3		9.8	20.3	
Effective Green, g (s)	6.9	6.8		13.4	13.3	13.3	5.8	16.3		9.8	20.3	
Actuated g/C Ratio	0.11	0.11		0.22	0.21	0.21	0.09	0.26		0.16	0.33	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	196	200		381	398	338	165	1292		278	1607	
v/s Ratio Prot	0.06	c0.05		c0.15	0.04		0.07	0.12		c0.09	c0.21	
v/s Ratio Perm						0.02						
v/c Ratio	0.57	0.43		0.70	0.17	0.08	0.74	0.45		0.60	0.66	
Uniform Delay, d1	26.3	26.0		22.6	20.0	19.6	27.5	19.3		24.4	18.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	1.5		5.7	0.2	0.1	15.9	0.3		3.6	1.0	
Delay (s)	30.0	27.5		28.3	20.2	19.7	43.4	19.5		28.1	19.0	
Level of Service	C	C		C	C	B	D	B		C	B	
Approach Delay (s)		28.8			24.7			29.4			20.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	22.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



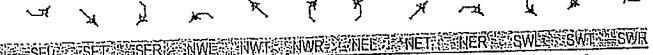
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	252	122	89	43	296	26	274	336	29	168	282	389
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85		0.99		1.00	0.99		1.00	0.91	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1834		1770	3497		1770	3231	
Flt Permitted	0.95	1.00	1.00		0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583		1749		1770	3497		1770	3231	
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)	280	136	99	48	329	29	304	373	32	76	313	432
RTOR Reduction (vph)	0	0	52	0	3	0	0	7	0	0	282	0
Lane Group Flow (vph)	280	136	47	0	403	0	304	398	0	76	463	0
Turn Type	Prot		Perm	Perm			Prot			Prot		
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	15.6	41.2	41.2		21.6		16.7	27.3		6.9	17.5	
Effective Green, g (s)	15.6	41.2	41.2		21.6		16.7	27.3		6.9	17.5	
Actuated g/C Ratio	0.18	0.47	0.47		0.25		0.19	0.31		0.08	0.20	
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)	316	878	746		432		338	1092		140	647	
v/s Ratio Prot	c0.16	0.07					c0.17	0.11		0.04	c0.14	
v/s Ratio Perm			0.03		c0.23							
v/c Ratio	0.89	0.15	0.06		0.93		0.90	0.36		0.54	0.72	
Uniform Delay, d1	35.0	13.2	12.6		32.2		34.5	23.3		38.7	32.6	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.3	0.1	0.0		27.1		25.2	0.2		4.2	3.8	
Delay (s)	59.3	13.3	12.6		59.3		59.7	23.5		43.0	36.4	
Level of Service	E	B	B		E		E	C		D	D	
Approach Delay (s)		38.2			59.3			39.1			37.0	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM Average Control Delay	41.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	87.4	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	EBR	EBR2	NWL2	NWL	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	40	120	253	100	230	100	269	540	90	110	950	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.97		0.97	0.91		1.00	0.91	
Frt	1.00	0.85	0.85	1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583	1583	1770	3334		3433	4976		1770	5006	
Flt Permitted	0.95	1.00	1.00	0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583	1583	1770	3334		3433	4976		1770	5006	
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)	44	133	281	111	256	111	299	600	100	122	1056	122
RTOR Reduction (vph)	0	0	232	0	77	0	0	32	0	0	20	0
Lane Group Flow (vph)	44	133	49	111	290	0	299	668	0	122	1158	0
Turn Type		Perm	Perm	Split			Prot			Prot		
Protected Phases	2			6	6		3	8		7	4	
Permitted Phases		2	2									
Actuated Green, G (s)	10.1	10.1	10.1	7.0	7.0		7.0	19.7		4.7	17.4	
Effective Green, g (s)	10.1	10.1	10.1	7.0	7.0		7.0	19.7		4.7	17.4	
Actuated g/C Ratio	0.18	0.18	0.18	0.12	0.12		0.12	0.34		0.08	0.30	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	311	278	278	215	406		418	1705		145	1515	
v/s Ratio Prot	0.02			0.06	c0.09		c0.09	0.13		0.07	c0.23	
v/s Ratio Perm		c0.08	0.03									
v/c Ratio	0.14	0.48	0.18	0.52	0.71		0.72	0.39		0.84	0.76	
Uniform Delay, d1	20.0	21.3	20.2	23.7	24.3		24.3	14.4		26.0	18.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.3	0.3	2.1	5.9		5.7	0.1		33.4	2.4	
Delay (s)	20.2	22.6	20.5	25.8	30.1		30.0	14.5		59.4	20.5	
Level of Service	C	C	C	C	C		C	B		E	C	
Approach Delay (s)	21.1			29.1			19.1			24.2		
Approach LOS	C			C			B			C		

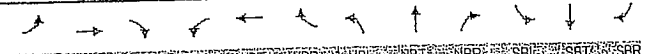
Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	52	7	77	15	31	17	124	36	2	4	19	207
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	58	8	86	17	34	19	138	40	2	4	21	230

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total (vph)	66	86	70	180	256
Volume Left (vph)	58	0	17	138	4
Volume Right (vph)	0	86	19	2	230
Hadj (s)	0.47	0.67	0.08	0.18	-0.50
Departure Headway (s)	6.1	4.9	5.2	4.9	4.2
Degree Utilization, x	0.11	0.12	0.10	0.25	0.30
Capacity (veh/h)	549	669	626	690	806
Control Delay (s)	8.6	7.4	8.7	9.6	9.0
Approach Delay (s)	7.9		8.7	9.6	9.0
Approach LOS	A		A	A	A

Intersection Summary			
Delay	8.9		
HCM Level of Service	A		
Intersection Capacity Utilization	43.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	52	90	117	201	62	24	30	266	82	15	763	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	
Frt		1.00	0.85		0.99		1.00	0.96		1.00	0.98	
Flt Protected		0.98	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1829	1583		1779		1770	3414		1770	3456	
Flt Permitted		0.84	1.00		0.70		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1560	1583		1281		1770	3414		1770	3456	
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)	58	100	130	223	69	27	33	296	91	17	848	157
RTOR Reduction (vph)	0	0	88	0	5	0	0	45	0	0	25	0
Lane Group Flow (vph)	0	158	42	0	314	0	33	342	0	17	980	0
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		16.1	16.1		16.1		1.5	21.3		0.7	20.5	
Effective Green, g (s)		16.1	16.1		16.1		1.5	21.3		0.7	20.5	
Actuated g/C Ratio		0.32	0.32		0.32		0.03	0.43		0.01	0.41	
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)		501	509		412		53	1451		25	1414	
v/s Ratio Prot							c0.02	0.10		0.01	c0.28	
v/s Ratio Perm		0.10	0.03		c0.24							
v/c Ratio		0.32	0.08		0.76		0.62	0.24		0.68	0.69	
Uniform Delay, d1		12.8	11.8		15.3		24.0	9.2		24.6	12.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4	0.1		8.1		20.6	0.1		56.0	1.5	
Delay (s)		13.2	11.9		23.4		44.6	9.3		80.6	13.7	
Level of Service		B	B		C		D	A		F	B	
Approach Delay (s)		12.6			23.4			12.1			14.8	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM Average Control Delay	15.3	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	50.1	Sum of lost time (s)	12.0	
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		↑↑		↰↑	↑↑					↰	↑	↱
Volume (vph)	0	640	350	650	640	0	0	0	0	380	3	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	0.95					0.95	0.91	0.95
Frt		0.95		1.00	1.00					1.00	0.99	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.96	1.00
Satd. Flow (prot)		3351		3433	3539					1681	1692	1504
Flt Permitted		1.00		0.95	1.00					0.95	0.96	1.00
Satd. Flow (perm)		3351		3433	3539					1681	1692	1504
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	711	389	722	711	0	0	0	0	422	3	167
RTOR Reduction (vph)	0	105	0	0	0	0	0	0	0	0	4	111
Lane Group Flow (vph)	0	995	0	722	711	0	0	0	0	224	214	39
Turn Type				Prot						Prot		Perm
Protected Phases		4		3	8					1	6	
Permitted Phases												6
Actuated Green, G (s)		22.9		16.7	43.6					18.0	18.0	18.0
Effective Green, g (s)		22.9		16.7	43.6					18.0	18.0	18.0
Actuated g/C Ratio		0.33		0.24	0.63					0.26	0.26	0.26
Clearance Time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Vehicle Extension (s)		3.0		3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		1103		824	2217					435	444	389
v/s Ratio Prot		c0.30		c0.21	0.20					0.13	c0.13	
v/s Ratio Perm												0.03
v/c Ratio		0.90		0.88	0.32					0.51	0.52	0.10
Uniform Delay, d1		22.3		25.5	6.1					22.1	22.1	19.6
Progression Factor		1.00		1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		10.2		10.3	0.1					1.0	1.1	0.1
Delay (s)		32.5		35.8	6.2					23.1	23.2	19.7
Level of Service		C		D	A					C	C	B
Approach Delay (s)		32.5			21.1			0.0			22.3	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	69.6	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			

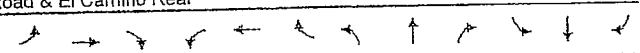
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↑	↑↑			↑↑	↱	↰	↑	↱			
Volume (vph)	120	900	0	0	1386	270	250	5	850	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.95	1.00	0.95	0.91	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.86	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			3539	1583	1681	1454	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			3539	1583	1681	1454	1504			
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)	133	1000	0	0	1540	300	278	6	944	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	161	0	72	72	0	0	0
Lane Group Flow (vph)	133	1000	0	0	1540	139	250	415	419	0	0	0
Turn Type	Prot						Perm	Prot		Perm		
Protected Phases	7	4			8			5	2			
Permitted Phases							8			2		
Actuated Green, G (s)	4.6	45.6			37.0	37.0	26.4	26.4	26.4			
Effective Green, g (s)	4.6	45.6			37.0	37.0	26.4	26.4	26.4			
Actuated g/C Ratio	0.06	0.57			0.46	0.46	0.33	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)	197	2017			1637	732	555	480	496			
v/s Ratio Prot	c0.04	0.28			c0.44		0.15	c0.29				
v/s Ratio Perm						0.09			0.28			
v/c Ratio	0.68	0.50			0.94	0.19	0.45	0.87	0.85			
Uniform Delay, d1	37.0	10.3			20.5	12.7	21.1	25.1	24.9			
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	8.8	0.2			11.1	0.1	0.6	15.0	12.5			
Delay (s)	45.8	10.5			31.6	12.8	21.7	40.1	37.4			
Level of Service	D	B			C	B	C	D	D			
Approach Delay (s)		14.6			28.5			35.3		0.0		
Approach LOS		B			C			D		A		

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.0	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												
Volume (vph)	50	30	50	740	20	150	90	1110	170	160	1090	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.91	0.95	0.95	0.91	0.95	1.00	0.91		1.00	0.91	
Frt	1.00	0.97	0.85	1.00	0.99	0.85	1.00	0.98		1.00	1.00	
Flt Protected	0.95	0.99	1.00	0.95	0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1629	1504	1681	1612	1504	1770	4984		1770	5065	
Flt Permitted	0.95	0.97	1.00	0.95	0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1582	1504	1681	1612	1504	1770	4984		1770	5065	
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)	56	33	56	822	22	167	100	1233	189	167	1211	33
RTOR Reduction (vph)	0	6	25	0	2	54	0	31	0	0	4	0
Lane Group Flow (vph)	50	44	20	427	432	96	100	1391	0	167	1240	0
Turn Type	Prot		Perm	Split		Perm	Prot			Prot		
Protected Phases	7	4		8	8		5	2		6		
Permitted Phases			4			8						6
Actuated Green, G (s)	2.5	27.1	27.1	20.6	20.6	20.6	3.7	27.4		19.7	19.7	
Effective Green, g (s)	2.5	27.1	27.1	20.6	20.6	20.6	3.7	27.4		19.7	19.7	
Actuated g/C Ratio	0.04	0.43	0.43	0.33	0.33	0.33	0.06	0.44		0.32	0.32	
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)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	67	688	652	554	531	496	105	2185		558	1596	
v/s Ratio Prot	c0.03	0.00		0.26	c0.27		c0.06	0.28		c0.09		
v/s Ratio Perm			0.01			0.06						c0.24
v/c Ratio	0.75	0.06	0.03	0.77	0.81	0.19	0.95	0.64		0.30	0.78	
Uniform Delay, d1	29.7	10.3	10.2	18.8	19.2	15.0	29.3	13.7		16.2	19.4	
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	35.8	0.0	0.0	6.6	9.3	0.2	72.2	0.6		0.3	2.4	
Delay (s)	65.6	10.3	10.2	25.4	28.5	15.2	101.5	14.3		16.5	21.9	
Level of Service	E	B	B	C	C	B	F	B		B	C	
Approach Delay (s)		29.3			25.2			20.0			21.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	62.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		

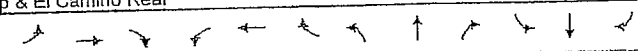
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	640	610	260	400	1086	0	0	975	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	1.00	0.97	0.95			0.86	0.86
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			0.94	0.75
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			0.97	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433	5085	1583	3433	3539			4388	1023
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433	5085	1583	3433	3539			4388	1023
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	711	678	289	444	1206	0	0	1083	722
RTOR Reduction (vph)	0	0	0	0	0	62	0	0	0	0	15	15
Lane Group Flow (vph)	0	0	0	711	678	227	444	1206	0	0	1378	397
Confl. Peds. (#/hr)												200
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				16.0	16.0	16.0	9.6	40.4			26.8	26.8
Effective Green, g (s)				16.0	16.0	16.0	9.6	40.4			26.8	26.8
Actuated g/C Ratio				0.25	0.25	0.25	0.15	0.63			0.42	0.42
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)				853	1263	393	512	2220			1826	426
v/s Ratio Prot				c0.21	0.13		c0.13	0.34			0.31	
v/s Ratio Perm						0.14						c0.39
v/c Ratio				0.83	0.54	0.58	0.87	0.54			0.75	0.93
Uniform Delay, d1				22.8	21.0	21.2	26.8	6.8			16.0	17.9
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				7.0	0.4	2.0	14.4	0.3			1.8	27.1
Delay (s)				30.0	21.4	23.3	41.1	7.1			17.8	45.1
Level of Service				C	C	C	D	A			B	D
Approach Delay (s)		0.0			25.4			16.2			24.0	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM Average Control Delay	22.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	64.4	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

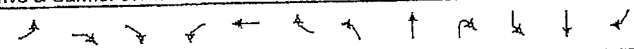


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	800	930	310	0	0	0	0	510	320	150	1480	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.94		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3162	1441					6037		1770	5085	
Flt Permitted	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3162	1441					6037		1770	5085	
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)	889	1033	344	0	0	0	0	567	356	167	1644	0
RTOR Reduction (vph)	0	2	3	0	0	0	0	55	0	0	0	0
Lane Group Flow (vph)	640	1314	307	0	0	0	0	868	0	167	1644	0
Turn Type	Prot		Perm							Prot		
Protected Phases	7	4						2		6		
Permitted Phases			4									
Actuated Green, G (s)	32.0	32.0	32.0					17.5		8.0	29.5	
Effective Green, g (s)	32.0	32.0	32.0					17.5		8.0	29.5	
Actuated g/C Ratio	0.46	0.46	0.46					0.25		0.12	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)	741	1456	663					1520		204	2158	
v/s Ratio Prot	0.40	c0.42						0.14		0.09	c0.32	
v/s Ratio Perm			0.21									
v/c Ratio	0.86	0.90	0.46					0.57		0.82	0.76	
Uniform Delay, d1	16.8	17.3	12.9					22.7		30.0	17.0	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	10.2	8.1	0.5					0.5		21.9	1.6	
Delay (s)	27.0	25.4	13.4					23.2		51.9	18.7	
Level of Service	C	C	B					C		D	B	
Approach Delay (s)		24.2		0.0				23.2		21.7		
Approach LOS		C		A				C		C		

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	69.5	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			

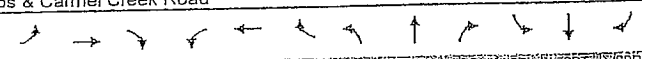
Movement	WBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Volume (vph)	18	228	0	480	27	107	127	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.95		1.00	1.00	
Frt	1.00	1.00		0.99		1.00	0.85	
Flt Protected	0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539		3511		1770	1583	
Flt Permitted	0.95	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539		3511		1770	1583	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	20	253	0	533	30	119	141	
RTOR Reduction (vph)	0	0	0	8	0	0	110	
Lane Group Flow (vph)	20	253	0	555	0	119	31	
Turn Type		Prot		Prot			Perm	
Protected Phases	7	4		8		6		
Permitted Phases							6	
Actuated Green, G (s)	0.5	12.6		8.1		5.8	5.8	
Effective Green, g (s)	0.5	12.6		8.1		5.8	5.8	
Actuated g/C Ratio	0.02	0.48		0.31		0.22	0.22	
Clearance Time (s)	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	34	1689		1077		389	348	
v/s Ratio Prot	0.01	c0.07		c0.16		c0.07		
v/s Ratio Perm							0.02	
v/c Ratio	0.59	0.15		0.52		0.31	0.09	
Uniform Delay, d1	12.8	3.9		7.5		8.6	8.2	
Progression Factor	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	23.4	0.0		0.4		0.4	0.1	
Delay (s)	36.2	3.9		8.0		9.1	8.3	
Level of Service	D	A		A		A	A	
Approach Delay (s)		6.3		8.0		8.7		
Approach LOS		A		A		A		

Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	26.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	28.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR2	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	220	180	300	555	95	380	550	354	465	220	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.88	1.00	1.00	1.00		1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.85	0.85	1.00	0.98		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)	1770	2787	1583	1770	1822		1770	3539	1583	3433	3539	1583
Flt Permitted	0.26	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	493	2787	1583	1770	1822		1770	3539	1583	3433	3539	1583
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	244	200	333	617	106	422	611	393	517	244	433
RTOR Reduction (vph)	0	0	166	0	7	0	0	0	291	0	0	112
Lane Group Flow (vph)	60	244	34	333	716	0	422	611	102	517	244	321
Turn Type	custom	custom	custom	Prot			Prot		Perm	Prot		Perm
Protected Phases				3	8		5	2		1	6	
Permitted Phases	4	4	4						2			6
Actuated Green, G (s)	15.1	15.1	15.1	16.2	37.3		20.0	22.8	22.8	16.1	18.9	18.9
Effective Green, g (s)	15.1	15.1	15.1	18.2	37.3		20.0	22.8	22.8	16.1	18.9	18.9
Actuated g/C Ratio	0.17	0.17	0.17	0.21	0.42		0.23	0.26	0.26	0.18	0.21	0.21
Clearance Time (s)	4.0	4.0	4.0	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	5.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	84	477	271	365	771		401	915	409	627	758	339
v/s Ratio Prot				0.19	c0.39		c0.24	c0.17		0.15	0.07	
v/s Ratio Perm	0.12	0.09	0.02						0.06			c0.20
v/c Ratio	0.71	0.51	0.13	0.91	0.93		1.05	0.67	0.25	0.82	0.32	0.95
Uniform Delay, d1	34.5	33.2	31.0	34.2	24.2		34.1	29.3	25.9	34.7	29.2	34.1
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	24.9	0.9	0.2	26.3	17.3		59.4	1.9	0.3	8.7	0.2	34.6
Delay (s)	59.4	34.1	31.2	60.6	41.4		93.5	31.2	26.2	43.3	29.5	68.8
Level of Service	E	C	C	E	D		F	C	C	D	C	E
Approach Delay (s)					47.5			48.2			49.7	
Approach LOS					D			D			D	

Intersection Summary			
HCM Average Control Delay	47.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

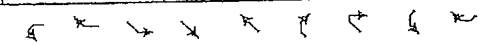


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	750	0	319	0	0	0	0	330	105	250	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.95	0.95	1.00					0.95		0.97	0.95	
Frt	1.00	1.00	0.85					0.96		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3411		3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3411		3433	3539	
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)	833	0	354	0	0	0	0	367	117	278	389	0
RTOR Reduction (vph)	0	0	210	0	0	0	0	56	0	0	0	0
Lane Group Flow (vph)	416	417	144	0	0	0	0	428	0	278	389	0
Turn Type	Prot		Perm							Prot		
Protected Phases	7	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	22.1	22.1	22.1					12.5		7.8	24.3	
Effective Green, g (s)	22.1	22.1	22.1					12.5		7.8	24.3	
Actuated g/C Ratio	0.41	0.41	0.41					0.23		0.14	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)	683	683	643					784		492	1581	
v/s Ratio Prot	0.25	c0.25						c0.13		c0.08	0.11	
v/s Ratio Perm			0.09									
v/c Ratio	0.61	0.61	0.22					0.55		0.57	0.25	
Uniform Delay, d1	12.7	12.8	10.5					18.4		21.7	9.4	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	1.5	1.6	0.2					0.8		1.5	0.1	
Delay (s)	14.3	14.4	10.7					19.2		23.2	9.4	
Level of Service	B	B	B					B		C	A	
Approach Delay (s)		13.3			0.0			19.2			15.2	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	54.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

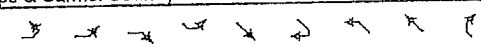
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	148	482	37	159	304	575	35	110	234	618	157	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.97	1.00	
Frt	1.00	0.99		1.00	0.90		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3501		1770	3192		1770	1673		3433	1737	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3501		1770	3192		1770	1673		3433	1737	
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)	164	536	41	177	338	639	39	122	260	687	174	142
RTOR Reduction (vph)	0	8	0	0	468	0	0	102	0	0	37	0
Lane Group Flow (vph)	164	669	0	177	509	0	39	280	0	687	279	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		5	8	
Permitted Phases												
Actuated Green, G (s)	8.0	15.8		9.0	16.8		3.4	16.3		16.0	28.9	
Effective Green, g (s)	8.0	15.8		9.0	16.8		3.4	16.3		16.0	28.9	
Actuated g/C Ratio	0.11	0.22		0.12	0.23		0.05	0.22		0.22	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)	194	757		218	734		82	373		751	687	
v/s Ratio Prot	0.09	c0.16		c0.10	0.16		0.02	c0.17		c0.20	0.16	
v/s Ratio Perm												
v/c Ratio	0.85	0.75		0.81	0.69		0.48	0.75		0.91	0.41	
Uniform Delay, d1	31.9	26.8		31.2	25.8		34.0	26.5		27.9	15.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	27.1	4.2		20.1	2.8		4.3	8.3		15.6	0.4	
Delay (s)	59.1	31.0		51.3	28.6		38.3	34.8		43.5	16.3	
Level of Service	E	C		D	C		D	C		D	B	
Approach Delay (s)		37.3			32.1			35.1			35.0	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	73.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	WBL	WBR	SEL	SET	NWT	NWR	NWR2	SWL	SWR
Lane Configurations									
Volume (vph)	0	0	800	590	965	0	430	170	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor			0.97	0.95	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)			3433	3539	3539		1583	3433	1583
Flt Permitted			0.95	1.00	1.00		1.00	0.95	1.00
Satd. Flow (perm)			3433	3539	3539		1583	3433	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	889	656	1072	0	478	189	256
RTOR Reduction (vph)	0	0	0	0	0	0	117	0	157
Lane Group Flow (vph)	0	0	889	656	1072	0	361	189	99
Turn Type			Prot				custom		custom
Protected Phases			5	2	6		2	4	6
Permitted Phases									
Actuated Green, G (s)			21.9	53.1	27.2		53.1	9.2	27.2
Effective Green, g (s)			21.9	53.1	27.2		53.1	9.2	27.2
Actuated g/C Ratio			0.31	0.76	0.39		0.76	0.13	0.39
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)			1069	2673	1369		1196	449	612
v/s Ratio Prot			c0.26	0.19	c0.30		0.23	c0.06	0.06
v/s Ratio Perm									
v/c Ratio			0.83	0.25	0.78		0.30	0.42	0.16
Uniform Delay, d1			22.5	2.6	19.0		2.7	28.1	14.1
Progression Factor			1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2			5.6	0.0	3.0		0.1	0.6	0.1
Delay (s)			28.1	2.6	22.0		2.9	28.7	14.2
Level of Service			C	A	C		A	C	B
Approach Delay (s)	0.0			17.3	16.1			20.4	
Approach LOS	A			B	B			C	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	70.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL2	EBL	EBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations											
Volume (vph)	310	5	310	410	320	0	0	1200	250	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	1.00	0.97	0.95			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)	1681	1681	1583	3433	3539			3539	1583		
Flt Permitted	0.95	0.95	1.00	0.95	1.00			1.00	1.00		
Satd. Flow (perm)	1681	1681	1583	3433	3539			3539	1583		
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)	344	6	344	456	356	0	0	1333	278	0	0
RTOR Reduction (vph)	0	0	275	0	0	0	0	0	162	0	0
Lane Group Flow (vph)	175	175	69	456	356	0	0	1333	116	0	0
Turn Type	Split		Prot	Prot					Prot		
Protected Phases	4	4	4	1	6			2	2		
Permitted Phases											
Actuated Green, G (s)	11.1	11.1	11.1	9.0	36.1			23.1	23.1		
Effective Green, g (s)	11.1	11.1	11.1	9.0	36.1			23.1	23.1		
Actuated g/C Ratio	0.20	0.20	0.20	0.16	0.65			0.42	0.42		
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)	338	338	318	560	2314			1481	662		
v/s Ratio Prot	c0.10	0.10	0.04	c0.13	0.10			c0.38	0.07		
v/s Ratio Perm											
v/c Ratio	0.52	0.52	0.22	0.81	0.15			0.90	0.18		
Uniform Delay, d1	19.7	19.7	18.4	22.3	3.7			15.0	10.1		
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Incremental Delay, d2	1.3	1.3	0.3	8.9	0.0			7.8	0.1		
Delay (s)	21.0	21.0	18.8	31.2	3.7			22.8	10.2		
Level of Service	C	C	B	C	A			C	B		
Approach Delay (s)		19.9		19.1				20.6		0.0	
Approach LOS		B		B				C		A	

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	Jacob Swim	Intersection	Carmel Creek Rd./Del Mar Trail
Agency/Co.	IISAI	Jurisdiction	City of San Diego
Date Performed	11/2/2010	Analysis Year	2030
Analysis Time Period	36 Year 2030 AM		

Project ID 002407 - San Diego Corporate Center Lots

East/West Street: Del Mar Trail | North/South Street: Carmel Creek Road

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	10	10	10	202	2	25
%Thru Left Lane						

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume (veh/h)	3	239	101	15	933	3
%Thru Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LT	TR	LT	TR
PHF	0.90		0.90		0.90	0.90	0.90	0.90
Flow Rate (veh/h)	33		253		135	245	533	521
% Heavy Vehicles	2		2		2	2	2	2
No. Lanes	1		1		2		2	
Geometry Group	2		2		5		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.3		0.9		0.0	0.0	0.0	0.0
Prop. Right-Turns	0.3		0.1		0.0	0.5	0.0	0.0
Prop. Heavy Vehicle	0.0		0.0		0.0	0.0	0.0	0.0
hLT-adj	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.1		0.1		0.0	-0.3	0.0	0.0

Departure Headway and Service Time

hd, initial value (s)	3.20		3.20		3.20	3.20	3.20	3.20
x, initial	0.03		0.22		0.12	0.22	0.47	0.46
hd, final value (s)	7.35		6.75		7.07	6.73	6.23	6.21
x, final value	0.07		0.47		0.27	0.46	0.92	0.90
Move-up time, m (s)	2.0		2.0		2.3		2.3	
Service Time, t_s (s)	5.4		4.8		4.8	4.4	3.9	3.9

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	283		503		385	495	577	579
Delay (s/veh)	10.89		15.70		12.31	15.01	45.37	41.31
LOS	B		C		B	C	E	E
Approach: Delay (s/veh)	10.89		15.70		14.05		43.36	
LOS	B		C		B		E	
Intersection Delay (s/veh)	32.19							
Intersection LOS	D							

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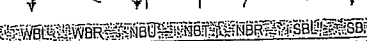
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	400	500	230	420	10	602	5	600	20	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		0.95	0.95	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		0.98	
Satd. Flow (prot)	1770	3539	1583	3433	3527		1681	1687	1583		1728	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.72	0.69	1.00		0.84	
Satd. Flow (perm)	1770	3539	1583	3433	3527		1276	1220	1583		1486	
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)	11	444	556	256	467	11	669	6	667	22	11	22
RTOR Reduction (vph)	0	0	386	0	2	0	0	0	213	0	14	0
Lane Group Flow (vph)	11	444	170	256	476	0	334	341	454	0	41	0
Turn Type	Prot		Perm	Prot			Perm		Perm	Perm		
Protected Phases	7	4		5	6			2			6	
Permitted Phases			4				2		2	6		
Actuated Green, G (s)	0.8	17.6	17.6	6.9	23.7		21.1	21.1	21.1		21.1	
Effective Green, g (s)	0.8	17.6	17.6	6.9	23.7		21.1	21.1	21.1		21.1	
Actuated g/C Ratio	0.01	0.31	0.31	0.12	0.41		0.37	0.37	0.37		0.37	
Clearance Time (s)	4.0	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		3.0	
Lane Grp Cap (vph)	25	1081	484	411	1451		467	447	580		544	
v/s Ratio Prot	0.01	c0.13		c0.07	0.13			0.26	0.28	c0.29		
v/s Ratio Perm			0.11				0.72				0.03	
v/c Ratio	0.44	0.41	0.35	0.62	0.33			0.76	0.78		0.08	
Uniform Delay, d1	28.2	15.9	15.6	24.1	11.5		15.7	16.0	16.2		11.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	11.9	0.3	0.4	2.9	0.1		5.2	7.5	6.8		0.1	
Delay (s)	40.1	16.1	16.0	27.0	11.7		20.8	23.6	23.0		12.0	
Level of Service	D	B	B	C	B		C	C	C		B	
Approach Delay (s)		16.3			17.0			22.6			12.0	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	57.6	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			

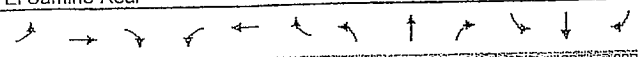


Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	280	430	0	890	400	370	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00		1.00	1.00	1.00	0.95
Frt	1.00	0.85		1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1583		1863	1583	1770	3539
Flt Permitted	0.95	1.00		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1583		1863	1583	1770	3539
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	311	478	0	989	444	411	400
RTOR Reduction (vph)	0	226	0	0	89	0	0
Lane Group Flow (vph)	311	252	0	989	355	411	400
Turn Type		custom	Prot		custom	Prot	
Protected Phases			8		4	7	
Permitted Phases		8			4		6
Actuated Green, G (s)	16.4	63.0		63.0	95.0	28.0	16.4
Effective Green, g (s)	16.4	63.0		63.0	95.0	28.0	16.4
Actuated g/C Ratio	0.14	0.53		0.53	0.80	0.23	0.14
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)	472	835		983	1260	415	486
v/s Ratio Prot	0.09			c0.53		c0.23	
v/s Ratio Perm		0.16			0.22		c0.11
v/c Ratio	0.66	0.30		1.01	0.28	0.99	0.82
Uniform Delay, d1	48.8	15.8		28.2	3.2	45.6	50.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.2		30.2	0.1	41.5	10.8
Delay (s)	52.2	16.1		58.4	3.3	87.1	60.9
Level of Service	D	B		E	A	F	E
Approach Delay (s)	30.3			41.3		74.2	
Approach LOS	C			D		E	

Intersection Summary			
HCM Average Control Delay	47.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	119.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

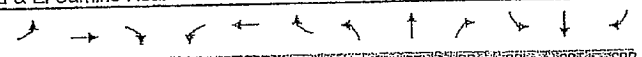
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Volume (vph)	71	7	0	942	111	8	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0		4.0	4.0
Lane Util. Factor	0.97			0.95		1.00	0.95
Frt	0.99			0.98		1.00	1.00
Flt Protected	0.96			1.00		0.95	1.00
Satd. Flow (prot)	3409			3483		1770	3539
Flt Permitted	0.96			1.00		0.95	1.00
Satd. Flow (perm)	3409			3483		1770	3539
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	79	8	0	1047	123	9	589
RTOR Reduction (vph)	7	0	0	12	0	0	0
Lane Group Flow (vph)	80	0	0	1158	0	9	589
Turn Type			Prot			Prot	
Protected Phases			5	2		1	6
Permitted Phases							
Actuated Green, G (s)	3.2			20.5		0.6	25.1
Effective Green, g (s)	3.2			20.5		0.6	25.1
Actuated g/C Ratio	0.09			0.56		0.02	0.69
Clearance Time (s)	4.0			4.0		4.0	4.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0
Lane Grp Cap (vph)	301			1967		29	2447
v/s Ratio Prot	c0.02			c0.33		0.01	c0.17
v/s Ratio Perm							
v/c Ratio	0.26			0.59		0.31	0.24
Uniform Delay, d1	15.5			5.2		17.6	2.1
Progression Factor	1.00			1.00		1.00	1.00
Incremental Delay, d2	0.5			0.5		6.0	0.1
Delay (s)	15.9			5.6		23.7	2.1
Level of Service	B			A		C	A
Approach Delay (s)	15.9			5.6		2.4	
Approach LOS	B			A		A	

Intersection Summary			
HCM Average Control Delay	5.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	36.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



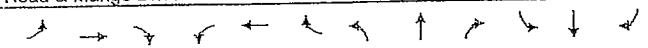
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	22	16	16	21	169	26	850	49	89	469	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.87		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)	1770	1743		1770	1614		1770	3510		1770	3509	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1743		1770	1614		1770	3510		1770	3509	
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)	28	24	18	18	23	188	29	944	54	99	521	31
RTOR Reduction (vph)	0	16	0	0	165	0	0	5	0	0	5	0
Lane Group Flow (vph)	28	26	0	18	46	0	29	993	0	99	547	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.4	6.8		0.7	6.1		1.6	22.8		4.2	25.4	
Effective Green, g (s)	1.4	6.8		0.7	6.1		1.6	22.8		4.2	25.4	
Actuated g/C Ratio	0.03	0.13		0.01	0.12		0.03	0.45		0.08	0.50	
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)	49	235		25	195		56	1585		147	1765	
v/s Ratio Prot	c0.02	0.02		0.01	c0.03		0.02	c0.28		c0.06	c0.16	
v/s Ratio Perm												
v/c Ratio	0.57	0.11		0.72	0.23		0.52	0.63		0.67	0.31	
Uniform Delay, d1	24.3	19.2		24.8	20.1		24.1	10.6		22.5	7.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.1	0.2		68.2	0.6		7.9	0.8		11.5	0.1	
Delay (s)	39.3	19.4		93.0	20.7		31.9	11.4		34.0	7.5	
Level of Service	D	B		F	C		C	B		C	A	
Approach Delay (s)		27.4			26.4			12.0			11.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	50.5	Sum of lost time (s)	20.0
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												
Volume (vph)	8	42	36	45	30	21	48	999	117	23	493	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	
Frt	1.00	1.00	0.85	1.00	0.94		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)	1770	1863	1583	1770	1748		1770	3484		1770	3529	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1748		1770	3484		1770	3529	
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)	9	47	40	50	33	23	53	1110	130	26	548	11
RTOR Reduction (vph)	0	0	37	0	21	0	0	8	0	0	1	0
Lane Group Flow (vph)	9	47	3	50	35	0	53	1232	0	26	558	0
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	7	4		5	6		8	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	0.9	4.3	4.3	1.8	5.2		3.2	28.7		1.3	26.8	
Effective Green, g (s)	0.9	4.3	4.3	1.8	5.2		3.2	28.7		1.3	26.8	
Actuated g/C Ratio	0.02	0.08	0.08	0.03	0.10		0.06	0.55		0.02	0.51	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	31	154	131	61	174		109	1919		44	1815	
v/s Ratio Prot	0.01	c0.03		c0.03	0.02		c0.03	c0.36		0.01	0.16	
v/s Ratio Perm			0.00									
v/c Ratio	0.29	0.31	0.03	0.82	0.20		0.49	0.64		0.59	0.31	
Uniform Delay, d1	25.3	22.5	22.0	25.0	21.5		23.7	8.1		25.1	7.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.1	1.1	0.1	55.5	0.6		3.4	0.7		19.5	0.1	
Delay (s)	30.4	23.6	22.1	80.4	22.1		27.0	8.9		44.6	7.4	
Level of Service	C	C	C	F	C		C	A		D	A	
Approach Delay (s)		23.6			49.6			9.6			9.0	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM Average Control Delay	12.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	52.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



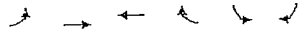
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	1130	60	130	900	230	90	50	70	450	40	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.95			1.00	1.00	0.95	0.95	
Frt	1.00	0.99		1.00	0.97			1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00	0.95	0.98	
Satd. Flow (prot)	1770	5053		1770	3431			1805	1583	1681	1617	
Flt Permitted	0.95	1.00		0.95	1.00			0.49	1.00	0.66	0.79	
Satd. Flow (perm)	1770	5053		1770	3431			918	1583	1164	1306	
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)	167	1256	66	144	1000	256	100	56	78	500	44	156
RTOR Reduction (vph)	0	7	0	0	37	0	0	0	53	0	49	0
Lane Group Flow (vph)	167	1305	0	144	1219	0	0	156	25	350	301	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)	6.8	23.1		6.1	22.4			19.2	19.2	19.2	19.2	
Effective Green, g (s)	6.8	23.1		6.1	22.4			19.2	19.2	19.2	19.2	
Actuated g/C Ratio	0.11	0.36		0.10	0.37			0.32	0.32	0.32	0.32	
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)	199	1933		179	1272			292	503	370	415	
v/s Ratio Prot	c0.09	0.26		0.08	c0.36							
v/s Ratio Perm								0.17	0.02	c0.30	0.23	
v/c Ratio	0.84	0.67		0.80	0.96			0.53	0.05	0.95	0.73	
Uniform Delay, d1	26.3	15.5		26.6	18.5			16.9	14.3	20.1	18.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	25.4	0.9		22.4	16.1			1.9	0.0	32.8	6.2	
Delay (s)	51.7	16.5		49.0	34.6			18.8	14.3	52.9	24.4	
Level of Service	D	B		D	C			B	B	D	C	
Approach Delay (s)		20.4			36.1			17.3			39.7	
Approach LOS		C			D			B			D	

Intersection Summary				
HCM Average Control Delay	29.3	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	79.3%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1770	80	0	1540	0	90
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1967	89	0	1711	0	100
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	579			607		
pX, platoon unblocked				0.81	0.81	0.81
vC, conflicting volume	2056			2867	700	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1486			2486	0	
tC, single (s)	4.1			6.8	6.9	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			100	89	
cM capacity (veh/h)	364			20	879	

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	787	787	482	856	856	100
Volume Left	0	0	0	0	0	0
Volume Right	0	0	89	0	0	100
cSH	1700	1700	1700	1700	1700	879
Volume to Capacity	0.46	0.46	0.28	0.50	0.50	0.11
Queue Length 95th (ft)	0	0	0	0	0	10
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.6
Lane LOS						A
Approach Delay (s)	0.0			0.0		9.6
Approach LOS						A

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		

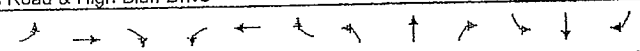


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↰↰	↱
Volume (vph)	0	1280	1140	0	820	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.95	0.95		0.97	0.91
Frt		1.00	1.00		0.99	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		3539	3539		3425	1441
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		3539	3539		3425	1441
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1422	1267	0	911	444
RTOR Reduction (vph)	0	0	0	0	4	49
Lane Group Flow (vph)	0	1422	1267	0	951	351
Turn Type						Perm
Protected Phases		2 6	6 2		4	
Permitted Phases						4
Actuated Green, G (s)		49.0	49.0		23.0	23.0
Effective Green, g (s)		49.0	49.0		23.0	23.0
Actuated g/C Ratio		0.61	0.61		0.29	0.29
Clearance Time (s)					4.0	4.0
Vehicle Extension (s)					3.0	3.0
Lane Grp Cap (vph)		2168	2168		985	414
v/s Ratio Prot		c0.40	0.36		c0.28	
v/s Ratio Perm						0.24
v/c Ratio		0.66	0.58		0.97	0.85
Uniform Delay, d1		10.0	9.4		28.1	26.8
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.7	0.4		20.5	14.8
Delay (s)		10.8	9.8		48.6	41.6
Level of Service		B	A		D	D
Approach Delay (s)		10.8	9.8		46.6	
Approach LOS		B	A		D	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

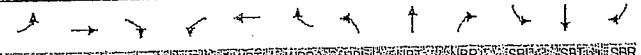
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑			↑↑↑	↱	↰	↔	↱			
Volume (vph)	750	1633	0	0	1340	600	630	30	850	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.95	0.91	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.89	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	1681	1494	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	1681	1494	1504			
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)	833	1814	0	0	1489	667	700	33	944	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	330	0	10	10	0	0	0
Lane Group Flow (vph)	833	1814	0	0	1489	337	581	548	528	0	0	0
Turn Type	Prot					Prot	Split		Prot			
Protected Phases	5	2			6	6	8	8	8			
Permitted Phases												
Actuated Green, G (s)	29.0	69.0			36.0	36.0	43.0	43.0	43.0			
Effective Green, g (s)	29.0	69.0			36.0	36.0	43.0	43.0	43.0			
Actuated g/C Ratio	0.24	0.57			0.30	0.30	0.36	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)	830	2035			1526	475	602	535	539			
v/s Ratio Prot	c0.24	0.51			c0.29	0.21	0.35	c0.37	0.35			
v/s Ratio Perm												
v/c Ratio	1.00	0.89			0.98	0.71	0.97	1.02	0.98			
Uniform Delay, d1	45.5	22.2			41.6	37.3	37.8	38.5	38.1			
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	32.1	6.4			17.9	8.6	27.9	45.4	33.6			
Delay (s)	77.6	28.7			59.5	46.0	65.7	83.9	71.7			
Level of Service	E	C			E	D	E	F	E			
Approach Delay (s)		44.1			55.3			73.7		0.0		
Approach LOS		D			E			E		A		

Intersection Summary			
HCM Average Control Delay	55.5	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	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



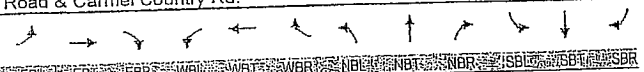
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	2220	300	20	1280	150	680	70	150	40	40	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.97	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.90		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)	1770	5085	1583	1770	5085		3433	3177		1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	5085	1583	1770	5085		3433	3177		1770	1863	1583
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)	278	2467	333	22	1422	167	756	78	167	44	44	222
RTOR Reduction (vph)	0	0	106	0	13	0	0	96	0	0	0	201
Lane Group Flow (vph)	278	2467	227	22	1576	0	756	149	0	44	44	21
Turn Type	Prot		Perm	Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	18.0	54.9	54.9	1.6	38.5		23.0	29.0		4.1	10.1	10.1
Effective Green, g (s)	18.0	54.9	54.9	1.6	38.5		23.0	29.0		4.1	10.1	10.1
Actuated g/C Ratio	0.17	0.52	0.52	0.02	0.36		0.22	0.27		0.04	0.10	0.10
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)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	302	2644	823	27	1825		748	872		69	178	151
v/s Ratio Prot	c0.16	c0.49		0.01	0.31		c0.22	0.05		0.02	c0.02	
v/s Ratio Perm			0.14									0.01
v/c Ratio	0.92	0.93	0.28	0.81	0.86		1.01	0.17		0.64	0.25	0.14
Uniform Delay, d1	43.1	23.6	14.2	51.9	31.1		41.3	29.2		50.0	44.2	43.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	31.8	6.9	0.2	95.3	4.5		35.6	0.1		17.7	0.7	0.4
Delay (s)	74.9	30.5	14.4	147.1	35.6		76.9	29.2		67.7	45.0	44.2
Level of Service	E	C	B	F	D		E	C		E	D	D
Approach Delay (s)		32.8			37.2			65.2			47.6	
Approach LOS		C			D			E			D	

Intersection Summary			
HCM Average Control Delay	40.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	105.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



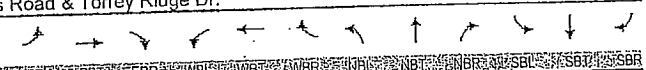
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	495	1522	471	127	930	190	420	750	270	190	220	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	0.96		1.00	0.97		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	4905		3433	4956		3433	5085	1583	3433	4658	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	4905		3433	4956		3433	5085	1583	3433	4658	
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)	550	1691	523	141	1033	211	467	833	300	211	244	311
RTOR Reduction (vph)	0	61	0	0	34	0	0	0	93	0	237	0
Lane Group Flow (vph)	550	2153	0	141	1210	0	467	833	207	211	318	0
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2	2	1	6	
Permitted Phases												
Actuated Green, G (s)	16.2	38.3		4.8	26.9		13.0	21.3	21.3	8.0	16.3	
Effective Green, g (s)	16.2	38.3		4.8	26.9		13.0	21.3	21.3	8.0	16.3	
Actuated g/C Ratio	0.16	0.49		0.05	0.30		0.15	0.24	0.24	0.09	0.18	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	629	2125		186	1508		505	1225	381	311	859	
v/s Ratio Prot	c0.16	c0.44		0.04	0.24		c0.14	c0.16		0.06	0.07	
v/s Ratio Perm									0.13			
v/c Ratio	0.87	1.01		0.76	0.80		0.92	0.68	0.54	0.68	0.37	
Uniform Delay, d1	35.1	25.0		41.2	28.3		37.2	30.5	29.3	39.0	31.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	12.9	22.8		16.1	3.2		22.8	1.6	1.6	5.8	0.3	
Delay (s)	48.0	47.9		57.3	31.5		60.0	32.0	30.9	44.7	31.8	
Level of Service	D	D		E	C		E	C	C	D	C	
Approach Delay (s)		47.9			34.1			40.0			35.4	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM Average Control Delay	41.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	88.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



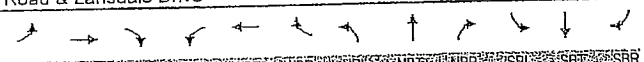
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	1535	473	85	665	120	400	300	175	200	250	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	0.97	0.91		0.97	0.91		0.97	0.91		1.00	0.95	
Frt	1.00	0.96		1.00	0.98		1.00	0.94		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)	3433	4906		3433	4969		3433	4804		1770	3348	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	3433	4906		3433	4969		3433	4804		1770	3348	
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)	156	1706	526	94	739	133	444	333	194	222	278	156
RTOR Reduction (vph)	0	59	0	0	28	0	0	110	0	0	91	0
Lane Group Flow (vph)	156	2173	0	94	844	0	444	417	0	222	343	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.0	39.2		3.6	34.8		12.7	13.9		12.5	13.7	
Effective Green, g (s)	8.0	39.2		3.6	34.8		12.7	13.9		12.5	13.7	
Actuated g/C Ratio	0.09	0.46		0.04	0.41		0.15	0.16		0.15	0.16	
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)	322	2257		145	2030		512	784		260	538	
v/s Ratio Prot	c0.05	c0.44		0.03	0.17		c0.13	0.09		0.13	c0.10	
v/s Ratio Perm												
v/c Ratio	0.48	0.96		0.65	0.42		0.87	0.53		0.85	0.64	
Uniform Delay, d1	36.6	22.3		40.2	18.0		35.4	32.7		35.5	33.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	11.5		9.6	0.1		14.4	0.7		22.8	2.5	
Delay (s)	37.8	33.8		49.8	18.1		49.8	33.4		58.3	35.9	
Level of Service	D	C		D	B		D	C		E	D	
Approach Delay (s)		34.0			21.2			40.9			43.5	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM Average Control Delay	34.1	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	85.2	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	79.7%	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												
Volume (vph)	49	1646	108	8	863	23	52	14	45	39	6	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5038		1770	5065		1770	1651		1770	1627	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5038		1770	5065		1770	1651		1770	1627	
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)	54	1829	120	9	959	26	58	16	50	43	9	48
RTOR Reduction (vph)	0	7	0	0	3	0	0	45	0	0	44	0
Lane Group Flow (vph)	54	1942	0	9	982	0	58	21	0	43	13	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.2	30.5		0.7	28.0		2.4	5.1		1.4	4.1	
Effective Green, g (s)	3.2	30.5		0.7	28.0		2.4	5.1		1.4	4.1	
Actuated g/C Ratio	0.06	0.57		0.01	0.52		0.04	0.09		0.03	0.08	
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)	105	2861		23	2641		79	157		46	124	
v/s Ratio Prot	c0.03	c0.39		0.01	0.19		c0.03	c0.01		0.02	0.01	
v/s Ratio Perm												
v/c Ratio	0.51	0.68		0.39	0.37		0.73	0.13		0.93	0.10	
Uniform Delay, d1	24.5	8.2		26.3	7.6		25.3	22.3		26.1	23.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	0.7		10.7	0.1		29.4	0.4		107.1	0.4	
Delay (s)	28.7	8.8		36.9	7.7		54.7	22.7		133.2	23.4	
Level of Service	C	A		D	A		D	C		F	C	
Approach Delay (s)		9.3			8.0			37.7			70.6	
Approach LOS		A			A			D			E	

Intersection Summary				
HCM Average Control Delay	11.9	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	53.7	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				

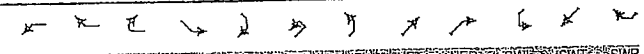


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	244	1294	66	22	631	25	56	46	49	33	33	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5049		1770	5056		1770	1719		1770	1619	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5049		1770	5056		1770	1719		1770	1619	
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)	271	1438	73	24	701	28	62	51	54	37	37	253
RTOR Reduction (vph)	0	7	0	0	6	0	0	45	0	0	213	0
Lane Group Flow (vph)	271	1503	0	24	723	0	62	60	0	37	77	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.3	27.6		0.7	17.0		2.4	9.7		1.5	8.8	
Effective Green, g (s)	11.3	27.6		0.7	17.0		2.4	9.7		1.5	8.8	
Actuated g/C Ratio	0.20	0.50		0.01	0.31		0.04	0.17		0.03	0.16	
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)	360	2511		22	1549		77	300		48	257	
v/s Ratio Prot	c0.15	c0.30		0.01	0.14		c0.04	0.04		0.02	c0.05	
v/s Ratio Perm												
v/c Ratio	0.75	0.60		1.09	0.47		0.81	0.20		0.77	0.30	
Uniform Delay, d1	20.8	10.0		27.4	15.6		26.3	19.6		26.8	20.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.6	0.4		221.9	0.2		43.8	0.3		53.1	0.7	
Delay (s)	29.4	10.4		249.3	15.8		70.1	19.9		79.9	21.3	
Level of Service	C	B		F	B		E	B		E	C	
Approach Delay (s)		13.3			23.2			38.6			27.9	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	18.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	55.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

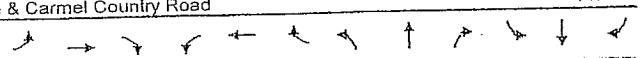
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1300	266	153	573	145	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.91		1.00	0.91	0.97	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4956		1770	5085	3433	1583
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	4956		1770	5085	3433	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1444	296	170	637	161	456
RTOR Reduction (vph)	48	0	0	0	0	229
Lane Group Flow (vph)	1692	0	170	637	161	227
Turn Type			Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	22.3		7.8	34.1	11.9	11.9
Effective Green, g (s)	22.3		7.8	34.1	11.9	11.9
Actuated g/C Ratio	0.41		0.14	0.63	0.22	0.22
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2047		256	3211	757	349
v/s Ratio Prot	c0.34		c0.10	0.13	0.05	
v/s Ratio Perm						c0.14
v/c Ratio	0.83		0.66	0.20	0.21	0.65
Uniform Delay, d1	14.1		21.9	4.2	17.2	19.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9		6.3	0.0	0.1	4.1
Delay (s)	17.0		28.2	4.2	17.4	23.3
Level of Service	B		C	A	B	C
Approach Delay (s)	17.0			9.3	21.7	
Approach LOS	B			A	C	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	54.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



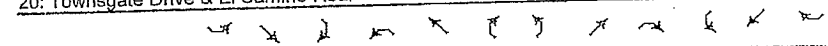
Movement	WBL	WBR	WBR2	SEL	SER	NEU	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	228	0	301	0	0	0	0	995	168	295	440	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0		4.0	4.0	
Lane Util. Factor	1.00		1.00					0.91		0.97	0.91	
Frt	1.00		0.85					0.98		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1770		1583					4975		3433	5085	
Flt Permitted	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1770		1583					4975		3433	5085	
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)	253	0	334	0	0	0	0	1106	187	328	490	0
RTOR Reduction (vph)	0	0	211	0	0	0	0	37	0	0	0	0
Lane Group Flow (vph)	253	0	123	0	0	0	0	1256	0	328	490	0
Turn Type			custom			Prot				Prot		
Protected Phases	2					5		6		7	4	
Permitted Phases			8									
Actuated Green, G (s)	12.7		19.7					19.7		9.3	33.0	
Effective Green, g (s)	12.7		19.7					19.7		9.3	33.0	
Actuated g/C Ratio	0.24		0.37					0.37		0.17	0.61	
Clearance Time (s)	4.0		4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	419		581					1825		595	3125	
v/s Ratio Prot	c0.14							c0.25		c0.10	0.10	
v/s Ratio Perm			0.08									
v/c Ratio	0.60		0.21					0.69		0.55	0.16	
Uniform Delay, d1	18.3		11.7					14.4		20.3	4.4	
Progression Factor	1.00		1.00					1.00		1.00	1.00	
Incremental Delay, d2	2.5		0.2					1.1		1.1	0.0	
Delay (s)	20.7		11.8					15.5		21.4	4.4	
Level of Service	C		B					B		C	A	
Approach Delay (s)	15.7			0.0				15.5			11.2	
Approach LOS	B			A				B			B	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	53.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



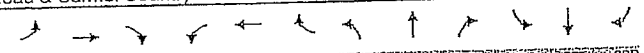
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	130	190	30	80	120	160	600	10	190	500	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	1.00		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)	1770	1863	1583	1770	1695		1770	3531		1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1695		1770	3531		1770	3539	1583
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)	278	144	211	33	89	133	167	667	11	211	556	111
RTOR Reduction (vph)	0	0	135	0	69	0	0	2	0	0	0	83
Lane Group Flow (vph)	278	144	76	33	153	0	167	676	0	211	556	28
Turn Type	Prot		Perm	Prot			Prot			Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	14.8	26.5	26.5	2.1	13.8		10.2	17.4		11.5	18.7	18.7
Effective Green, g (s)	14.8	26.5	26.5	2.1	13.8		10.2	17.4		11.5	18.7	18.7
Actuated g/C Ratio	0.20	0.36	0.36	0.03	0.19		0.14	0.24		0.16	0.25	0.25
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)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	356	672	571	51	318		246	836		277	900	403
v/s Ratio Prot	c0.16	0.08		0.02	c0.09		0.09	c0.19		c0.12	0.16	
v/s Ratio Perm			0.05									0.02
v/c Ratio	0.78	0.21	0.13	0.65	0.48		0.68	0.81		0.76	0.62	0.07
Uniform Delay, d1	27.8	16.3	15.8	35.3	26.7		30.1	26.5		29.7	24.2	20.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.6	0.2	0.1	24.8	1.1		7.2	5.8		11.7	1.3	0.1
Delay (s)	38.4	16.4	15.9	60.2	27.8		37.3	32.3		41.4	25.5	20.9
Level of Service	D	B	B	E	C		D	C		D	C	C
Approach Delay (s)		25.9			32.0			33.3			28.7	
Approach LOS		C			C			C			C	

Intersection Summary				
HCM Average Control Delay	29.8	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	73.5	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	66.2%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				



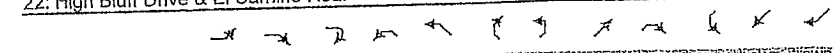
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	250	20	15	210	10	90	35	1250	240	120	580	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frt	1.00	0.93		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)	1770	1741		1770	1863	1583	1770	4962		1770	5024	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1741		1770	1863	1583	1770	4962		1770	5024	
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)	278	22	17	233	11	100	39	1389	267	133	644	56
RTOR Reduction (vph)	0	16	0	0	0	92	0	28	0	0	9	0
Lane Group Flow (vph)	278	23	0	233	11	8	39	1628	0	133	691	0
Turn Type	Prot			Prot		Perm	Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						
Actuated Green, G (s)	15.2	5.0		16.5	6.3	6.3	3.6	32.2		8.2	36.8	
Effective Green, g (s)	15.2	5.0		16.5	6.3	6.3	3.6	32.2		8.2	36.8	
Actuated g/C Ratio	0.20	0.06		0.21	0.08	0.08	0.05	0.41		0.11	0.47	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	345	112		375	151	128	82	2051		186	2373	
v/s Ratio Prot	c0.16	c0.01		0.13	0.01		0.02	c0.33		c0.08	0.14	
v/s Ratio Perm						0.01						
v/c Ratio	0.81	0.21		0.62	0.07	0.06	0.48	0.79		0.72	0.29	
Uniform Delay, d1	29.9	34.6		27.9	33.1	33.1	36.2	20.0		33.7	12.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.8	0.9		3.2	0.2	0.2	4.3	2.2		12.3	0.1	
Delay (s)	42.8	35.5		31.0	33.3	33.3	40.5	22.2		46.0	12.6	
Level of Service	D	D		C	C	C	D	C		D	B	
Approach Delay (s)		41.9			31.8			22.6			18.0	
Approach LOS		D			C			C			B	

Intersection Summary				
HCM Average Control Delay	24.3	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	66.7%	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												
Volume (vph)	256	244	89	23	101	15	96	310	40	26	274	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total 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	1.00	0.85		0.99		1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00	1.00		0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583		1820		1770	3479		1770	3300	
Flt Permitted	0.95	1.00	1.00		0.89		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583		1640		1770	3479		1770	3300	
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)	284	271	99	26	112	17	107	344	44	29	304	250
RTOR Reduction (vph)	0	0	53	0	7	0	0	13	0	0	188	0
Lane Group Flow (vph)	284	271	46	0	148	0	107	375	0	29	366	0
Turn Type	Prot		Perm	Perm			Prot			Prot		
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	13.4	25.6	25.6		8.2		4.2	16.4		1.7	13.9	
Effective Green, g (s)	13.4	25.6	25.6		8.2		4.2	16.4		1.7	13.9	
Actuated g/C Ratio	0.24	0.46	0.46		0.15		0.08	0.29		0.03	0.25	
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)	426	856	728		241		133	1024		54	824	
v/s Ratio Prot	c0.16	0.15					c0.06	0.11		0.02	c0.11	
v/s Ratio Perm			0.03		c0.09							
v/c Ratio	0.67	0.32	0.06		0.61		0.80	0.37		0.54	0.44	
Uniform Delay, d1	19.1	9.5	8.4		22.3		25.3	15.5		26.6	17.6	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.9	0.2	0.0		4.6		28.6	0.2		9.9	0.4	
Delay (s)	23.1	9.7	8.4		26.9		53.9	15.8		36.5	18.0	
Level of Service	C	A	A		C		D	B		D	B	
Approach Delay (s)		15.3			26.9			24.0			18.9	
Approach LOS		B			C			C			B	

Intersection Summary				
HCM Average Control Delay	19.7	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	55.7	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	55.1%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				



Movement	EBL	EBT	EBR	NWL2	NWL	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	80	300	490	110	180	130	277	1290	100	130	750	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.97		0.97	0.91		1.00	0.91	
Frt	1.00	0.85	0.85	1.00	0.94		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1583	1583	1770	3291		3433	5030		1770	5037	
Flt Permitted	0.95	1.00	1.00	0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1583	1583	1770	3291		3433	5030		1770	5037	
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)	89	333	544	122	200	144	308	1433	111	144	833	56
RTOR Reduction (vph)	0	0	214	0	131	0	0	12	0	0	10	0
Lane Group Flow (vph)	89	333	330	122	213	0	308	1532	0	144	879	0
Turn Type		Perm	Perm	Split			Prot			Prot		
Protected Phases	2			6	6		3	8		7	4	
Permitted Phases		2	2									
Actuated Green, G (s)	17.4	17.4	17.4	6.3	6.3		10.0	22.0		7.0	19.0	
Effective Green, g (s)	17.4	17.4	17.4	6.3	6.3		10.0	22.0		7.0	19.0	
Actuated g/C Ratio	0.25	0.25	0.25	0.09	0.09		0.15	0.32		0.10	0.28	
Clearance Time (s)	4.0	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	3.0	
Lane Grp Cap (vph)	448	401	401	162	302		500	1611		180	1393	
v/s Ratio Prot	0.05			c0.07	0.06		0.09	c0.30		c0.08	0.17	
v/s Ratio Perm		c0.21	0.21									
v/c Ratio	0.20	0.83	0.82	0.75	0.71		0.62	0.95		0.80	0.63	
Uniform Delay, d1	20.2	24.3	24.2	30.4	30.3		27.5	22.8		30.2	21.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	13.6	12.9	17.8	7.3		2.3	12.6		21.9	0.9	
Delay (s)	20.4	37.8	37.1	48.3	37.6		29.8	35.5		52.0	22.7	
Level of Service	C	D	D	D	D		C	D		D	C	
Approach Delay (s)	35.8			40.4			34.5			26.8		
Approach LOS	D			D			C			C		

Intersection Summary				
HCM Average Control Delay	33.6	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	68.7	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	62.9%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

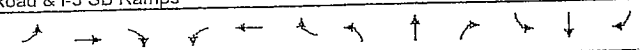
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations								Stop			Stop	
Sign Control		Stop			Stop							
Volume (vph)	211	30	148	5	13	5	107	28	9	2	8	102
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	234	33	164	6	14	6	119	31	10	2	9	113

Direction, Lane #	SE 1	SE 2	NW 1	NE 1	SW 1
Volume Total (vph)	268	164	26	160	124
Volume Left (vph)	234	0	6	119	2
Volume Right (vph)	0	164	6	10	113
Hadj (s)	0.47	0.67	0.05	0.15	-0.51
Departure Headway (s)	5.7	4.6	5.2	5.3	4.7
Degree Utilization, x	0.43	0.21	0.04	0.24	0.16
Capacity (veh/h)	603	751	626	638	701
Control Delay (s)	11.8	7.6	8.4	9.9	8.6
Approach Delay (s)	10.2		8.4	9.9	8.6
Approach LOS	B		A	A	A

Intersection Summary				
Delay	9.8			
HCM Level of Service	A			
Intersection Capacity Utilization	41.2%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	117	50	71	56	26	9	109	727	135	6	324	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	
Frt		1.00	0.85		0.99		1.00	0.98		1.00	0.97	
Flt Protected		0.97	1.00		0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1800	1583		1783		1770	3456		1770	3431	
Flt Permitted		0.77	1.00		0.72		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1429	1583		1314		1770	3456		1770	3431	
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)	130	56	79	62	29	10	121	808	150	7	360	92
RTOR Reduction (vph)	0	0	62	0	8	0	0	18	0	0	31	0
Lane Group Flow (vph)	0	186	17	0	93	0	121	940	0	7	421	0
Turn Type	Perm		Perm	Perm			Prot			Prot		
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		8.3	8.3		8.3		3.6	18.7		0.6	15.7	
Effective Green, g (s)		8.3	8.3		8.3		3.6	18.7		0.6	15.7	
Actuated g/C Ratio		0.21	0.21		0.21		0.09	0.47		0.02	0.40	
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)		300	332		275		161	1632		27	1360	
v/s Ratio Prot							c0.07	c0.27		0.00	0.12	
v/s Ratio Perm		c0.13	0.01		0.07							
v/c Ratio		0.62	0.05		0.34		0.75	0.58		0.26	0.31	
Uniform Delay, d1		14.2	12.5		13.3		17.6	7.6		19.3	8.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.9	0.1		0.7		17.8	0.5		5.1	0.1	
Delay (s)		18.2	12.6		14.0		35.4	8.1		24.3	8.4	
Level of Service		B	B		B		D	A		C	A	
Approach Delay (s)		16.5			14.0			11.1			8.6	
Approach LOS		B			B			B			A	

Intersection Summary				
HCM Average Control Delay	11.4	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	39.6	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	49.4%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

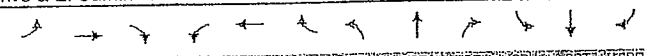


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↰	↑↑					↰	↕	↱
Volume (vph)	0	840	450	650	906	0	0	0	0	350	1	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	0.95					0.95	0.91	0.95
Frt		0.95		1.00	1.00					1.00	0.99	0.85
Flt Protected		1.00		0.95	1.00					0.95	0.96	1.00
Satd. Flow (prot)		3354		3433	3539					1681	1598	1504
Flt Permitted		1.00		0.95	1.00					0.95	0.96	1.00
Satd. Flow (perm)		3354		3433	3539					1681	1598	1504
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	933	500	722	1007	0	0	0	0	389	1	200
RTOR Reduction (vph)	0	78	0	0	0	0	0	0	0	0	5	130
Lane Group Flow (vph)	0	1355	0	722	1007	0	0	0	0	206	199	60
Turn Type				Prot						Prot		Perm
Protected Phases		4			8					1	6	
Permitted Phases												6
Actuated Green, G (s)		38.0		20.7	62.7					19.0	19.0	19.0
Effective Green, g (s)		38.0		20.7	62.7					19.0	19.0	19.0
Actuated g/C Ratio		0.42		0.23	0.70					0.21	0.21	0.21
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)		1421		792	2474					356	338	319
v/s Ratio Prot		c0.40		c0.21	0.28					0.12	c0.12	
v/s Ratio Perm												0.03
v/c Ratio		0.95		0.91	0.41					0.58	0.59	0.19
Uniform Delay, d1		25.0		33.6	5.7					31.8	31.8	28.8
Progression Factor		1.00		1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		14.2		14.7	0.1					2.3	2.6	0.2
Delay (s)		39.2		48.3	5.8					34.0	34.5	29.0
Level of Service		D		D	A					C	C	C
Approach Delay (s)		39.2			23.5			0.0			32.7	
Approach LOS		D			C			A			C	

Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	89.7	Sum of lost time (s)	12.0
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	↰↰	↑↑		↰	↑↑	↱	↰	↕	↱			
Volume (vph)	130	1089	0	0	660	420	580	10	850	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0	4.0	4.0	4.0			
Lane Util. Factor	0.97	0.95			0.95	1.00	0.95	0.91	0.95			
Frt	1.00	1.00			1.00	0.85	1.00	0.88	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	3433	3539			3539	1583	1681	1477	1504			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	3433	3539			3539	1583	1681	1477	1504			
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)	144	1210	0	0	733	467	644	11	944	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	331	0	12	12	0	0	0
Lane Group Flow (vph)	144	1210	0	0	733	136	554	514	507	0	0	0
Turn Type	Prot					Perm	Prot		Perm			
Protected Phases		4			8		5	2				
Permitted Phases						8			2			
Actuated Green, G (s)	3.6	25.1			17.5	17.5	26.9	26.9	26.9			
Effective Green, g (s)	3.6	25.1			17.5	17.5	26.9	26.9	26.9			
Actuated g/C Ratio	0.06	0.42			0.29	0.29	0.45	0.45	0.45			
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)	206	1480			1032	462	754	662	674			
v/s Ratio Prot	0.04	c0.34			0.21		0.33	c0.35				
v/s Ratio Perm						0.09			0.34			
v/c Ratio	0.70	0.82			0.71	0.29	0.73	0.78	0.75			
Uniform Delay, d1	27.7	15.4			19.0	16.5	13.6	14.0	13.8			
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	9.9	3.6			2.3	0.4	3.7	5.7	4.8			
Delay (s)	37.6	19.1			21.3	16.8	17.3	19.7	18.5			
Level of Service	D	B			C	B	B	B	B			
Approach Delay (s)		21.0			19.6			18.5			0.0	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM Average Control Delay	19.6	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	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												
Volume (vph)	110	80	80	520	80	250	110	1130	240	230	1530	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	0.91	0.95	0.95	0.91	0.95	1.00	0.91		1.00	0.91	
Frt	1.00	0.99	0.85	1.00	0.99	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	0.99	1.00	0.95	0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1665	1504	1681	1621	1504	1770	4952		1770	5039	
Flt Permitted	0.95	0.94	1.00	0.95	0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1577	1504	1681	1621	1504	1770	4952		1770	5039	
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)	122	89	89	578	89	278	122	1256	267	256	1700	111
RTOR Reduction (vph)	0	3	51	0	4	46	0	41	0	0	9	0
Lane Group Flow (vph)	109	108	29	347	344	204	122	1482	0	256	1802	0
Turn Type	Prot		Perm	Split		Perm	Prot			Prot		
Protected Phases	7	4		8	8		5	2		6		
Permitted Phases			4			8						6
Actuated Green, G (s)	6.4	29.4	29.4	19.0	19.0	19.0	7.0	42.6		31.6	31.6	
Effective Green, g (s)	6.4	29.4	29.4	19.0	19.0	19.0	7.0	42.6		31.6	31.6	
Actuated g/C Ratio	0.08	0.37	0.37	0.24	0.24	0.24	0.09	0.53		0.40	0.40	
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)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	134	587	553	399	385	357	155	2637		699	1990	
v/s Ratio Prot	c0.06	0.01		0.21	c0.21		c0.07	0.30		0.14		
v/s Ratio Perm			0.02			0.14					c0.36	
v/c Ratio	0.81	0.18	0.05	0.87	0.89	0.57	0.79	0.56		0.37	0.91	
Uniform Delay, d1	36.2	17.2	16.3	29.3	29.5	26.9	35.8	12.5		17.1	22.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	30.0	0.2	0.0	17.9	22.2	2.2	22.6	0.3		0.3	6.3	
Delay (s)	66.2	17.3	16.4	47.2	51.7	29.1	58.4	12.8		17.4	29.1	
Level of Service	E	B	B	D	D	C	E	B		B	C	
Approach Delay (s)		34.8			44.1			16.1			27.7	
Approach LOS		C			D			B			C	

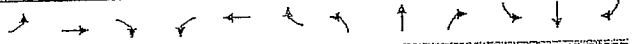
Intersection Summary			
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		

l Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	220	100	200	500	1240	0	0	1410	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	1.00	0.97	0.95			0.86	0.86
Frpb, ped/bikes				1.00	1.00	1.00	1.00	1.00			0.98	0.71
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			0.99	0.85
Flt Protected				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				3433	5085	1583	3433	3539			4691	971
Flt Permitted				0.95	1.00	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				3433	5085	1583	3433	3539			4691	971
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	244	111	222	556	1378	0	0	1567	567
RTOR Reduction (vph)	0	0	0	0	0	64	0	0	0	0	7	154
Lane Group Flow (vph)	0	0	0	244	111	158	556	1378	0	0	1651	322
Confl. Peds. (#/hr)												200
Turn Type				Prot		Perm	Prot					Perm
Protected Phases				3	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				12.2	12.2	12.2	14.6	54.6			36.0	36.0
Effective Green, g (s)				12.2	12.2	12.2	14.6	54.6			36.0	36.0
Actuated g/C Ratio				0.16	0.16	0.16	0.20	0.73			0.48	0.48
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)				560	829	258	670	2583			2258	467
v/s Ratio Prot				0.07	0.02		c0.16	0.39			c0.35	
v/s Ratio Perm						c0.10						0.33
v/c Ratio				0.44	0.13	0.61	0.83	0.53			0.73	0.69
Uniform Delay, d1				28.2	26.8	29.1	28.0	4.5			15.5	15.1
Progression Factor				1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2				0.5	0.1	4.2	8.4	0.2			1.2	4.4
Delay (s)				28.7	26.9	33.3	37.3	4.7			16.8	19.4
Level of Service				C	C	C	D	A			B	B
Approach Delay (s)	0.0				30.1			14.1			17.4	
Approach LOS	A				C			B			B	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	74.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.6%	ICU Level of Service	H
Analysis Period (min)	15		

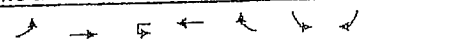
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	1207	200	0	0	0	0	920	1000	950	1280	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.86	0.91					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.92		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3184	1441					5907		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3184	1441					5907		1770	5085	
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)	822	1341	222	0	0	0	0	1022	1111	389	1422	0
RTOR Reduction (vph)	0	1	19	0	0	0	0	19	0	0	0	0
Lane Group Flow (vph)	707	1477	181	0	0	0	0	2114	0	389	1422	0
Turn Type	Prot		Perm							Prot		
Protected Phases	7	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	52.0	52.0	52.0					42.0		24.0	70.0	
Effective Green, g (s)	52.0	52.0	52.0					42.0		24.0	70.0	
Actuated g/C Ratio	0.40	0.40	0.40					0.32		0.18	0.54	
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)	644	1274	576					1908		327	2738	
v/s Ratio Prot	0.44	c0.46						c0.36		c0.22	0.28	
v/s Ratio Perm			0.13									
v/c Ratio	1.10	1.16	0.31					2.06dr		1.19	0.52	
Uniform Delay, d1	39.0	39.0	26.8					44.0		53.0	19.2	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	65.2	81.0	0.3					56.9		111.7	0.2	
Delay (s)	104.2	120.0	27.1					100.9		164.7	19.4	
Level of Service	F	F	C					F		F	B	
Approach Delay (s)		107.5			0.0			100.9		50.6		
Approach LOS		F			A			F		D		

Intersection Summary			
HCM Average Control Delay	89.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	116.6%	ICU Level of Service	H
Analysis Period (min)	15		

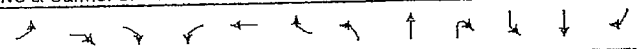
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	EBL	EBT	WBL	WBT	WBR	SBL	SBR
Lane Configurations							
Volume (vph)	75	429	0	393	107	84	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
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
Frt	1.00	1.00		0.97		1.00	0.85
Flt Protected	0.95	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1770	3539		3426		1770	1583
Flt Permitted	0.95	1.00		1.00		0.95	1.00
Satd. Flow (perm)	1770	3539		3426		1770	1583
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	83	477	0	437	119	93	58
RTOR Reduction (vph)	0	0	0	48	0	0	52
Lane Group Flow (vph)	83	477	0	508	0	93	6
Turn Type	Prot		Prot			Perm	
Protected Phases	7	4	3	8			
Permitted Phases						8	
Actuated Green, G (s)	2.1	15.0		8.9		2.9	2.9
Effective Green, g (s)	2.1	15.0		8.9		2.9	2.9
Actuated g/C Ratio	0.08	0.58		0.34		0.11	0.11
Clearance Time (s)	4.0	4.0		4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	144	2050		1177		198	177
v/s Ratio Prot	c0.05	0.13		c0.15		c0.02	
v/s Ratio Perm							0.00
v/c Ratio	0.58	0.23		0.43		0.47	0.04
Uniform Delay, d1	11.5	2.7		6.6		10.4	10.3
Progression Factor	1.00	1.00		1.00		1.00	1.00
Incremental Delay, d2	5.5	0.1		0.3		0.5	0.1
Delay (s)	17.0	2.7		6.8		10.9	10.3
Level of Service	B	A		A		B	B
Approach Delay (s)		4.6		6.8		10.6	
Approach LOS		A		A		B	

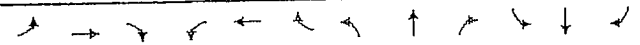
Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	25.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	31.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2	SBL	SBT	SBR
Lane Configurations														
Volume (vph)	100	300	330	150	273	86	400	978	340	687	370	210		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
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	0.88	1.00	1.00	1.00		1.00	0.95	1.00	0.97	0.95	1.00		
Frt	1.00	0.85	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85		
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		
Satd. Flow (prot)	1770	2787	1583	1770	1796		1770	3539	1583	3433	3539	1583		
Flt Permitted	0.52	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		
Satd. Flow (perm)	975	2787	1583	1770	1796		1770	3539	1583	3433	3539	1583		
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)	111	333	367	167	303	96	444	1087	378	763	411	233		
RTOR Reduction (vph)	0	0	305	0	13	0	0	0	174	0	0	172		
Lane Group Flow (vph)	111	333	62	167	386	0	444	1087	204	765	411	61		
Turn Type	custom	custom	custom		Prot			Prot		Perm	Prot		Perm	
Protected Phases					3	8		5	2		1	6		
Permitted Phases	4	4	4							2			6	
Actuated Green, G (s)	14.8	14.8	14.8		9.1	27.9		25.1	28.4	28.4	20.0	23.3	23.3	
Effective Green, g (s)	14.8	14.8	14.8		9.1	27.9		25.1	28.4	28.4	20.0	23.3	23.3	
Actuated g/C Ratio	0.17	0.17	0.17		0.10	0.32		0.29	0.32	0.32	0.23	0.26	0.26	
Clearance Time (s)	4.0	4.0	4.0		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	3.0	3.0	3.0	
Lane Grp Cap (vph)	163	467	265		182	567		503	1138	509	778	934	418	
v/s Ratio Prot					c0.09	c0.21		c0.25	c0.31		c0.22	0.12		
v/s Ratio Perm	0.11	0.12	0.04							0.13			0.04	
v/c Ratio	0.68	0.71	0.23		0.92	0.68		0.88	0.96	0.40	0.98	0.44	0.15	
Uniform Delay, d1	34.5	34.7	31.8		39.2	26.3		30.2	29.3	23.3	34.0	27.1	24.9	
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	11.1	5.1	0.5		43.4	3.4		16.6	16.9	0.5	27.4	0.3	0.2	
Delay (s)	45.6	39.8	32.3		82.6	29.7		46.8	46.2	23.8	61.4	27.4	25.1	
Level of Service	D	D	C		F	C		D	D	C	E	C	C	
Approach Delay (s)						45.3			41.9			45.1		
Approach LOS						D			D			D		

Intersection Summary				
HCM Average Control Delay	42.6	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	88.3	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												
Volume (vph)	1110	0	111	0	0	0	0	80	105	610	75	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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		0.97	0.95	
Frt	1.00	1.00	0.85					0.91		1.00	1.00	
Flt Protected	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1681	1681	1583					3238		3433	3539	
Flt Permitted	0.95	0.95	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1681	1681	1583					3238		3433	3539	
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)	1233	0	123	0	0	0	0	89	117	678	83	0
RTOR Reduction (vph)	0	0	65	0	0	0	0	104	0	0	0	0
Lane Group Flow (vph)	616	617	58	0	0	0	0	102	0	678	83	0
Turn Type	Prot		Perm							Prot		
Protected Phases	7	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	33.1	33.1	33.1					7.5		17.3	28.8	
Effective Green, g (s)	33.1	33.1	33.1					7.5		17.3	28.8	
Actuated g/C Ratio	0.47	0.47	0.47					0.11		0.25	0.41	
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)	796	796	750					347		850	1458	
v/s Ratio Prot	c0.37	c0.37						c0.03		c0.20	0.02	
v/s Ratio Perm			0.04									
v/c Ratio	0.77	0.78	0.08					0.29		0.80	0.06	
Uniform Delay, d1	15.3	15.3	10.1					28.8		24.7	12.4	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	4.7	4.7	0.0					0.5		5.3	0.0	
Delay (s)	20.0	20.1	10.1					29.2		29.9	12.4	
Level of Service	C	C	B					C		C	B	
Approach Delay (s)		19.1		0.0				29.2		26.0		
Approach LOS		B		A				C		C		

Intersection Summary				
HCM Average Control Delay	22.9	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	69.9	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	63.7%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	218	404	34	103	271	687	32	220	103	228	59	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost 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		0.97	1.00	
Frt	1.00	0.99		1.00	0.89		1.00	0.95		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3498		1770	3159		1770	1774		3433	1740	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3498		1770	3159		1770	1774		3433	1740	
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)	242	449	38	114	301	763	36	244	114	253	66	52
RTOR Reduction (vph)	0	8	0	0	262	0	0	22	0	0	36	0
Lane Group Flow (vph)	242	479	0	114	802	0	36	336	0	253	82	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)	11.8	26.9		7.7	22.8		3.4	17.8		7.0	21.4	
Effective Green, g (s)	11.8	26.9		7.7	22.8		3.4	17.8		7.0	21.4	
Actuated g/C Ratio	0.16	0.36		0.10	0.30		0.05	0.24		0.09	0.28	
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)	277	1248		181	955		80	419		319	494	
v/s Ratio Prot	c0.14	0.14		0.06	c0.26		0.02	c0.19		c0.07	c0.05	
v/s Ratio Perm												
v/c Ratio	0.87	0.38		0.63	1.03dr		0.45	0.80		0.79	0.17	
Uniform Delay, d1	31.1	18.1		32.5	24.6		35.1	27.1		33.5	20.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.8	0.2		6.7	6.7		4.0	10.6		12.7	0.2	
Delay (s)	55.9	18.3		39.2	31.3		39.1	37.7		46.2	20.5	
Level of Service	E	B		D	C		D	D		D	C	
Approach Delay (s)		30.7			32.1			37.8			36.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	75.4	Sum of lost time (s)	20.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane
c Critical Lane Group

Movement	SWL	SWR	SEL	SET	NWT	NWR	NWR2	SWL	SWR	NWR
Lane Configurations										
Volume (vph)	0	0	390	600	810	0	270	150	250	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)			4.0	4.0	4.0		4.0	4.0	4.0	
Lane Util. Factor			0.97	0.95	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)			3433	3539	3539		1583	3433	1583	
Flt Permitted			0.95	1.00	1.00		1.00	0.95	1.00	
Satd. Flow (perm)			3433	3539	3539		1583	3433	1583	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	0	0	433	667	900	0	300	167	278	
RTOR Reduction (vph)	0	0	0	0	0	0	89	0	168	
Lane Group Flow (vph)	0	0	433	667	900	0	211	167	110	
Turn Type			Prot				custom		custom	
Protected Phases			5	2	6		4			
Permitted Phases							2		6	
Actuated Green, G (s)			10.4	33.1	18.7		33.1	6.0	18.7	
Effective Green, g (s)			10.4	33.1	18.7		33.1	6.0	18.7	
Actuated g/C Ratio			0.22	0.70	0.40		0.70	0.13	0.40	
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)			758	2487	1405		1112	437	628	
v/s Ratio Prot			c0.13	0.19	c0.25			c0.05		
v/s Ratio Perm							0.13		0.07	
v/c Ratio			0.57	0.27	0.64		0.19	0.38	0.18	
Uniform Delay, d1			16.4	2.6	11.5		2.4	18.8	9.2	
Progression Factor			1.00	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2			1.0	0.1	1.0		0.1	0.6	0.1	
Delay (s)			17.4	2.6	12.5		2.5	19.4	9.3	
Level of Service			B	A	B		A	B	A	
Approach Delay (s)	0.0			8.4	10.0		13.1			
Approach LOS	A			A	A		B			

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	47.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL2	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR	SWL	SWT
Lane Configurations														
Volume (vph)	860	5	520	290	360	0	0	0	0	540	300	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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	1.00	0.97	0.95					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)	1681	1681	1583	3433	3539					3539	1583			
Flt Permitted	0.95	0.95	1.00	0.95	1.00					1.00	1.00			
Satd. Flow (perm)	1681	1681	1583	3433	3539					3539	1583			
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	0.90	0.90
Adj. Flow (vph)	956	6	578	322	400	0	0	0	0	600	333	0	0	0
RTOR Reduction (vph)	0	0	240	0	0	0	0	0	0	0	242	0	0	0
Lane Group Flow (vph)	478	484	338	322	400	0	0	0	0	600	91	0	0	0
Turn Type	Prot		Perm	Prot							Perm			
Protected Phases	7	4		1	6					2				
Permitted Phases			4								2			
Actuated Green, G (s)	22.1	22.1	22.1	8.0	27.9					15.9	15.9			
Effective Green, g (s)	22.1	22.1	22.1	8.0	27.9					15.9	15.9			
Actuated g/C Ratio	0.38	0.38	0.38	0.14	0.48					0.27	0.27			
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)	641	641	603	474	1702					970	434			
v/s Ratio Prot	0.28	c0.29		c0.09	0.11					c0.17				
v/s Ratio Perm			0.21								0.06			
v/c Ratio	0.75	0.76	0.56	0.68	0.24					0.62	0.21			
Uniform Delay, d1	15.5	15.6	14.1	23.8	8.8					18.4	16.2			
Progression Factor	1.00	1.00	1.00	1.00	1.00					1.00	1.00			
Incremental Delay, d2	4.7	5.0	1.2	3.9	0.1					1.2	0.2			
Delay (s)	20.2	20.6	15.3	27.6	8.9					19.6	16.5			
Level of Service	C	C	B	C	A					B	B			
Approach Delay (s)		19.5		17.2						18.5		0.0		
Approach LOS		B		B						B		A		

Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	58.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	Jacob Swim	Intersection	Carmel Creek Rd./Del Mar Trail
Agency/Co.	USAI	Jurisdiction	City of San Diego
Date Performed	11/2/2010	Analysis Year	2030
Analysis Time Period	36 Year 2030 PM		

Project ID 002407 - San Diego Corporate Center Lots

East/West Street: Del Mar Trail | North/South Street: Carmel Creek Road

Volume Adjustments and Site Characteristics

	Eastbound			Westbound		
Approach						
Movement	L	T	R	L	T	R
Volume (veh/h)	5	5	4	56	12	10
%Thrus Left Lane						

	Northbound			Southbound		
Approach						
Movement	L	T	R	L	T	R
Volume (veh/h)	12	740	101	15	393	10
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LTR		LTR		LT	TR	LT	TR
PHF	0.90		0.90		0.90	0.90	0.90	0.90
Flow Rate (veh/h)	14		86		424	523	233	229
% Heavy Vehicles	2		2		2	2	2	2
No. Lanes	1		1		2		2	
Geometry Group	2		2		5		5	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns	0.4		0.7		0.0	0.0	0.1	0.0
Prop. Right-Turns	0.3		0.1		0.0	0.2	0.0	0.0
Prop. Heavy Vehicle	0.0		0.0		0.0	0.0	0.0	0.0
hLT-adj	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	-0.1		0.1		0.0	-0.1	0.1	0.0

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
hd, initial value (s)	3.20		3.20		3.20	3.20	3.20	3.20
x, initial	0.01		0.08		0.38	0.46	0.21	0.20
hd, final value (s)	6.62		6.53		5.45	5.28	6.01	5.94
x, final value	0.03		0.16		0.64	0.77	0.39	0.38
Move-up time, m (s)	2.0		2.0		2.3		2.3	
Service Time, t_s (s)	4.6		4.5		3.1	3.0	3.7	3.6

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity (veh/h)	264		336		656	678	483	479
Delay (s/veh)	9.80		10.73		17.37	23.18	12.48	12.20
LOS	A		B		C	C	B	B
Approach: Delay (s/veh)	9.80		10.73		20.58		12.34	
LOS	A		B		C		B	
Intersection Delay (s/veh)	17.40							
Intersection LOS	C							

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