APPENDIX F

TRIP GENERATION COMPARISON

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PROJECT TRIP GENERATION COMPARISON

PROJECT WITHOUT CIVIC USES VS. PROJECT WITH CIVIC USES

Land Use	Size		Daily Trip Ends (ADTs)			AM Peak Hour						PM Peak Hour					
			Rate [a]		Volume	% of ADT	In:Out Split		Volume			% of ADT	In:Out Split		Volume		
									In	Out	Total				In	Out	Total
Project Trip Generation without Civic Uses (Analyzed)																	
Single Family Residential	450	DU	10	DU	4500	8%	30%	70%	108	252	360	10%	70%	30%	315	135	450
Total Driveway Trips (Without Civic Uses)					***4,500***				***108***	***252***	***360***				***315***	***135***	***450***
Project Trip Generation with Civic Uses (Current Description)																	
Single Family Residential [b]	453	DU	10	DU	4,530	8%	30%	70%	109	253	362	10%	70%	30%	317	136	453
Retail	5	KSF	40	KSF	200	3%	60%	40%	4	2	6	9%	50%	50%	9	9	18
Primary External Trips	45%		—		90	—	—	—	4	2	6	9%	50%	50%	4	4	8
Pass-by External Trips	55%		—		(110)	—	—	—	—	—	—	9%	50%	50%	(5)	(4)	(9)
Subtotal Primary Trips (With Civic Uses) [c]					*4,620*				*113*	*255*	*368*				*321*	*140*	*461*
Mixed Use Reduction	10%				(462)				(11)	(26)	(37)				(32)	(14)	(46)
Wastewater Reclamation Facility [d]					10				1	1	2				1	1	2
Resident/Visitor Rooms (4) [e]			10	DU	40	6%	60%	40%	1	1	2	8%	60%	40%	2	1	3
Total Primary Trips (With Civic Uses) [f]					*4,208*				*104*	*231*	*334*				*292*	*128*	*420*
Total Driveway Trips (With Civic Uses) [g]					***4,318***				***104***	***231***	***334***				***297***	***133***	***430***

Footnotes:

a. Rate is based on SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002.

b. With the proposed increase in units to 453 DU since the preparation of this traffic study analysis, an additional 30 ADT with 2 AM (1 inbound/ 1 outbound) and 3 PM (2 inbound/ 1 outbound) peak hour trips would be generated. With the addition of these trips, no change the conclusions of significance presented in this report would occur.

c. Equals "Residential" Plus "Primary Commercial"

d. The Wastewater Reclamation Facility site-specific trip generation is consistent with other projects in the area.

e. The visitor rooms are civic uses reserved exclusively for residents. Nonetheless, a "hotel" rate was applied and is considered conservative.

f. Equals "Primary" minus "Mixed Use Reduction"

g. Equals "Total Project" minus "Mixed Use Reduction"

General Notes:

1. ADT = Average daily traffic, rounded to the nearest tenth.
2. DU = Dwelling Units

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APPENDIX G

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS
EXISTING + PROJECT

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	442	7	145	417	492	0	0	565	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.6	5.6	5.6	5.2	5.6			5.6	5.6
Lane Util. Factor				0.95	0.91	0.95	0.97	0.95			0.91	1.00
Frt				1.00	0.99	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1606	1504	3433	3539			5085	1583
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1606	1504	3433	3539			5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	480	8	158	453	535	0	0	614	323
RTOR Reduction (vph)	0	0	0	0	3	110	0	0	0	0	0	189
Lane Group Flow (vph)	0	0	0	254	247	32	453	535	0	0	614	134
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				22.4	22.4	22.4	19.8	66.4			41.4	41.4
Effective Green, g (s)				22.4	22.4	22.4	19.8	66.4			41.4	41.4
Actuated g/C Ratio				0.22	0.22	0.22	0.20	0.66			0.41	0.41
Clearance Time (s)				5.6	5.6	5.6	5.2	5.6			5.6	5.6
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				377	360	337	680	2350			2105	655
v/s Ratio Prot				0.15	c0.15		c0.13	0.15			c0.12	
v/s Ratio Perm						0.02						0.08
v/c Ratio				0.67	0.69	0.09	0.67	0.23			0.29	0.20
Uniform Delay, d1				35.5	35.6	30.8	37.0	6.7			19.5	18.8
Progression Factor				1.00	1.00	1.00	0.70	0.52			1.00	1.00
Incremental Delay, d2				4.7	5.3	0.1	2.2	0.2			0.4	0.7
Delay (s)				40.2	40.9	30.9	28.0	3.6			19.9	19.5
Level of Service				D	D	C	C	A			B	B
Approach Delay (s)		0.0			38.4			14.8			19.7	
Approach LOS		A			D			B			B	

Intersection Summary			
HCM Average Control Delay	22.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	248	137	687	0	0	0	0	661	414	189	818	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6					5.6	5.6	5.2	5.5	
Lane Util. Factor	0.95	0.91	0.95					0.95	0.88	0.97	0.95	
Frt	1.00	0.91	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1531	1504					3539	2787	3433	3539	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1531	1504					3539	2787	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	270	149	747	0	0	0	0	718	450	205	889	0
RTOR Reduction (vph)	0	56	56	0	0	0	0	0	278	0	0	0
Lane Group Flow (vph)	243	419	392	0	0	0	0	718	172	205	889	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	35.1	35.1	35.1					38.2	38.2	10.3	53.8	
Effective Green, g (s)	35.1	35.1	35.1					38.2	38.2	10.3	53.8	
Actuated g/C Ratio	0.35	0.35	0.35					0.38	0.38	0.10	0.54	
Clearance Time (s)	5.6	5.6	5.6					5.6	5.6	5.2	5.5	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	590	537	528					1352	1065	354	1904	
v/s Ratio Prot	0.14	c0.27						c0.20		0.06	c0.25	
v/s Ratio Perm			0.26						0.06			
v/c Ratio	0.41	0.78	0.74					0.53	0.16	0.58	0.47	
Uniform Delay, d1	24.6	29.0	28.5					24.0	20.4	42.8	14.3	
Progression Factor	1.00	1.00	1.00					0.57	0.91	1.11	0.38	
Incremental Delay, d2	0.5	7.2	5.6					1.4	0.3	2.2	0.8	
Delay (s)	25.1	36.3	34.1					15.0	18.8	49.5	6.2	
Level of Service	C	D	C					B	B	D	A	
Approach Delay (s)		33.1			0.0			16.5			14.3	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.7
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	294	168	63	339	205	207	603	30	364	774	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	4902	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	4902	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	283	320	183	68	368	223	225	655	33	396	841	266
RTOR Reduction (vph)	0	0	134	0	0	182	0	0	17	0	51	0
Lane Group Flow (vph)	283	320	49	68	368	41	225	655	16	396	1056	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	13.5	26.7	26.7	4.0	18.2	18.2	11.0	33.8	33.8	15.5	38.3	
Effective Green, g (s)	13.5	26.7	26.7	4.0	18.2	18.2	11.0	33.8	33.8	15.5	38.3	
Actuated g/C Ratio	0.14	0.27	0.27	0.04	0.18	0.18	0.11	0.34	0.34	0.16	0.38	
Clearance Time (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	463	945	423	137	644	288	378	1719	535	532	1877	
v/s Ratio Prot	c0.08	0.09		0.02	c0.10		c0.07	0.13		c0.12	c0.22	
v/s Ratio Perm			0.03			0.03			0.01			
v/c Ratio	0.61	0.34	0.12	0.50	0.57	0.14	0.60	0.38	0.03	0.74	0.56	
Uniform Delay, d1	40.8	29.5	27.7	47.0	37.3	34.3	42.4	25.2	22.1	40.4	24.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.21	0.81	
Incremental Delay, d2	2.4	0.2	0.1	2.8	1.2	0.2	2.5	0.6	0.1	4.7	1.0	
Delay (s)	43.2	29.7	27.8	49.8	38.6	34.6	44.9	25.8	22.2	53.5	20.7	
Level of Service	D	C	C	D	D	C	D	C	C	D	C	
Approach Delay (s)		34.1			38.4			30.4			29.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	32.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	59.0%	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)	251	0	19	0	0	0	83	533	1	64	902	178
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	1.00		1.00				1.00	0.95		1.00	0.95	
Frt	1.00		0.85				1.00	1.00		1.00	0.98	
Flt Protected	0.95		1.00				0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770		1583				1770	3538		1770	3452	
Flt Permitted	0.76		1.00				0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1410		1583				1770	3538		1770	3452	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	273	0	21	0	0	0	90	579	1	70	980	193
RTOR Reduction (vph)	0	0	16	0	0	0	0	0	0	0	16	0
Lane Group Flow (vph)	273	0	5	0	0	0	90	580	0	70	1157	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)	20.2		20.2				7.2	42.1		6.5	41.4	
Effective Green, g (s)	20.2		20.2				7.2	42.1		6.5	41.4	
Actuated g/C Ratio	0.25		0.25				0.09	0.52		0.08	0.51	
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)	353		396				158	1843		142	1769	
v/s Ratio Prot							c0.05	0.16		0.04	c0.34	
v/s Ratio Perm	c0.19		0.00									
v/c Ratio	0.77		0.01				0.57	0.31		0.49	0.65	
Uniform Delay, d1	28.2		22.8				35.3	11.1		35.6	14.5	
Progression Factor	1.00		1.00				1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.1		0.0				4.7	0.4		2.7	1.9	
Delay (s)	38.3		22.8				40.0	11.5		38.3	16.4	
Level of Service	D		C				D	B		D	B	
Approach Delay (s)		37.2			0.0			15.4			17.6	
Approach LOS		D			A			B			B	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	80.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	129	113	160	340	139	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	123	174	370	151	196
RTOR Reduction (vph)	0	105	0	0	0	81
Lane Group Flow (vph)	140	18	174	370	151	115
Turn Type		Perm	Prot			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	7.7	7.7	11.0	23.2	19.1	30.1
Effective Green, g (s)	7.7	7.7	11.0	23.2	19.1	30.1
Actuated g/C Ratio	0.15	0.15	0.21	0.45	0.37	0.59
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	280	238	380	843	659	1068
v/s Ratio Prot	0.08		0.10	c0.20	c0.09	0.02
v/s Ratio Perm		0.01				0.05
v/c Ratio	0.50	0.08	0.46	0.44	0.23	0.11
Uniform Delay, d1	20.0	18.7	17.6	9.6	11.0	4.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.1	0.9	0.4	0.8	0.0
Delay (s)	21.4	18.9	18.4	10.0	11.9	4.7
Level of Service	C	B	B	A	B	A
Approach Delay (s)	20.2			12.7	7.8	
Approach LOS	C			B	A	

Intersection Summary			
HCM Average Control Delay	12.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	34.6%	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 (veh/h)	0	0	10	0	0	226	8	190	82	0	361	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	11	0	0	246	9	207	89	0	392	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	759	705	196	431	616	103	392			296		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	759	705	196	431	616	103	392			296		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	100	100	74	99			100		
cM capacity (veh/h)	216	357	812	499	401	932	1163			1263		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	11	246	9	103	103	89	262	131
Volume Left	0	0	9	0	0	0	0	0
Volume Right	11	246	0	0	0	89	0	0
cSH	812	932	1163	1700	1700	1700	1700	1700
Volume to Capacity	0.01	0.26	0.01	0.06	0.06	0.05	0.15	0.08
Queue Length 95th (ft)	1	27	1	0	0	0	0	0
Control Delay (s)	9.5	10.2	8.1	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B	A					
Approach Delay (s)	9.5	10.2	0.2				0.0	
Approach LOS	A	B						

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	25.9%	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)	336	758	0	0	778	177	317	3	341	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.5			5.5	5.5		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.91	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
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	5085			5085	1556		1775	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			5085	1556		1775	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	365	824	0	0	846	192	345	3	371	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	130	0	0	82	0	0	0
Lane Group Flow (vph)	365	824	0	0	846	62	0	348	289	0	0	0
Confl. Peds. (#/hr)			2			3	6					
Turn Type	Prot	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	16.4	54.5			33.9	33.9		40.4	40.4			
Effective Green, g (s)	16.4	54.5			33.9	33.9		40.4	40.4			
Actuated g/C Ratio	0.16	0.52			0.32	0.32		0.38	0.38			
Clearance Time (s)	4.2	5.5			5.5	5.5		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	536	2639			1641	502		682	609			
v/s Ratio Prot	c0.11	0.16			c0.17			c0.20				
v/s Ratio Perm						0.04			0.18			
v/c Ratio	0.68	0.31			0.52	0.12		0.51	0.47			
Uniform Delay, d1	41.8	14.5			28.9	25.1		24.7	24.3			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.6	0.3			1.2	0.5		2.7	2.6			
Delay (s)	45.4	14.8			30.0	25.6		27.4	27.0			
Level of Service	D	B			C	C		C	C			
Approach Delay (s)		24.2			29.2			27.2			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	101	791	78	103	834	158	37	42	90	213	101	464
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.5	5.5	4.2	5.5	5.5	4.6	4.6	4.6		4.6	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.81	0.81	1.00	1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	1.00		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.99	
Satd. Flow (prot)	3433	5085	1560	3433	6017	1258	1770	1863	1583		3179	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.99	
Satd. Flow (perm)	3433	5085	1560	3433	6017	1258	1770	1863	1583		3179	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	110	860	85	112	907	172	40	46	98	232	110	504
RTOR Reduction (vph)	0	0	52	0	2	94	0	0	87	0	276	0
Lane Group Flow (vph)	110	860	33	112	922	61	40	46	11	0	570	0
Confl. Peds. (#/hr)			2			5						
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2			6			3			
Actuated Green, G (s)	8.9	42.1	42.1	10.3	43.5	43.5	12.0	12.0	12.0		26.7	
Effective Green, g (s)	8.9	42.1	42.1	10.3	43.5	43.5	12.0	12.0	12.0		26.7	
Actuated g/C Ratio	0.08	0.38	0.38	0.09	0.40	0.40	0.11	0.11	0.11		0.24	
Clearance Time (s)	4.2	5.5	5.5	4.2	5.5	5.5	4.6	4.6	4.6		4.6	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	277	1946	597	321	2379	497	193	203	172		771	
v/s Ratio Prot	0.03	c0.17		c0.03	0.15		0.02	c0.02			c0.18	
v/s Ratio Perm			0.02			0.05			0.01			
v/c Ratio	0.40	0.44	0.05	0.35	0.39	0.12	0.21	0.23	0.06		0.74	
Uniform Delay, d1	48.0	25.2	21.4	46.7	23.7	21.1	44.7	44.8	44.0		38.4	
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	0.9	0.7	0.2	0.7	0.1	0.1	0.5	0.6	0.2		3.7	
Delay (s)	48.9	26.0	21.6	47.4	23.8	21.2	45.2	45.3	44.1		42.2	
Level of Service	D	C	C	D	C	C	D	D	D		D	
Approach Delay (s)		28.0			25.7			44.6			42.2	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	72.7%	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)	179	368	320	75	584	31	229	708	39	98	857	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	3.0	5.0	5.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	0.93		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3292		3433	3512		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3292		3433	3512		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	195	400	348	82	635	34	249	770	42	107	932	609
RTOR Reduction (vph)	0	149	0	0	4	0	0	0	28	0	0	14
Lane Group Flow (vph)	195	599	0	82	665	0	249	770	14	107	932	595
Turn Type	Prot			Prot			Prot		Perm	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases									2			6
Actuated Green, G (s)	15.1	33.1		3.9	21.9		9.8	31.3	31.3	5.4	24.9	40.0
Effective Green, g (s)	15.1	33.1		3.9	21.9		9.8	31.3	31.3	5.4	24.9	40.0
Actuated g/C Ratio	0.16	0.36		0.04	0.24		0.11	0.34	0.34	0.06	0.27	0.44
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	3.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	565	1188		146	839		367	1736	540	202	1381	777
v/s Ratio Prot	0.06	0.18		0.02	c0.19		c0.07	0.15		0.03	0.18	c0.13
v/s Ratio Perm									0.01			0.25
v/c Ratio	0.35	0.50		0.56	0.79		0.68	0.44	0.03	0.53	0.67	0.77
Uniform Delay, d1	33.9	22.9		43.1	32.8		39.4	23.4	20.1	41.9	29.8	21.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.3		4.9	5.2		4.9	0.8	0.1	2.5	2.7	4.5
Delay (s)	34.3	23.2		47.9	38.0		44.4	24.3	20.2	44.4	32.4	26.4
Level of Service	C	C		D	D		D	C	C	D	C	C
Approach Delay (s)		25.5			39.0			28.8			31.0	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	166	198	12	122	271	146	7	635	141	93	1083	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.99		1.00	0.95		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3509		1770	3353		1770	4947		1770	4938	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3509		1770	3353		1770	4947		1770	4938	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	180	215	13	133	295	159	8	690	153	101	1177	282
RTOR Reduction (vph)	0	5	0	0	83	0	0	31	0	0	33	0
Lane Group Flow (vph)	180	223	0	133	371	0	8	812	0	101	1426	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.2	18.2		10.2	16.2		0.7	34.5		7.8	41.6	
Effective Green, g (s)	12.2	18.2		10.2	16.2		0.7	34.5		7.8	41.6	
Actuated g/C Ratio	0.13	0.20		0.11	0.18		0.01	0.38		0.09	0.46	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	238	704		199	599		14	1882		152	2265	
v/s Ratio Prot	c0.10	0.06		0.08	c0.11		0.00	0.16		c0.06	c0.29	
v/s Ratio Perm												
v/c Ratio	0.76	0.32		0.67	0.62		0.57	0.43		0.66	0.63	
Uniform Delay, d1	37.8	30.9		38.6	34.4		44.9	20.8		40.2	18.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.8	0.3		8.2	1.9		46.0	0.7		10.4	1.3	
Delay (s)	50.6	31.2		46.8	36.3		90.8	21.6		50.6	20.0	
Level of Service	D	C		D	D		F	C		D	C	
Approach Delay (s)		39.8			38.7			22.2			22.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.7	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	63	19	24	14	42	49	20	695	6	25	1012	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.92		1.00	0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1708		1770	1713		1770	3534		1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1708		1770	1713		1770	3534		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	21	26	15	46	53	22	755	7	27	1100	51
RTOR Reduction (vph)	0	23	0	0	48	0	0	1	0	0	0	25
Lane Group Flow (vph)	68	24	0	15	51	0	22	761	0	27	1100	26
Turn Type	Split			Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	6.3	6.3		6.0	6.0		0.7	31.2		1.9	32.4	32.4
Effective Green, g (s)	6.3	6.3		6.0	6.0		0.7	31.2		1.9	32.4	32.4
Actuated g/C Ratio	0.10	0.10		0.09	0.09		0.01	0.49		0.03	0.51	0.51
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	176	170		168	162		20	1739		53	1809	809
v/s Ratio Prot	c0.04	0.01		0.01	c0.03		0.01	0.22		c0.02	c0.31	
v/s Ratio Perm												0.02
v/c Ratio	0.39	0.14		0.09	0.31		1.10	0.44		0.51	0.61	0.03
Uniform Delay, d1	26.7	26.1		26.2	26.8		31.3	10.4		30.3	11.0	7.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	0.4		0.2	1.1		234.8	0.8		7.5	1.5	0.1
Delay (s)	28.1	26.4		26.4	27.9		266.1	11.2		37.8	12.5	7.8
Level of Service	C	C		C	C		F	B		D	B	A
Approach Delay (s)		27.5			27.7			18.4			12.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	63.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	45.6%	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)	132	9	388	80	11	46	308	283	38	123	926	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3477		1770	3513	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	3477		1770	3513	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	143	10	422	87	12	50	335	308	41	134	1007	53
RTOR Reduction (vph)	0	0	310	0	0	46	0	9	0	0	4	0
Lane Group Flow (vph)	143	10	112	87	12	4	335	340	0	134	1056	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	10.2	12.1	12.1	5.7	7.6	7.6	20.1	39.9		11.7	31.5	
Effective Green, g (s)	10.2	12.1	12.1	5.7	7.6	7.6	20.1	39.9		11.7	31.5	
Actuated g/C Ratio	0.12	0.14	0.14	0.07	0.09	0.09	0.23	0.46		0.13	0.36	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	207	258	219	115	162	138	407	1587		237	1266	
v/s Ratio Prot	c0.08	0.01		0.05	0.01		c0.19	0.10		0.08	c0.30	
v/s Ratio Perm			c0.07			0.00						
v/c Ratio	0.69	0.04	0.51	0.76	0.07	0.03	0.82	0.21		0.57	0.83	
Uniform Delay, d1	37.1	32.6	34.9	40.2	36.7	36.5	32.0	14.3		35.5	25.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.5	0.1	2.0	24.3	0.2	0.1	12.6	0.1		3.1	4.9	
Delay (s)	46.6	32.7	36.9	64.5	36.9	36.6	44.6	14.4		38.5	30.5	
Level of Service	D	C	D	E	D	D	D	B		D	C	
Approach Delay (s)		39.3			52.9			29.2			31.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	557	661	121	1172	0	0	0	0	155	7	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.2	5.0					4.6	4.6	4.6
Lane Util. Factor		0.95	1.00	1.00	0.95					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.97	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.96	1.00
Satd. Flow (prot)		3374	1467	1687	3374					1603	1615	1509
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.96	1.00
Satd. Flow (perm)		3374	1467	1687	3374					1603	1615	1509
Peak-hour factor, PHF	0.92	0.78	0.94	0.69	0.86	0.92	0.92	0.92	0.92	0.78	0.58	0.76
Adj. Flow (vph)	0	714	703	175	1363	0	0	0	0	199	12	96
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	36
Lane Group Flow (vph)	0	714	703	175	1363	0	0	0	0	105	106	60
Confl. Peds. (#/hr)			11									
Confl. Bikes (#/hr)			4									
Heavy Vehicles (%)	2%	7%	7%	7%	7%	2%	2%	2%	2%	7%	7%	7%
Turn Type			Perm	Prot						Split		custom
Protected Phases		2		1	6					4	4	4 5
Permitted Phases			2									4
Actuated Green, G (s)		46.5	46.5	13.3	55.8					11.4	11.4	20.2
Effective Green, g (s)		46.5	46.5	13.3	55.8					11.4	11.4	20.2
Actuated g/C Ratio		0.55	0.55	0.16	0.66					0.13	0.13	0.24
Clearance Time (s)		5.0	5.0	4.2	5.0					4.6	4.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1846	803	264	2215					215	217	359
v/s Ratio Prot		0.21		c0.10	0.40					0.07	c0.07	0.04
v/s Ratio Perm			c0.48									
v/c Ratio		0.39	0.88	0.66	0.62					0.49	0.49	0.17
Uniform Delay, d1		11.1	16.7	33.7	8.4					34.1	34.1	25.7
Progression Factor		1.00	1.00	1.11	1.11					1.00	1.00	1.00
Incremental Delay, d2		0.6	12.8	5.4	1.0					1.7	1.7	0.2
Delay (s)		11.7	29.6	42.7	10.4					35.8	35.8	25.9
Level of Service		B	C	D	B					D	D	C
Approach Delay (s)		20.5			14.1			0.0			32.7	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	112	600	0	0	635	303	658	1	178	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.0			5.0	5.0	4.6	4.6	4.6			
Lane Util. Factor	0.97	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3273	3374			3374	1476	1603	1607	1509			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3273	3374			3374	1476	1603	1607	1509			
Peak-hour factor, PHF	0.82	0.80	0.92	0.92	0.88	0.88	0.83	0.25	0.74	0.92	0.92	0.92
Adj. Flow (vph)	137	750	0	0	722	344	793	4	241	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	201	0	0	116	0	0	0
Lane Group Flow (vph)	137	750	0	0	722	143	396	401	125	0	0	0
Confl. Peds. (#/hr)						7						
Heavy Vehicles (%)	7%	7%	2%	2%	7%	7%	7%	7%	7%	2%	2%	2%
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	8.9	48.5			35.4	35.4	26.9	26.9	26.9			
Effective Green, g (s)	8.9	48.5			35.4	35.4	26.9	26.9	26.9			
Actuated g/C Ratio	0.10	0.57			0.42	0.42	0.32	0.32	0.32			
Clearance Time (s)	4.2	5.0			5.0	5.0	4.6	4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	343	1925			1405	615	507	509	478			
v/s Ratio Prot	0.04	c0.22			c0.21		0.25	c0.25				
v/s Ratio Perm						0.10			0.08			
v/c Ratio	0.40	0.39			0.51	0.23	0.78	0.79	0.26			
Uniform Delay, d1	35.6	10.1			18.4	16.0	26.4	26.5	21.6			
Progression Factor	1.63	0.80			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.7	0.6			0.3	0.2	7.7	7.9	0.3			
Delay (s)	58.8	8.6			18.7	16.2	34.0	34.4	21.9			
Level of Service	E	A			B	B	C	C	C			
Approach Delay (s)		16.4			17.9			31.4			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	8	77	173	15	72	123
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	84	188	16	78	134

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	92	204	212
Volume Left (vph)	9	0	78
Volume Right (vph)	84	16	0
Hadj (s)	-0.49	-0.01	0.11
Departure Headway (s)	4.3	4.3	4.4
Degree Utilization, x	0.11	0.25	0.26
Capacity (veh/h)	755	805	782
Control Delay (s)	7.9	8.7	9.0
Approach Delay (s)	7.9	8.7	9.0
Approach LOS	A	A	A

Intersection Summary			
Delay	8.7		
HCM Level of Service	A		
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	168	214	144	16	6	176
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	183	233	157	17	7	191

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	183	233	157	17	7	191
Volume Left (vph)	183	0	0	0	7	0
Volume Right (vph)	0	0	0	17	0	191
Hadj (s)	0.53	0.03	0.03	-0.67	0.53	-0.67
Departure Headway (s)	5.8	5.3	5.6	4.8	6.4	5.2
Degree Utilization, x	0.29	0.34	0.24	0.02	0.01	0.28
Capacity (veh/h)	598	660	617	698	521	638
Control Delay (s)	10.0	9.8	9.1	6.8	8.3	9.1
Approach Delay (s)	9.9		8.9		9.0	
Approach LOS	A		A		A	

Intersection Summary			
Delay	9.4		
HCM Level of Service	A		
Intersection Capacity Utilization	30.2%	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)	48	202	12	84	383	2	26	66	197	2	31	127
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		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.91		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1770	1847		1770	1863	1583		1684		1770	1639	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	1770	1847		1770	1863	1583		1684		1770	1639	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	220	13	91	416	2	28	72	214	2	34	138
RTOR Reduction (vph)	0	3	0	0	0	1	0	96	0	0	107	0
Lane Group Flow (vph)	52	230	0	91	416	1	0	218	0	2	65	0
Turn Type	Prot			Prot		pm+ov	Split			Split		
Protected Phases	5	2		1	6	4	8	8		4	4	
Permitted Phases						6						
Actuated Green, G (s)	3.2	24.8		4.0	25.6	43.6		18.0		18.0	18.0	
Effective Green, g (s)	3.2	24.8		4.0	25.6	43.6		18.0		18.0	18.0	
Actuated g/C Ratio	0.04	0.31		0.05	0.32	0.54		0.22		0.22	0.22	
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)	70	567		88	590	933		375		394	365	
v/s Ratio Prot	0.03	0.12		c0.05	c0.22	0.00		c0.13		0.00	c0.04	
v/s Ratio Perm						0.00						
v/c Ratio	0.74	0.41		1.03	0.71	0.00		0.58		0.01	0.18	
Uniform Delay, d1	38.4	22.2		38.4	24.3	8.6		28.0		24.4	25.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	34.2	2.2		105.5	6.9	0.0		6.4		0.0	1.1	
Delay (s)	72.6	24.3		143.9	31.2	8.6		34.4		24.5	26.5	
Level of Service	E	C		F	C	A		C		C	C	
Approach Delay (s)		33.1			51.3			34.4			26.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	39.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	68	15	435	38	22	299
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	16	473	41	24	325
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			90		1069	82
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			90		1069	82
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			69		86	67
cM capacity (veh/h)			1505		168	978

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	90	514	349
Volume Left	0	473	24
Volume Right	16	0	325
cSH	1700	1505	735
Volume to Capacity	0.05	0.31	0.47
Queue Length 95th (ft)	0	34	64
Control Delay (s)	0.0	8.0	14.2
Lane LOS		A	B
Approach Delay (s)	0.0	8.0	14.2
Approach LOS			B

Intersection Summary			
Average Delay	9.5		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	111	1	319	70	40	2	230	234	10	366	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1860		1770	1762		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1860		1770	1762		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	101	121	1	347	76	43	2	250	254	11	398	79
RTOR Reduction (vph)	0	0	0	0	24	0	0	0	155	0	0	48
Lane Group Flow (vph)	101	122	0	347	95	0	2	250	99	11	398	31
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	7.4	8.3		18.2	19.1		0.6	28.8	28.8	0.6	28.8	28.8
Effective Green, g (s)	7.4	8.3		18.2	19.1		0.6	28.8	28.8	0.6	28.8	28.8
Actuated g/C Ratio	0.10	0.11		0.25	0.26		0.01	0.39	0.39	0.01	0.39	0.39
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	177	209		436	455		14	726	617	14	726	617
v/s Ratio Prot	0.06	c0.07		c0.20	0.05		0.00	0.13		c0.01	c0.21	
v/s Ratio Perm									0.06			0.02
v/c Ratio	0.57	0.58		0.80	0.21		0.14	0.34	0.16	0.79	0.55	0.05
Uniform Delay, d1	31.7	31.2		26.1	21.5		36.4	15.9	14.7	36.6	17.5	14.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	4.1		9.7	0.2		4.7	1.3	0.6	130.6	3.0	0.2
Delay (s)	36.1	35.3		35.8	21.7		41.1	17.2	15.2	167.2	20.5	14.2
Level of Service	D	D		D	C		D	B	B	F	C	B
Approach Delay (s)		35.7			32.2			16.3			22.8	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM Average Control Delay	25.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	73.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	485	5	248	522	890	0	0	740	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				5.6	5.6	5.6	5.2	5.6			5.6	5.6
Lane Util. Factor				0.95	0.91	0.95	0.97	0.95			0.91	1.00
Frt				1.00	0.99	0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1681	1600	1504	3433	3539			5085	1583
Flt Permitted				0.95	0.96	1.00	0.95	1.00			1.00	1.00
Satd. Flow (perm)				1681	1600	1504	3433	3539			5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	527	5	270	567	967	0	0	804	378
RTOR Reduction (vph)	0	0	0	0	5	76	0	0	0	0	0	234
Lane Group Flow (vph)	0	0	0	279	275	167	567	967	0	0	804	144
Turn Type				Split		Perm	Prot					Perm
Protected Phases				8	8		5	2			6	
Permitted Phases						8						6
Actuated Green, G (s)				24.9	24.9	24.9	20.5	63.9			38.2	38.2
Effective Green, g (s)				24.9	24.9	24.9	20.5	63.9			38.2	38.2
Actuated g/C Ratio				0.25	0.25	0.25	0.20	0.64			0.38	0.38
Clearance Time (s)				5.6	5.6	5.6	5.2	5.6			5.6	5.6
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				419	398	374	704	2261			1942	605
v/s Ratio Prot				0.17	c0.17		c0.17	c0.27			0.16	
v/s Ratio Perm						0.11						0.09
v/c Ratio				0.67	0.69	0.45	0.81	0.43			0.41	0.24
Uniform Delay, d1				33.8	34.1	31.7	37.9	9.0			22.7	21.0
Progression Factor				1.00	1.00	1.00	1.40	0.13			1.00	1.00
Incremental Delay, d2				4.0	5.1	0.9	4.2	0.4			0.7	0.9
Delay (s)				37.8	39.2	32.6	57.1	1.6			23.3	21.9
Level of Service				D	D	C	E	A			C	C
Approach Delay (s)		0.0			36.7			22.1			22.9	
Approach LOS		A			D			C			C	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	343	56	518	0	0	0	0	1069	525	366	859	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6					5.6	5.6	5.2	5.6	
Lane Util. Factor	0.95	0.91	0.95					0.95	0.88	0.97	0.95	
Frt	1.00	0.89	0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1507	1504					3539	2787	3433	3539	
Flt Permitted	0.95	0.99	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1507	1504					3539	2787	3433	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	373	61	563	0	0	0	0	1162	571	398	934	0
RTOR Reduction (vph)	0	87	87	0	0	0	0	0	338	0	0	0
Lane Group Flow (vph)	336	247	240	0	0	0	0	1162	233	398	934	0
Turn Type	Split		Perm						Perm	Prot		
Protected Phases	4	4						2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	27.3	27.3	27.3					39.5	39.5	16.8	61.5	
Effective Green, g (s)	27.3	27.3	27.3					39.5	39.5	16.8	61.5	
Actuated g/C Ratio	0.27	0.27	0.27					0.40	0.40	0.17	0.62	
Clearance Time (s)	5.6	5.6	5.6					5.6	5.6	5.2	5.6	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	459	411	411					1398	1101	577	2176	
v/s Ratio Prot	c0.20	0.16						c0.33		c0.12	0.26	
v/s Ratio Perm			0.16						0.08			
v/c Ratio	0.73	0.60	0.59					0.83	0.21	0.69	0.43	
Uniform Delay, d1	33.0	31.6	31.5					27.2	20.0	39.1	10.1	
Progression Factor	1.00	1.00	1.00					0.48	0.11	1.02	1.14	
Incremental Delay, d2	5.9	2.5	2.1					4.5	0.3	3.1	0.6	
Delay (s)	39.0	34.1	33.6					17.5	2.6	43.2	12.1	
Level of Service	D	C	C					B	A	D	B	
Approach Delay (s)		35.6			0.0			12.6			21.4	
Approach LOS		D			A			B			C	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	311	485	183	37	362	438	330	940	44	172	563	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	4789	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	3539	1583	3433	3539	1583	3433	5085	1583	3433	4789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	338	527	199	40	393	476	359	1022	48	187	612	389
RTOR Reduction (vph)	0	0	141	0	0	214	0	0	17	0	115	0
Lane Group Flow (vph)	338	527	58	40	393	262	359	1022	31	187	886	0
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	15.2	29.3	29.3	8.2	22.3	22.3	12.5	32.5	32.5	10.0	30.0	
Effective Green, g (s)	15.2	29.3	29.3	8.2	22.3	22.3	12.5	32.5	32.5	10.0	30.0	
Actuated g/C Ratio	0.15	0.29	0.29	0.08	0.22	0.22	0.12	0.32	0.32	0.10	0.30	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	522	1037	464	282	789	353	429	1653	514	343	1437	
v/s Ratio Prot	c0.10	0.15		0.01	0.11		c0.10	c0.20		0.05	c0.19	
v/s Ratio Perm			0.04			c0.17			0.02			
v/c Ratio	0.65	0.51	0.13	0.14	0.50	0.74	0.84	0.62	0.06	0.55	0.62	
Uniform Delay, d1	39.9	29.4	25.9	42.6	34.0	36.2	42.8	28.5	23.2	42.8	30.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.79	
Incremental Delay, d2	2.8	0.4	0.1	0.2	0.5	8.2	13.3	1.7	0.2	1.6	1.8	
Delay (s)	42.6	29.8	26.1	42.9	34.5	44.4	56.0	30.3	23.5	39.3	25.4	
Level of Service	D	C	C	D	C	D	E	C	C	D	C	
Approach Delay (s)		33.2			40.0			36.5			27.6	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
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)	254	0	38	0	0	1	68	918	1	80	654	290
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		0.85		1.00	1.00		1.00	0.95	
Flt Protected	0.95		1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770		1583		1583		1770	3539		1770	3376	
Flt Permitted	0.76		1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1410		1583		1583		1770	3539		1770	3376	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	276	0	41	0	0	1	74	998	1	87	711	315
RTOR Reduction (vph)	0	0	31	0	1	0	0	0	0	0	48	0
Lane Group Flow (vph)	276	0	10	0	0	0	74	999	0	87	978	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)	20.3		20.3		20.3		6.5	41.5		7.1	42.1	
Effective Green, g (s)	20.3		20.3		20.3		6.5	41.5		7.1	42.1	
Actuated g/C Ratio	0.25		0.25		0.25		0.08	0.51		0.09	0.52	
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)	354		397		397		142	1815		155	1757	
v/s Ratio Prot					0.00		0.04	0.28		c0.05	c0.29	
v/s Ratio Perm	c0.20		0.01									
v/c Ratio	0.78		0.03		0.00		0.52	0.55		0.56	0.56	
Uniform Delay, d1	28.2		22.8		22.7		35.7	13.4		35.4	13.1	
Progression Factor	1.00		1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.4		0.0		0.0		3.4	1.2		4.6	1.3	
Delay (s)	38.6		22.9		22.7		39.1	14.6		40.0	14.4	
Level of Service	D		C		C		D	B		D	B	
Approach Delay (s)		36.6			22.7			16.3			16.4	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	80.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	287	190	249	160	133	468
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	312	207	271	174	145	509
RTOR Reduction (vph)	0	154	0	0	0	135
Lane Group Flow (vph)	312	53	271	174	145	374
Turn Type		Perm	Prot			pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Actuated Green, G (s)	14.9	14.9	13.2	32.6	16.5	29.7
Effective Green, g (s)	14.9	14.9	13.2	32.6	16.5	29.7
Actuated g/C Ratio	0.26	0.26	0.23	0.56	0.28	0.51
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	478	406	402	1045	503	932
v/s Ratio Prot	c0.17		c0.15	0.09	0.08	c0.09
v/s Ratio Perm		0.03				0.15
v/c Ratio	0.65	0.13	0.67	0.17	0.29	0.40
Uniform Delay, d1	19.3	16.6	20.5	6.2	16.2	8.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	0.1	4.4	0.1	1.4	0.3
Delay (s)	22.5	16.8	24.9	6.2	17.7	9.0
Level of Service	C	B	C	A	B	A
Approach Delay (s)	20.2			17.6	10.9	
Approach LOS	C			B	B	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	58.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	51.6%	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 (veh/h)	0	0	1	0	0	154	19	279	61	0	412	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	1	0	0	167	21	303	66	0	448	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	808	859	224	570	792	152	448			370		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	808	859	224	570	792	152	448			370		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	81	98			100		
cM capacity (veh/h)	217	287	779	398	314	867	1109			1186		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2
Volume Total	1	167	21	152	152	66	299	149
Volume Left	0	0	21	0	0	0	0	0
Volume Right	1	167	0	0	0	66	0	0
cSH	779	867	1109	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.19	0.02	0.09	0.09	0.04	0.18	0.09
Queue Length 95th (ft)	0	18	1	0	0	0	0	0
Control Delay (s)	9.6	10.1	8.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	B	A					
Approach Delay (s)	9.6	10.1	0.4				0.0	
Approach LOS	A	B						

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	23.9%	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)	782	899	0	0	1038	275	251	1	298	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.5			5.5	5.5		4.6	4.6			
Lane Util. Factor	0.97	0.91			0.91	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98		1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
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	5085			5085	1550		1774	1583			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	5085			5085	1550		1774	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	850	977	0	0	1128	299	273	1	324	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	228	0	0	72	0	0	0
Lane Group Flow (vph)	850	977	0	0	1128	71	0	274	252	0	0	0
Confl. Peds. (#/hr)						5	10					
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	29.9	58.9			24.8	24.8		36.0	36.0			
Effective Green, g (s)	29.9	58.9			24.8	24.8		36.0	36.0			
Actuated g/C Ratio	0.28	0.56			0.24	0.24		0.34	0.34			
Clearance Time (s)	4.2	5.5			5.5	5.5		4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	978	2852			1201	366		608	543			
v/s Ratio Prot	c0.25	0.19			c0.22			0.15				
v/s Ratio Perm						0.05			c0.16			
v/c Ratio	0.87	0.34			0.94	0.19		0.45	0.46			
Uniform Delay, d1	35.7	12.5			39.4	32.1		26.8	27.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	8.3	0.3			15.0	1.2		2.4	2.8			
Delay (s)	44.0	12.9			54.3	33.3		29.2	29.8			
Level of Service	D	B			D	C		C	C			
Approach Delay (s)		27.3			49.9			29.5			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM Average Control Delay	36.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.3
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	96	1213	78	160	799	330	43	36	243	225	123	333
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.5	5.5	4.2	5.5	5.5	4.6	4.6	4.6		4.6	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.81	0.81	1.00	1.00	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	0.99		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.98	0.85	1.00	1.00	0.85		0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.98	
Satd. Flow (prot)	3433	5085	1549	3433	5910	1282	1770	1863	1560		3190	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.98	
Satd. Flow (perm)	3433	5085	1549	3433	5910	1282	1770	1863	1560		3190	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	104	1318	85	174	868	359	47	39	264	245	134	362
RTOR Reduction (vph)	0	0	53	0	22	132	0	0	233	0	181	0
Lane Group Flow (vph)	104	1318	32	174	986	87	47	39	31	0	560	0
Confl. Peds. (#/hr)			8						1			2
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2			6			3			
Actuated Green, G (s)	8.1	40.8	40.8	11.0	43.7	43.7	12.8	12.8	12.8		26.5	
Effective Green, g (s)	8.1	40.8	40.8	11.0	43.7	43.7	12.8	12.8	12.8		26.5	
Actuated g/C Ratio	0.07	0.37	0.37	0.10	0.40	0.40	0.12	0.12	0.12		0.24	
Clearance Time (s)	4.2	5.5	5.5	4.2	5.5	5.5	4.6	4.6	4.6		4.6	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	253	1886	575	343	2348	509	206	217	182		769	
v/s Ratio Prot	0.03	c0.26		c0.05	c0.17		c0.03	0.02			c0.18	
v/s Ratio Perm			0.02			0.07			0.02			
v/c Ratio	0.41	0.70	0.06	0.51	0.42	0.17	0.23	0.18	0.17		0.73	
Uniform Delay, d1	48.7	29.4	22.2	46.9	24.0	21.4	44.1	43.9	43.8		38.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.1	2.2	0.2	1.2	0.1	0.2	0.6	0.4	0.4		3.5	
Delay (s)	49.8	31.6	22.4	48.1	24.1	21.6	44.7	44.3	44.2		41.9	
Level of Service	D	C	C	D	C	C	D	D	D		D	
Approach Delay (s)		32.3			26.7			44.3			41.9	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	33.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	24.4
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	416	718	215	117	332	168	246	941	51	189	747	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		0.97	0.95		0.97	0.91	1.00	0.97	0.91	1.00
Frt	1.00	0.97		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3417		3433	3361		3433	5085	1583	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3417		3433	3361		3433	5085	1583	3433	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	452	780	234	127	361	183	267	1023	55	205	812	255
RTOR Reduction (vph)	0	36	0	0	80	0	0	0	39	0	0	63
Lane Group Flow (vph)	452	978	0	127	464	0	267	1023	16	205	812	192
Turn Type	Prot			Prot			Prot		Perm	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases									2			6
Actuated Green, G (s)	13.4	26.7		4.0	17.3		8.0	23.0	23.0	5.0	20.0	33.4
Effective Green, g (s)	13.4	26.7		4.0	17.3		8.0	23.0	23.0	5.0	20.0	33.4
Actuated g/C Ratio	0.17	0.34		0.05	0.22		0.10	0.29	0.29	0.06	0.25	0.42
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	585	1159		174	739		349	1486	463	218	1292	772
v/s Ratio Prot	c0.13	c0.29		0.04	0.14		c0.08	c0.20		0.06	0.16	0.04
v/s Ratio Perm									0.01			0.08
v/c Ratio	0.77	0.84		0.73	0.63		0.77	0.69	0.03	0.94	0.63	0.25
Uniform Delay, d1	31.2	24.1		36.8	27.8		34.4	24.7	19.9	36.7	26.1	14.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3	5.8		14.2	1.7		9.6	2.6	0.1	44.4	2.3	0.2
Delay (s)	37.5	29.9		51.0	29.5		44.0	27.3	20.1	81.1	28.4	14.7
Level of Service	D	C		D	C		D	C	C	F	C	B
Approach Delay (s)		32.2			33.5			30.3			34.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	32.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	288	457	15	168	219	73	23	956	203	107	785	191
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	1.00		1.00	0.96		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3523		1770	3407		1770	4952		1770	4936	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3523		1770	3407		1770	4952		1770	4936	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	313	497	16	183	238	79	25	1039	221	116	853	208
RTOR Reduction (vph)	0	2	0	0	38	0	0	30	0	0	35	0
Lane Group Flow (vph)	313	511	0	183	279	0	25	1230	0	116	1026	0
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	16.1	19.8		13.1	16.8		1.9	32.4		6.0	36.5	
Effective Green, g (s)	16.1	19.8		13.1	16.8		1.9	32.4		6.0	36.5	
Actuated g/C Ratio	0.18	0.22		0.14	0.18		0.02	0.35		0.07	0.40	
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	312	764		254	627		37	1757		116	1973	
v/s Ratio Prot	c0.18	c0.14		0.10	0.08		0.01	c0.25		c0.07	c0.21	
v/s Ratio Perm												
v/c Ratio	1.00	0.67		0.72	0.45		0.68	0.70		1.00	0.52	
Uniform Delay, d1	37.6	32.7		37.4	33.1		44.4	25.3		42.6	20.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	51.8	2.2		9.6	0.5		39.3	2.4		83.6	1.0	
Delay (s)	89.4	35.0		47.0	33.6		83.7	27.6		126.2	21.7	
Level of Service	F	C		D	C		F	C		F	C	
Approach Delay (s)		55.6			38.5			28.7			32.0	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM Average Control Delay	36.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	91.3	Sum of lost time (s)	25.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	20	13	10	15	31	17	1103	10	61	757	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.94		1.00	0.90		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1754		1770	1673		1770	3534		1770	3539	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1754		1770	1673		1770	3534		1770	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	22	14	11	16	34	18	1199	11	66	823	109
RTOR Reduction (vph)	0	13	0	0	32	0	0	0	0	0	0	48
Lane Group Flow (vph)	61	23	0	11	18	0	18	1210	0	66	823	61
Turn Type	Split			Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	6.1	6.1		3.9	3.9		0.7	34.1		3.3	36.7	36.7
Effective Green, g (s)	6.1	6.1		3.9	3.9		0.7	34.1		3.3	36.7	36.7
Actuated g/C Ratio	0.09	0.09		0.06	0.06		0.01	0.52		0.05	0.56	0.56
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	165	164		106	100		19	1843		89	1986	888
v/s Ratio Prot	c0.03	0.01		0.01	c0.01		0.01	c0.34		c0.04	c0.23	
v/s Ratio Perm												0.04
v/c Ratio	0.37	0.14		0.10	0.18		0.95	0.66		0.74	0.41	0.07
Uniform Delay, d1	27.8	27.2		29.1	29.2		32.3	11.4		30.6	8.2	6.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	0.4		0.4	0.9		179.6	1.8		27.9	0.6	0.1
Delay (s)	29.2	27.6		29.5	30.1		211.9	13.2		58.5	8.8	6.7
Level of Service	C	C		C	C		F	B		E	A	A
Approach Delay (s)		28.7			30.0			16.1			11.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	65.4	Sum of lost time (s)	22.5
Intersection Capacity Utilization	55.2%	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)	106	9	287	20	4	56	354	893	26	64	449	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3524		1770	3341	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	3524		1770	3341	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	115	10	312	22	4	61	385	971	28	70	488	291
RTOR Reduction (vph)	0	0	261	0	0	55	0	2	0	0	78	0
Lane Group Flow (vph)	115	10	51	22	4	6	385	997	0	70	701	0
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	7.6	14.4	14.4	1.9	8.7	8.7	22.7	47.2		6.6	31.1	
Effective Green, g (s)	7.6	14.4	14.4	1.9	8.7	8.7	22.7	47.2		6.6	31.1	
Actuated g/C Ratio	0.09	0.16	0.16	0.02	0.10	0.10	0.26	0.54		0.07	0.35	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	153	305	259	38	184	156	456	1888		133	1179	
v/s Ratio Prot	c0.06	0.01		0.01	0.00		c0.22	0.28		0.04	c0.21	
v/s Ratio Perm			c0.03			0.00						
v/c Ratio	0.75	0.03	0.20	0.58	0.02	0.04	0.84	0.53		0.53	0.59	
Uniform Delay, d1	39.3	31.0	31.9	42.7	35.9	35.9	31.0	13.2		39.2	23.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.6	0.0	0.4	19.6	0.0	0.1	13.4	1.1		3.7	2.2	
Delay (s)	57.9	31.0	32.2	62.3	35.9	36.0	44.4	14.3		43.0	25.5	
Level of Service	E	C	C	E	D	D	D	B		D	C	
Approach Delay (s)		39.0			42.7			22.7			27.0	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	88.1	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	820	888	254	1098	0	0	0	0	333	0	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.2	5.0					4.6	4.6	4.6
Lane Util. Factor		0.95	1.00	1.00	0.95					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.96	1.00	1.00					1.00	1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		3374	1456	1687	3374					1603	1603	1509
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		3374	1456	1687	3374					1603	1603	1509
Peak-hour factor, PHF	0.92	0.96	0.96	0.83	0.89	0.92	0.92	0.92	0.92	0.89	0.92	0.83
Adj. Flow (vph)	0	854	925	306	1234	0	0	0	0	374	0	124
RTOR Reduction (vph)	0	0	377	0	0	0	0	0	0	0	0	47
Lane Group Flow (vph)	0	854	548	306	1234	0	0	0	0	187	187	77
Confl. Peds. (#/hr)			7									
Heavy Vehicles (%)	2%	7%	7%	7%	7%	2%	2%	2%	2%	7%	7%	7%
Turn Type			Perm	Prot						Split		custom
Protected Phases		2		1	6					4	4	4 5
Permitted Phases			2									4
Actuated Green, G (s)		38.4	38.4	18.0	52.8					14.8	14.8	23.2
Effective Green, g (s)		38.4	38.4	18.0	52.8					14.8	14.8	23.2
Actuated g/C Ratio		0.45	0.45	0.21	0.62					0.17	0.17	0.27
Clearance Time (s)		5.0	5.0	4.2	5.0					4.6	4.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	
Lane Grp Cap (vph)		1524	658	357	2096					279	279	412
v/s Ratio Prot		0.25		c0.18	0.37					c0.12	0.12	0.05
v/s Ratio Perm			c0.38									
v/c Ratio		0.56	0.83	0.86	0.59					0.67	0.67	0.19
Uniform Delay, d1		17.1	20.5	32.3	9.6					32.8	32.8	23.7
Progression Factor		1.00	1.00	1.17	1.05					1.00	1.00	1.00
Incremental Delay, d2		1.5	11.8	15.3	1.0					6.2	6.2	0.2
Delay (s)		18.6	32.3	53.0	11.1					39.0	39.0	23.9
Level of Service		B	C	D	B					D	D	C
Approach Delay (s)		25.7			19.4			0.0			35.3	
Approach LOS		C			B			A			D	

Intersection Summary			
HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	13.8
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	170	983	0	0	741	405	611	5	257	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	5.0			5.0	5.0	4.6	4.6	4.6			
Lane Util. Factor	0.97	0.95			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	0.98	1.00	1.00	1.00			
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (prot)	3273	3374			3374	1485	1603	1608	1509			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.95	1.00			
Satd. Flow (perm)	3273	3374			3374	1485	1603	1608	1509			
Peak-hour factor, PHF	0.83	0.92	0.92	0.92	0.84	0.94	0.95	0.63	0.86	0.92	0.92	0.92
Adj. Flow (vph)	205	1068	0	0	882	431	643	8	299	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	238	0	0	72	0	0	0
Lane Group Flow (vph)	205	1068	0	0	882	193	328	323	227	0	0	0
Confl. Peds. (#/hr)						3						
Heavy Vehicles (%)	7%	7%	2%	2%	7%	7%	7%	7%	7%	2%	2%	2%
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	10.6	52.9			38.1	38.1	22.5	22.5	22.5			
Effective Green, g (s)	10.6	52.9			38.1	38.1	22.5	22.5	22.5			
Actuated g/C Ratio	0.12	0.62			0.45	0.45	0.26	0.26	0.26			
Clearance Time (s)	4.2	5.0			5.0	5.0	4.6	4.6	4.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	408	2100			1512	666	424	426	399			
v/s Ratio Prot	0.06	c0.32			c0.26		c0.20	0.20				
v/s Ratio Perm						0.13			0.15			
v/c Ratio	0.50	0.51			0.58	0.29	0.77	0.76	0.57			
Uniform Delay, d1	34.7	8.9			17.5	14.9	28.9	28.7	27.1			
Progression Factor	1.57	0.97			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.9	0.8			0.6	0.2	8.5	7.6	1.9			
Delay (s)	55.3	9.4			18.1	15.1	37.4	36.3	28.9			
Level of Service	E	A			B	B	D	D	C			
Approach Delay (s)		16.7			17.1			34.4			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	90.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	8	95	142	6	93	223
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	103	154	7	101	242

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total (vph)	112	161	343
Volume Left (vph)	9	0	101
Volume Right (vph)	103	7	0
Hadj (s)	-0.50	0.01	0.09
Departure Headway (s)	4.5	4.6	4.4
Degree Utilization, x	0.14	0.20	0.42
Capacity (veh/h)	717	756	784
Control Delay (s)	8.3	8.7	10.7
Approach Delay (s)	8.3	8.7	10.7
Approach LOS	A	A	B

Intersection Summary			
Delay	9.7		
HCM Level of Service	A		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	201	169	280	9	21	213
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	218	184	304	10	23	232

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total (vph)	218	184	304	10	23	232
Volume Left (vph)	218	0	0	0	23	0
Volume Right (vph)	0	0	0	10	0	232
Hadj (s)	0.53	0.03	0.03	-0.67	0.53	-0.67
Departure Headway (s)	6.2	5.7	5.8	5.1	6.9	5.7
Degree Utilization, x	0.38	0.29	0.49	0.01	0.04	0.36
Capacity (veh/h)	557	607	596	663	489	593
Control Delay (s)	11.7	9.8	13.2	7.0	9.0	10.7
Approach Delay (s)	10.8		13.0		10.5	
Approach LOS	B		B		B	

Intersection Summary			
Delay	11.4		
HCM Level of Service	B		
Intersection Capacity Utilization	39.2%	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)	132	498	31	238	221	5	15	38	107	3	86	73
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		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.91		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1770	1846		1770	1863	1583		1686		1770	1734	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		1.00		0.95	1.00	
Satd. Flow (perm)	1770	1846		1770	1863	1583		1686		1770	1734	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	143	541	34	259	240	5	16	41	116	3	93	79
RTOR Reduction (vph)	0	3	0	0	0	3	0	90	0	0	38	0
Lane Group Flow (vph)	143	572	0	259	240	2	0	83	0	3	134	0
Turn Type	Prot			Prot		pm+ov	Split			Split		
Protected Phases	5	2		1	6	4	8	8		4	4	
Permitted Phases						6						
Actuated Green, G (s)	8.7	24.0		4.0	19.3	37.3		18.0		18.0	18.0	
Effective Green, g (s)	8.7	24.0		4.0	19.3	37.3		18.0		18.0	18.0	
Actuated g/C Ratio	0.11	0.30		0.05	0.24	0.47		0.22		0.22	0.22	
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)	192	554		89	449	817		379		398	390	
v/s Ratio Prot	c0.08	c0.31		c0.15	0.13	0.00		c0.05		0.00	c0.08	
v/s Ratio Perm						0.00						
v/c Ratio	0.74	1.03		2.91	0.53	0.00		0.22		0.01	0.34	
Uniform Delay, d1	34.6	28.0		38.0	26.4	11.4		25.3		24.1	26.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	14.5	46.9		889.3	4.5	0.0		1.3		0.0	2.4	
Delay (s)	49.1	74.9		927.3	30.9	11.4		26.6		24.1	28.4	
Level of Service	D	E		F	C	B		C		C	C	
Approach Delay (s)		69.8			491.4			26.6			28.4	
Approach LOS		E			F			C			C	

Intersection Summary			
HCM Average Control Delay	195.8	HCM Level of Service	F
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	56	35	340	74	21	551
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	38	370	80	23	599
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			99		899	80
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			99		899	80
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			75		90	39
cM capacity (veh/h)			1494		233	980

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	99	450	622
Volume Left	0	370	23
Volume Right	38	0	599
cSH	1700	1494	877
Volume to Capacity	0.06	0.25	0.71
Queue Length 95th (ft)	0	24	153
Control Delay (s)	0.0	7.1	18.4
Lane LOS		A	C
Approach Delay (s)	0.0	7.1	18.4
Approach LOS			C

Intersection Summary			
Average Delay	12.5		
Intersection Capacity Utilization	71.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	84	83	4	277	145	20	1	503	397	20	243	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1851		1770	1829		1770	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1851		1770	1829		1770	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	90	4	301	158	22	1	547	432	22	264	134
RTOR Reduction (vph)	0	2	0	0	6	0	0	0	193	0	0	74
Lane Group Flow (vph)	91	92	0	301	174	0	1	547	239	22	264	60
Turn Type	Prot			Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	6.9	7.5		16.6	17.2		0.7	34.2	34.2	1.4	34.9	34.9
Effective Green, g (s)	6.9	7.5		16.6	17.2		0.7	34.2	34.2	1.4	34.9	34.9
Actuated g/C Ratio	0.09	0.10		0.21	0.22		0.01	0.44	0.44	0.02	0.45	0.45
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	157	179		378	405		16	820	697	32	837	711
v/s Ratio Prot	0.05	0.05		c0.17	c0.10		0.00	c0.29		c0.01	0.14	
v/s Ratio Perm									0.15			0.04
v/c Ratio	0.58	0.52		0.80	0.43		0.06	0.67	0.34	0.69	0.32	0.08
Uniform Delay, d1	34.0	33.4		28.9	26.0		38.2	17.2	14.3	37.9	13.7	12.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.1	2.5		11.1	0.7		1.6	4.3	1.3	47.1	1.0	0.2
Delay (s)	39.1	35.9		40.0	26.8		39.8	21.5	15.7	85.0	14.7	12.5
Level of Service	D	D		D	C		D	C	B	F	B	B
Approach Delay (s)		37.5			35.1			19.0			17.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	24.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	13.5
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group