Appendix M

Cumulative + Project Conditions Mitigated

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1702	78	47	1408	155	63
Ideal Flow (vphpl)	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	1.00	1.00	0.95	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)	3200	1583	1770	3200	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3200	1583	1770	3200	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1850	85	51	1530	168	68
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1850	85	51	1530	168	68
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	42.5	42.5	2.6	48.8	11.0	11.0
Effective Green, g (s)	44.5	44.5	2.3	50.8	11.2	11.2
Actuated g/C Ratio	0.64	0.64	0.03	0.73	0.16	0.16
Clearance Time (s)	6.0	6.0	3.7	6.0	4.2	4.2
Vehicle Extension (s)	1.5	1.5	3.0	1.5	2.0	2.0
Lane Grp Cap (vph)	2034	1006	58	2322	283	253
v/s Ratio Prot	c0.58		0.03	c0.48	c0.09	
v/s Ratio Perm		0.05				0.04
v/c Ratio	0.91	0.08	0.88	0.66	0.59	0.27
Uniform Delay, d1	11.0	4.9	33.7	5.0	27.3	25.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3	0.0	75.1	0.5	2.2	0.2
Delay (s)	17.3	4.9	108.8	5.6	29.5	26.0
Level of Service	B	A	F	A	C	C
Approach Delay (s)	16.8			8.9	28.5	
Approach LOS	B			A	C	

Intersection Summary

HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	70.0	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	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	174	1562	29	110	1299	303	73	39	79	127	32	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	3.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3200	1553	1703	3200	1583		1792	1583	3433	1827	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.78	1.00	0.63	1.00	1.00
Satd. Flow (perm)	1770	3200	1553	1703	3200	1583		1447	1583	2285	1827	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)	189	1698	32	120	1412	329	79	42	86	138	35	90
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	189	1698	32	120	1412	329	0	121	86	138	35	90
Heavy Vehicles (%)	2%	2%	4%	6%	2%	2%	3%	2%	2%	2%	4%	2%
Turn Type	Prot		Perm	Prot		Perm	Perm		pm+ov	Perm		Perm
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases			2			6	8		8	4		4
Actuated Green, G (s)	11.1	45.6	45.6	7.5	42.0	42.0		11.6	19.1	11.6	11.6	11.6
Effective Green, g (s)	10.6	47.6	47.6	7.0	44.0	44.0		11.6	19.1	11.6	11.6	11.6
Actuated g/C Ratio	0.14	0.61	0.61	0.09	0.56	0.56		0.15	0.24	0.15	0.15	0.15
Clearance Time (s)	3.5	6.0	6.0	3.5	6.0	6.0		4.0	3.5	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)	240	1948	945	152	1801	891		215	387	339	271	235
v/s Ratio Prot	c0.11	c0.53		0.07	0.44				0.02		0.02	
v/s Ratio Perm			0.02			0.21		c0.08	0.03	0.06		0.06
v/c Ratio	0.79	0.87	0.03	0.79	0.78	0.37		0.56	0.22	0.41	0.13	0.38
Uniform Delay, d1	32.7	12.8	6.1	34.9	13.4	9.4		30.9	23.6	30.2	28.9	30.1
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	15.6	4.6	0.0	23.2	2.3	0.3		3.3	0.3	0.8	0.2	1.0
Delay (s)	48.3	17.4	6.1	58.1	15.7	9.7		34.3	23.9	31.0	29.1	31.1
Level of Service	D	B	A	E	B	A		C	C	C	C	C
Approach Delay (s)		20.2			17.4			30.0			30.8	
Approach LOS		C			B			C			C	

Intersection Summary

HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	1567	13	18	1420	424	16	12	27	416	25	276
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	4.2	4.0	4.0	2.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3200		1770	3200	1568	1770	1863	1583	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3200		1770	3200	1568	1770	1863	1583	3433	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)	204	1703	14	20	1543	461	17	13	29	452	27	300
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	28	0	0	47
Lane Group Flow (vph)	204	1717	0	20	1543	461	17	13	1	452	27	253
Heavy Vehicles (%)	2%	2%	2%	2%	4%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		pm+ov	Split		Perm	Split		pm+ov
Protected Phases	5	2		1	6	7	8	8		7	7	5
Permitted Phases						6			8			7
Actuated Green, G (s)	6.5	54.6		0.7	48.8	65.2	2.3	2.3	2.3	16.4	16.4	22.9
Effective Green, g (s)	6.7	56.6		0.9	50.8	67.8	2.5	2.5	2.3	17.7	17.7	25.5
Actuated g/C Ratio	0.07	0.60		0.01	0.54	0.72	0.03	0.03	0.02	0.19	0.19	0.27
Clearance Time (s)	4.2	6.0		4.2	6.0	5.3	4.2	4.2	4.2	5.3	5.3	4.2
Vehicle Extension (s)	2.5	2.5		3.0	2.5	2.5	2.0	2.0	2.0	2.5	2.5	2.5
Lane Grp Cap (vph)	245	1933		17	1735	1135	47	50	39	648	352	431
v/s Ratio Prot	c0.06	c0.54		0.01	0.48	0.08	c0.01	0.01		c0.13	0.01	0.05
v/s Ratio Perm						0.22			0.00			0.11
v/c Ratio	0.83	0.89		1.18	0.89	0.41	0.36	0.26	0.02	0.70	0.08	0.59
Uniform Delay, d1	42.9	15.8		46.4	19.0	5.1	44.8	44.7	44.6	35.5	31.3	29.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.5	5.4		279.8	6.0	0.2	1.7	1.0	0.1	3.0	0.1	1.7
Delay (s)	63.5	21.2		326.2	24.9	5.2	46.5	45.7	44.7	38.5	31.3	31.2
Level of Service	E	C		F	C	A	D	D	D	D	C	C
Approach Delay (s)		25.7			23.4			45.4			35.5	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	93.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	665	1345	1672	14	0	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	0.97	0.95	0.95			0.88
Frt	1.00	1.00	1.00			0.85
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	3200	3200			2760
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	3200	3200			2760
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	723	1462	1817	15	0	207
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	723	1462	1832	0	0	207
Heavy Vehicles (%)	2%	2%	3%	2%	2%	3%
Turn Type	Prot					Over
Protected Phases	5	2	6			5
Permitted Phases						
Actuated Green, G (s)	19.1	79.2	49.5			19.1
Effective Green, g (s)	19.7	79.2	51.5			19.7
Actuated g/C Ratio	0.25	1.00	0.65			0.25
Clearance Time (s)	4.6	2.0	6.0			4.6
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	854	3200	2081			687
v/s Ratio Prot	c0.21	0.46	c0.57			0.08
v/s Ratio Perm						
v/c Ratio	0.85	0.46	0.88			0.30
Uniform Delay, d1	28.3	0.0	11.3			24.2
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	7.8	0.1	4.7			0.2
Delay (s)	36.1	0.1	16.1			24.4
Level of Service	D	A	B			C
Approach Delay (s)		12.0	16.1		24.4	
Approach LOS		B	B		C	

Intersection Summary

HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.3%	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)	340	1001	4	3	1502	564	13	10	8	252	2	171
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	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3200	1583	1770	3200	1583	1770	1737		3433	1863	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3200	1583	1770	3200	1583	1770	1737		3433	1863	1568
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)	370	1088	4	3	1633	613	14	11	9	274	2	186
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	370	1088	4	3	1633	613	14	20	0	274	2	186
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	10.9	60.9	60.9	0.7	50.5	50.5	1.5	6.0		11.4	15.5	15.5
Effective Green, g (s)	11.1	62.9	62.9	0.7	52.5	52.5	1.7	6.0		11.4	15.7	15.7
Actuated g/C Ratio	0.11	0.65	0.65	0.01	0.54	0.54	0.02	0.06		0.12	0.16	0.16
Clearance Time (s)	4.2	6.0	6.0	4.0	6.0	6.0	4.2	4.0		4.0	4.2	4.2
Vehicle Extension (s)	4.5	4.5	4.5	3.0	4.5	4.5	4.5	3.0		3.0	3.5	3.5
Lane Grp Cap (vph)	393	2075	1027	13	1732	857	31	107		403	302	254
v/s Ratio Prot	c0.11	0.34		0.00	c0.51		0.01	0.01		c0.08	0.00	
v/s Ratio Perm			0.00			0.39						c0.12
v/c Ratio	0.94	0.52	0.00	0.23	0.94	0.72	0.45	0.19		0.68	0.01	0.73
Uniform Delay, d1	42.6	9.1	6.0	47.9	20.8	16.7	47.2	43.2		41.1	34.1	38.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	31.3	0.4	0.0	8.9	11.1	3.3	17.0	0.8		4.5	0.0	10.7
Delay (s)	73.9	9.5	6.0	56.8	32.0	19.9	64.2	44.0		45.6	34.1	49.4
Level of Service	E	A	A	E	C	B	E	D		D	C	D
Approach Delay (s)		25.8			28.7			52.3			47.1	
Approach LOS		C			C			D			D	

Intersection Summary

HCM Average Control Delay	29.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	97.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	1166	56	26	1922	55	64	2	37	33	1	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	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.99			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86			1.00	0.85
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	3200	1583	1770	3200	1547	1770	1577			1774	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.73	1.00			0.70	1.00
Satd. Flow (perm)	1770	3200	1583	1770	3200	1547	1365	1577			1304	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)	42	1267	61	28	2089	60	70	2	40	36	1	90
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	42	1267	61	28	2089	60	70	42	0	0	37	90
Confl. Peds. (#/hr)				1		1			1	1		
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		4
Actuated Green, G (s)	3.0	68.3	68.3	3.6	68.9	68.9	9.0	9.0			9.0	9.0
Effective Green, g (s)	2.7	70.3	70.3	3.3	70.9	70.9	9.1	9.1			9.1	9.1
Actuated g/C Ratio	0.03	0.74	0.74	0.03	0.75	0.75	0.10	0.10			0.10	0.10
Clearance Time (s)	3.7	6.0	6.0	3.7	6.0	6.0	4.1	4.1			4.1	4.1
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	50	2376	1175	62	2396	1158	131	152			125	152
v/s Ratio Prot	c0.02	0.40		0.02	c0.65			0.03				
v/s Ratio Perm			0.04			0.04	0.05				0.03	c0.06
v/c Ratio	0.84	0.53	0.05	0.45	0.87	0.05	0.53	0.28			0.30	0.59
Uniform Delay, d1	45.8	5.2	3.3	44.8	8.6	3.1	40.8	39.7			39.8	41.0
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	70.9	0.3	0.0	5.2	3.9	0.0	4.1	1.0			1.3	6.1
Delay (s)	116.7	5.5	3.3	50.0	12.5	3.1	44.9	40.7			41.1	47.1
Level of Service	F	A	A	D	B	A	D	D			D	D
Approach Delay (s)		8.8			12.8			43.4			45.4	
Approach LOS		A			B			D			D	

Intersection Summary

HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	94.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1063	173	293	1741	262	303
Ideal Flow (vphpl)	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	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	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)	3200	1583	3433	3200	1770	1571
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3200	1583	3433	3200	1770	1571
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1155	188	318	1892	285	329
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1155	188	318	1892	285	329
Confl. Peds. (#/hr)			1		1	1
Turn Type		Perm	Prot			pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases		2				8
Actuated Green, G (s)	26.5	26.5	9.1	39.3	14.7	23.8
Effective Green, g (s)	28.5	28.5	8.8	41.3	14.4	23.2
Actuated g/C Ratio	0.45	0.45	0.14	0.65	0.23	0.36
Clearance Time (s)	6.0	6.0	3.7	6.0	3.7	3.7
Vehicle Extension (s)	2.5	2.5	2.5	2.5	3.0	2.5
Lane Grp Cap (vph)	1432	708	474	2075	400	671
v/s Ratio Prot	0.36		0.09	c0.59	c0.16	0.07
v/s Ratio Perm		0.12				0.14
v/c Ratio	0.81	0.27	0.67	0.91	0.71	0.49
Uniform Delay, d1	15.2	11.0	26.1	9.6	22.7	15.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.1	3.4	6.6	5.9	0.4
Delay (s)	18.5	11.2	29.5	16.2	28.6	16.1
Level of Service	B	B	C	B	C	B
Approach Delay (s)	17.5			18.1	21.9	
Approach LOS	B			B	C	

Intersection Summary

HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	63.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.3%	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)	6	1258	102	169	1797	19	229	2	286	12	2	8
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	3.7		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1770	3200	1583	3400	3200			1758	1583		1785	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (perm)	1770	3200	1583	3400	3200			1758	1583		1785	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)	7	1367	111	184	1953	21	249	2	311	13	2	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	7	1367	111	184	1974	0	0	251	311	0	15	9
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	3%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		Perm
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	0.8	78.0	78.0	12.3	89.2			27.5	39.8		4.5	4.5
Effective Green, g (s)	0.8	80.0	80.0	12.0	91.2			27.5	39.8		4.5	4.5
Actuated g/C Ratio	0.01	0.57	0.57	0.09	0.65			0.20	0.28		0.03	0.03
Clearance Time (s)	4.0	6.0	6.0	3.7	6.0			4.0	3.7		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	2.5	3.0			3.0	2.5		3.0	3.0
Lane Grp Cap (vph)	10	1829	905	291	2085			345	450		57	51
v/s Ratio Prot	0.00	0.43		0.05	c0.62			c0.14	c0.06		c0.01	
v/s Ratio Perm			0.07						0.14			0.01
v/c Ratio	0.70	0.75	0.12	0.63	0.95			0.73	0.69		0.26	0.18
Uniform Delay, d1	69.5	22.4	13.8	61.9	22.2			52.7	44.6		66.1	65.9
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	120.0	2.8	0.3	3.9	10.6			7.5	4.2		2.5	1.7
Delay (s)	189.5	25.3	14.1	65.8	32.8			60.2	48.8		68.6	67.6
Level of Service	F	C	B	E	C			E	D		E	E
Approach Delay (s)		25.2			35.6			53.9			68.2	
Approach LOS		C			D			D			E	

Intersection Summary

HCM Average Control Delay	34.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	15.7
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	1512	42	76	1853	2	130	2	178	2	2	2
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			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	1.00
Satd. Flow (prot)	1770	3200	1583	3273	3200			1775	1561		1817	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	1.00
Satd. Flow (perm)	1770	3200	1583	3273	3200			1775	1561		1817	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)	2	1643	46	83	2014	2	141	2	193	2	2	2
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	2	1643	46	83	2016	0	0	143	193	0	4	2
Confl. Peds. (#/hr)				1		1			1	1		
Heavy Vehicles (%)	2%	2%	2%	7%	3%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			4
Actuated Green, G (s)	0.6	99.3	99.3	9.2	107.9			18.9	18.9		5.5	5.5
Effective Green, g (s)	0.3	101.3	101.3	8.9	109.9			18.6	18.6		5.2	5.2
Actuated g/C Ratio	0.00	0.68	0.68	0.06	0.73			0.12	0.12		0.03	0.03
Clearance Time (s)	3.7	6.0	6.0	3.7	6.0			3.7	3.7		3.7	3.7
Vehicle Extension (s)	3.0	3.0	3.0	2.5	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	4	2161	1069	194	2345			220	194		63	55
v/s Ratio Prot	0.00	0.51		c0.03	c0.63			0.08			c0.00	
v/s Ratio Perm			0.03						c0.12			0.00
v/c Ratio	0.50	0.76	0.04	0.43	0.86			0.65	0.99		0.06	0.04
Uniform Delay, d1	74.8	16.2	8.1	68.1	14.5			62.6	65.7		70.0	70.0
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	74.4	2.6	0.1	1.1	4.4			6.0	62.8		0.3	0.2
Delay (s)	149.2	18.8	8.2	69.2	18.9			68.6	128.4		70.4	70.2
Level of Service	F	B	A	E	B			E	F		E	E
Approach Delay (s)		18.7			20.9			103.0			70.3	
Approach LOS		B			C			F			E	

Intersection Summary

HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	19	1673	1522	7	3	409
Ideal Flow (vphpl)	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	0.95	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
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)	1770	3200	3200	1548	1770	1562
Flt Permitted	0.09	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	171	3200	3200	1548	1770	1562
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	1818	1654	8	3	445
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	21	1818	1654	8	3	445
Confl. Peds. (#/hr)	1			1	1	1
Heavy Vehicles (%)	2%	2%	4%	2%	2%	2%
Turn Type	Perm			Perm		Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	43.7	43.7	43.7	43.7	22.6	22.6
Effective Green, g (s)	43.7	43.7	43.7	43.7	22.6	22.6
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.30	0.30
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)	101	1882	1882	910	538	475
v/s Ratio Prot		c0.57	0.52		0.00	
v/s Ratio Perm	0.12			0.01		c0.28
v/c Ratio	0.21	0.97	0.88	0.01	0.01	0.94
Uniform Delay, d1	7.2	14.6	13.0	6.3	18.0	25.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	13.5	5.0	0.0	0.0	26.0
Delay (s)	8.2	28.1	18.1	6.3	18.0	51.2
Level of Service	A	C	B	A	B	D
Approach Delay (s)		27.9	18.0		51.0	
Approach LOS		C	B		D	

Intersection Summary

HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	74.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	39	35	42	491	11	54	21	210	34	64	40	8
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	1.00		1.00	1.00	
Frt		0.95			0.99		1.00	0.98		1.00	0.97	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1742			1761		1703	1824		1770	1785	
Flt Permitted		0.80			0.66		0.72	1.00		0.49	1.00	
Satd. Flow (perm)		1413			1221		1296	1824		910	1785	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	38	46	534	12	59	23	228	37	70	43	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	126	0	0	605	0	23	265	0	70	52	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	2%	2%	2%	4%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		28.0			28.0		12.3	12.3		12.3	12.3	
Effective Green, g (s)		28.0			28.0		12.3	12.3		12.3	12.3	
Actuated g/C Ratio		0.58			0.58		0.25	0.25		0.25	0.25	
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)		819			708		330	464		232	455	
v/s Ratio Prot								c0.15			0.03	
v/s Ratio Perm		0.09			c0.50		0.02			0.08		
v/c Ratio		0.15			0.85		0.07	0.57		0.30	0.11	
Uniform Delay, d1		4.7			8.5		13.7	15.7		14.5	13.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			9.9		0.1	1.7		0.7	0.1	
Delay (s)		4.8			18.3		13.7	17.4		15.3	13.9	
Level of Service		A			B		B	B		B	B	
Approach Delay (s)		4.8			18.3			17.1			14.7	
Approach LOS		A			B			B			B	

Intersection Summary

HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	48.3	Sum of lost time (s)	8.0
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)	564	441	0	0	355	603	296	1	98	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.3	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	0.97	1.00			1.00	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3433	1792			1845	1583		1771	1562			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3433	1792			1845	1583		1771	1562			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	613	479	0	0	386	655	322	1	107	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	613	479	0	0	386	655	0	323	107	0	0	0
Confl. Peds. (#/hr)			1	1			1		1			
Heavy Vehicles (%)	2%	6%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	17.1	57.2			36.1	36.1		18.9	18.9			
Effective Green, g (s)	16.8	59.2			38.1	38.1		19.8	19.8			
Actuated g/C Ratio	0.19	0.68			0.44	0.44		0.23	0.23			
Clearance Time (s)	4.0	6.0			6.0	6.0		4.9	4.9			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	663	1219			808	693		403	355			
v/s Ratio Prot	c0.18	0.27			0.21							
v/s Ratio Perm						c0.41		0.18	0.07			
v/c Ratio	0.92	0.39			0.48	0.95		0.80	0.30			
Uniform Delay, d1	34.5	6.1			17.4	23.4		31.7	27.9			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	18.7	0.2			0.4	21.6		10.9	0.5			
Delay (s)	53.2	6.3			17.8	45.0		42.7	28.3			
Level of Service	D	A			B	D		D	C			
Approach Delay (s)		32.6			34.9			39.1			0.0	
Approach LOS		C			C			D			A	

Intersection Summary

HCM Average Control Delay	34.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	87.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	124.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	767	341	148	503	0	0	0	0	238	6	398
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	6.0	4.0	4.0						4.0	4.0
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1810	1509	1770	1845						1739	1524
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1810	1509	1770	1845						1739	1524
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	834	371	161	547	0	0	0	0	259	7	433
RTOR Reduction (vph)	0	0	193	0	0	0	0	0	0	0	0	293
Lane Group Flow (vph)	0	834	178	161	547	0	0	0	0	0	266	140
Confl. Peds. (#/hr)				1		1			1	1		
Heavy Vehicles (%)	2%	5%	7%	2%	3%	2%	2%	2%	2%	4%	2%	6%
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			2							4		4
Actuated Green, G (s)		35.9	35.9	9.2	48.8						15.3	15.3
Effective Green, g (s)		37.9	35.9	8.9	50.8						16.2	16.2
Actuated g/C Ratio		0.51	0.48	0.12	0.68						0.22	0.22
Clearance Time (s)		6.0	6.0	3.7	6.0						4.9	4.9
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		915	722	210	1250						376	329
v/s Ratio Prot		c0.46		c0.09	0.30							
v/s Ratio Perm			0.12								0.15	0.09
v/c Ratio		0.91	0.25	0.77	0.44						0.71	0.42
Uniform Delay, d1		17.0	11.6	32.0	5.5						27.2	25.4
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		13.1	0.2	15.3	0.2						6.0	0.9
Delay (s)		30.1	11.7	47.4	5.8						33.2	26.3
Level of Service		C	B	D	A						C	C
Approach Delay (s)		24.4			15.3			0.0			28.9	
Approach LOS		C			B			A			C	

Intersection Summary

HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	124.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	3	1	1062	5	0	0	0	0	172	3	6
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	
Lane Util. Factor		1.00		0.95	0.95						1.00	
Frt		0.97		1.00	1.00						1.00	
Flt Protected		1.00		0.95	0.95						0.95	
Satd. Flow (prot)		1800		1665	1670						1676	
Flt Permitted		1.00		0.76	0.73						0.95	
Satd. Flow (perm)		1800		1323	1272						1676	
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	3	1	1154	5	0	0	0	0	187	3	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	4	0	577	582	0	0	0	0	0	197	0
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	2%	2%	2%	8%	2%	2%
Turn Type				Perm						Perm		
Protected Phases		4			8						6	
Permitted Phases				8						6		
Actuated Green, G (s)		27.4		27.4	27.4						8.5	
Effective Green, g (s)		27.4		27.4	27.4						8.5	
Actuated g/C Ratio		0.62		0.62	0.62						0.19	
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)		1123		826	794						325	
v/s Ratio Prot		0.00										
v/s Ratio Perm				0.44	c0.46						0.12	
v/c Ratio		0.00		0.70	0.73						0.61	
Uniform Delay, d1		3.1		5.5	5.7						16.2	
Progression Factor		1.00		1.00	1.00						1.00	
Incremental Delay, d2		0.0		2.6	3.5						3.2	
Delay (s)		3.1		8.1	9.2						19.4	
Level of Service		A		A	A						B	
Approach Delay (s)		3.1			8.7			0.0			19.4	
Approach LOS		A			A			A			B	

Intersection Summary

HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	43.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.7%	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)	175	0	0	1066	1	1158
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)	190	0	0	1159	1	1259
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	365					
pX, platoon unblocked						
vC, conflicting volume			190		770	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			190		770	190
tC, single (s)			4.1		6.8	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	0
cM capacity (veh/h)			1381		337	813

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	190	579	579	421	839
Volume Left	0	0	0	1	0
Volume Right	0	0	0	420	839
cSH	1700	1700	1700	810	813
Volume to Capacity	0.11	0.34	0.34	0.52	1.03
Queue Length 95th (ft)	0	0	0	76	486
Control Delay (s)	0.0	0.0	0.0	14.1	62.5
Lane LOS				B	F
Approach Delay (s)	0.0	0.0		46.4	
Approach LOS				E	

Intersection Summary			
Average Delay	22.4		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	1323	1065	171	9	1
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)	11	1438	1158	186	10	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		600				
pX, platoon unblocked						
vC, conflicting volume	1343				1898	579
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1343				1898	579
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				84	100
cM capacity (veh/h)	509				60	459

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	11	719	719	579	579	186	11
Volume Left	11	0	0	0	0	0	10
Volume Right	0	0	0	0	0	186	1
cSH	509	1700	1700	1700	1700	1700	66
Volume to Capacity	0.02	0.42	0.42	0.34	0.34	0.11	0.16
Queue Length 95th (ft)	2	0	0	0	0	0	14
Control Delay (s)	12.2	0.0	0.0	0.0	0.0	0.0	70.3
Lane LOS	B						F
Approach Delay (s)	0.1			0.0			70.3
Approach LOS							F

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	46.6%	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)	358	659	336	357	595	94	350	883	595	176	607	239
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	2.4	4.0	4.0	3.7	4.0	4.0	2.7	4.0	4.0	3.7
Lane Util. Factor	0.97	0.95	1.00	0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1583	4990	3539	1569	3433	3539	1583	1770	3539	1568
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1583	4990	3539	1569	3433	3539	1583	1770	3539	1568
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)	389	716	365	388	647	102	380	960	647	191	660	260
RTOR Reduction (vph)	0	0	32	0	0	11	0	0	0	0	0	24
Lane Group Flow (vph)	389	716	333	388	647	91	380	960	647	191	660	236
Confl. Peds. (#/hr)	2					2				2		2
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		Free	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases			4			8			Free			6
Actuated Green, G (s)	11.6	24.0	35.4	10.3	22.7	33.8	11.4	28.7	92.1	11.1	28.4	40.0
Effective Green, g (s)	11.3	25.3	38.0	10.0	24.0	33.8	11.1	30.0	92.1	10.8	29.7	40.0
Actuated g/C Ratio	0.12	0.27	0.41	0.11	0.26	0.37	0.12	0.33	1.00	0.12	0.32	0.43
Clearance Time (s)	3.7	5.3	3.7	3.7	5.3	3.7	3.7	5.3		3.7	5.3	3.7
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	4.0		3.0	4.0	3.0
Lane Grp Cap (vph)	421	972	653	542	922	576	414	1153	1583	208	1141	681
v/s Ratio Prot	c0.11	c0.20	0.07	0.08	0.18	0.02	c0.11	c0.27		0.11	0.19	0.04
v/s Ratio Perm			0.14			0.04			c0.41			0.11
v/c Ratio	0.92	0.74	0.51	0.72	0.70	0.16	0.92	0.83	0.41	0.92	0.58	0.35
Uniform Delay, d1	40.0	30.4	20.1	39.7	30.8	19.6	40.0	28.7	0.0	40.2	26.0	17.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.8	3.0	0.6	4.5	2.5	0.1	24.9	5.5	0.8	39.9	0.9	0.3
Delay (s)	65.8	33.4	20.7	44.2	33.3	19.7	64.9	34.2	0.8	80.1	26.8	17.7
Level of Service	E	C	C	D	C	B	E	C	A	F	C	B
Approach Delay (s)		38.8			35.8			29.2			33.9	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	92.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.6%	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)	571	676	2	2	640	184	2	6	8	187	2	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
Lane Util. Factor	0.97	0.95		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.97			0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.95	1.00
Satd. Flow (prot)	3400	3504		1770	3388			1727			1758	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.72	1.00
Satd. Flow (perm)	3400	3504		1770	3388			1686			1320	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)	621	735	2	2	696	200	2	7	9	203	2	478
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	621	737	0	2	896	0	0	18	0	0	205	478
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%	2%	2%	2%	3%	2%	2%
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases							2			6		6
Actuated Green, G (s)	12.7	32.5		0.7	20.5			13.0			13.0	25.7
Effective Green, g (s)	12.7	32.5		0.7	20.5			13.0			13.0	25.7
Actuated g/C Ratio	0.22	0.56		0.01	0.35			0.22			0.22	0.44
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)	742	1957		21	1193			377			295	808
v/s Ratio Prot	c0.18	0.21		0.00	c0.26							c0.13
v/s Ratio Perm								0.01			c0.16	0.17
v/c Ratio	0.84	0.38		0.10	0.75			0.05			0.69	0.59
Uniform Delay, d1	21.8	7.2		28.4	16.6			17.7			20.8	12.3
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	8.2	0.1		2.0	2.7			0.1			6.9	1.2
Delay (s)	29.9	7.3		30.4	19.3			17.8			27.7	13.5
Level of Service	C	A		C	B			B			C	B
Approach Delay (s)		17.6			19.3			17.8			17.7	
Approach LOS		B			B			B			B	

Intersection Summary

HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	458	417	41	414	442	199	71	498	445	265	769	693
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.5	4.0	4.0	1.5	4.0	4.0	6.5	4.0	4.0	2.5
Lane Util. Factor	0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95	0.88	0.97	0.95	0.88
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	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	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	4990	3539	1548	3433	3539	1569	1770	3539	2720	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	4990	3539	1548	3433	3539	1569	1770	3539	2720	3433	3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	498	453	45	450	480	216	77	541	484	288	836	753
RTOR Reduction (vph)	0	0	35	0	0	32	0	0	369	0	0	135
Lane Group Flow (vph)	498	453	10	450	480	184	77	541	115	288	836	618
Confl. Peds. (#/hr)			1	2		1	1		2	1		
Turn Type	Prot		Perm	Prot		pm+ov	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	10.7	18.2	18.2	12.3	19.3	28.3	5.0	18.6	18.6	9.0	23.1	33.8
Effective Green, g (s)	11.2	20.7	18.2	11.8	21.3	32.3	4.5	21.1	18.6	8.5	25.1	37.8
Actuated g/C Ratio	0.14	0.27	0.23	0.15	0.27	0.41	0.06	0.27	0.24	0.11	0.32	0.48
Clearance Time (s)	4.5	6.5	6.5	3.5	6.0	3.5	3.5	6.5	6.5	3.5	6.0	4.5
Vehicle Extension (s)	1.0	4.5	4.5	1.0	4.5	1.0	1.0	4.5	4.5	1.0	4.5	1.0
Lane Grp Cap (vph)	716	938	361	519	965	649	102	956	648	374	1137	1349
v/s Ratio Prot	0.10	0.13		c0.13	c0.14	0.04	c0.04	0.15		0.08	c0.24	0.07
v/s Ratio Perm			0.01			0.08			0.04			0.15
v/c Ratio	0.70	0.48	0.03	0.87	0.50	0.28	0.75	0.57	0.18	0.77	0.74	0.46
Uniform Delay, d1	31.8	24.2	23.1	32.4	23.9	15.2	36.3	24.6	23.7	33.8	23.5	13.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	1.8	0.1	13.8	1.8	0.1	24.1	1.1	0.2	8.6	2.8	0.1
Delay (s)	34.2	26.0	23.3	46.1	25.7	15.3	60.3	25.7	23.9	42.5	26.4	13.5
Level of Service	C	C	C	D	C	B	E	C	C	D	C	B
Approach Delay (s)		30.0			31.8			27.3			23.7	
Approach LOS		C			C			C			C	

Intersection Summary

HCM Average Control Delay	27.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	78.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1137	52	45	1997	74	87
Ideal Flow (vphpl)	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	1.00	1.00	0.95	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)	3200	1583	1770	3200	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3200	1583	1770	3200	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1236	57	49	2171	80	95
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1236	57	49	2171	80	95
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	42.7	42.7	3.5	49.9	6.9	6.9
Effective Green, g (s)	44.7	44.7	3.2	51.9	7.1	7.1
Actuated g/C Ratio	0.67	0.67	0.05	0.77	0.11	0.11
Clearance Time (s)	6.0	6.0	3.7	6.0	4.2	4.2
Vehicle Extension (s)	1.5	1.5	3.0	1.5	2.0	2.0
Lane Grp Cap (vph)	2135	1056	85	2479	188	168
v/s Ratio Prot	0.39		0.03	c0.68	0.05	
v/s Ratio Perm		0.04				c0.06
v/c Ratio	0.58	0.05	0.58	0.88	0.43	0.57
Uniform Delay, d1	6.0	3.8	31.2	5.3	28.0	28.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0	9.1	3.7	0.6	2.6
Delay (s)	6.3	3.9	40.4	9.0	28.6	31.1
Level of Service	A	A	D	A	C	C
Approach Delay (s)	6.2			9.7	29.9	
Approach LOS	A			A	C	

Intersection Summary

HCM Average Control Delay	9.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	67.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	105	1100	19	54	1739	211	32	41	140	310	52	271
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	3.5	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3200	1583	1770	3200	1583		1823	1583	3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00		0.87	1.00	0.70	1.00	1.00
Satd. Flow (perm)	1770	3200	1583	1770	3200	1583		1622	1583	2548	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)	114	1196	21	59	1890	229	35	45	152	337	57	295
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	114	1196	21	59	1890	229	0	80	152	337	57	295
Turn Type	Prot		Perm	Prot		Perm	Perm		pm+ov	Perm		Perm
Protected Phases	5	2		1	6			8	1		4	
Permitted Phases			2			6	8		8	4		4
Actuated Green, G (s)	8.6	63.8	63.8	8.3	63.5	63.5		22.1	30.4	22.1	22.1	22.1
Effective Green, g (s)	8.1	65.8	65.8	7.8	65.5	65.5		22.1	30.4	22.1	22.1	22.1
Actuated g/C Ratio	0.08	0.61	0.61	0.07	0.61	0.61		0.21	0.28	0.21	0.21	0.21
Clearance Time (s)	3.5	6.0	6.0	3.5	6.0	6.0		4.0	3.5	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)	133	1955	967	128	1946	963		333	447	523	382	325
v/s Ratio Prot	c0.06	0.37		0.03	c0.59				0.03		0.03	
v/s Ratio Perm			0.01			0.14		0.05	0.07	0.13		c0.19
v/c Ratio	0.86	0.61	0.02	0.46	0.97	0.24		0.24	0.34	0.64	0.15	0.91
Uniform Delay, d1	49.2	13.0	8.3	47.9	20.2	9.7		35.8	30.7	39.2	35.1	41.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	38.6	0.6	0.0	2.6	14.2	0.1		0.4	0.5	2.7	0.2	27.5
Delay (s)	87.8	13.6	8.3	50.5	34.4	9.8		36.2	31.1	41.9	35.3	69.3
Level of Service	F	B	A	D	C	A		D	C	D	D	E
Approach Delay (s)		19.9			32.2			32.9			53.1	
Approach LOS		B			C			C			D	

Intersection Summary

HCM Average Control Delay	31.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	107.7	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)	292	1243	15	30	1758	565	19	30	42	309	20	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	4.2	4.0	4.0	2.9
Lane Util. Factor	0.97	0.95		1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.97	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	1.00
Frt	1.00	1.00		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3200		1770	3200	1566	1656	1863	1543	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3200		1770	3200	1566	1656	1863	1543	3433	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)	317	1351	16	33	1911	614	21	33	46	336	22	248
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	45	0	0	23
Lane Group Flow (vph)	317	1367	0	33	1911	614	21	33	1	336	22	225
Confl. Peds. (#/hr)				1		1			1	1		
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	9%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		pm+ov	Split		Perm	Split		pm+ov
Protected Phases	5	2		1	6	7	8	8		7	7	5
Permitted Phases						6			8			7
Actuated Green, G (s)	14.3	98.3		3.9	87.9	106.6	3.1	3.1	3.1	18.7	18.7	33.0
Effective Green, g (s)	14.5	100.3		4.1	89.9	109.2	3.3	3.3	3.1	20.0	20.0	35.6
Actuated g/C Ratio	0.10	0.70		0.03	0.63	0.76	0.02	0.02	0.02	0.14	0.14	0.25
Clearance Time (s)	4.2	6.0		4.2	6.0	5.3	4.2	4.2	4.2	5.3	5.3	4.2
Vehicle Extension (s)	2.5	2.5		3.0	2.5	2.5	2.0	2.0	2.0	2.5	2.5	2.5
Lane Grp Cap (vph)	346	2234		51	2002	1190	38	43	33	478	259	392
v/s Ratio Prot	c0.09	0.43		0.02	c0.60	0.07	0.01	c0.02		c0.10	0.01	0.06
v/s Ratio Perm						0.32			0.00			0.08
v/c Ratio	0.92	0.61		0.65	0.95	0.52	0.55	0.77	0.03	0.70	0.08	0.57
Uniform Delay, d1	64.0	11.4		69.1	25.0	6.8	69.5	69.8	68.8	59.0	53.9	47.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.0	0.4		24.8	11.2	0.3	9.5	51.8	0.1	4.3	0.1	1.7
Delay (s)	92.0	11.9		93.9	36.2	7.1	79.0	121.6	69.0	63.3	54.0	49.1
Level of Service	F	B		F	D	A	E	F	E	E	D	D
Approach Delay (s)		26.9			30.0			88.4			57.1	
Approach LOS		C			C			F			E	

Intersection Summary

HCM Average Control Delay	33.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	143.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	197	1397	1745	21	0	608
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	0.97	0.95	0.95			0.88
Frt	1.00	1.00	1.00			0.85
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	3433	3200	3200			2787
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	3433	3200	3200			2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	1518	1897	23	0	661
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	214	1518	1920	0	0	661
Turn Type	Prot					Over
Protected Phases	5	2	6			5
Permitted Phases						
Actuated Green, G (s)	20.1	79.6	48.9			20.1
Effective Green, g (s)	20.7	79.6	50.9			20.7
Actuated g/C Ratio	0.26	1.00	0.64			0.26
Clearance Time (s)	4.6	2.0	6.0			4.6
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	893	3200	2046			725
v/s Ratio Prot	0.06	0.47	c0.60			c0.24
v/s Ratio Perm						
v/c Ratio	0.24	0.47	0.94			0.91
Uniform Delay, d1	23.2	0.0	12.9			28.6
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.1	0.1	9.0			15.7
Delay (s)	23.4	0.1	21.9			44.3
Level of Service	C	A	C			D
Approach Delay (s)		3.0	21.9		44.3	
Approach LOS		A	C		D	

Intersection Summary

HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	1263	12	10	1529	240	7	5	5	489	5	230
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	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	3200	1583	1770	3200	1583	1770	1723		3433	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	3200	1583	1770	3200	1583	1770	1723		3433	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)	133	1373	13	11	1662	261	8	5	5	532	5	250
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	133	1373	13	11	1662	261	8	10	0	532	5	250
Turn Type	Prot		Perm	Prot		Perm	Prot			Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6						4
Actuated Green, G (s)	4.8	61.9	61.9	0.7	57.6	57.6	0.7	3.0		19.1	21.0	21.0
Effective Green, g (s)	5.0	63.9	63.9	0.7	59.6	59.6	0.9	3.0		19.1	21.2	21.2
Actuated g/C Ratio	0.05	0.62	0.62	0.01	0.58	0.58	0.01	0.03		0.19	0.21	0.21
Clearance Time (s)	4.2	6.0	6.0	4.0	6.0	6.0	4.2	4.0		4.0	4.2	4.2
Vehicle Extension (s)	4.5	4.5	4.5	3.0	4.5	4.5	4.5	3.0		3.0	3.5	3.5
Lane Grp Cap (vph)	167	1991	985	12	1857	919	16	50		638	385	327
v/s Ratio Prot	c0.04	0.43		0.01	c0.52		0.00	0.01		c0.15	0.00	
v/s Ratio Perm			0.01			0.16						c0.16
v/c Ratio	0.80	0.69	0.01	0.92	0.89	0.28	0.50	0.20		0.83	0.01	0.76
Uniform Delay, d1	48.3	12.8	7.4	51.0	18.8	10.8	50.7	48.7		40.3	32.4	38.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	24.8	1.2	0.0	212.2	6.3	0.3	36.7	2.0		9.2	0.0	10.5
Delay (s)	73.1	14.0	7.4	263.1	25.1	11.1	87.4	50.6		49.5	32.4	48.9
Level of Service	E	B	A	F	C	B	F	D		D	C	D
Approach Delay (s)		19.1			24.6			67.0			49.2	
Approach LOS		B			C			E			D	

Intersection Summary

HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	102.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	1613	78	23	1615	35	86	6	37	44	5	78
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	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.87			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.96	1.00
Satd. Flow (prot)	1770	3200	1583	1770	3200	1583	1770	1625			1782	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.72	1.00			0.71	1.00
Satd. Flow (perm)	1770	3200	1583	1770	3200	1583	1346	1625			1327	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)	72	1753	85	25	1755	38	93	7	40	48	5	85
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	72	1753	85	25	1755	38	93	47	0	0	53	85
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases			2			6	8			4		4
Actuated Green, G (s)	3.5	50.0	50.0	1.4	47.9	47.9	8.6	8.6			8.6	8.6
Effective Green, g (s)	3.2	52.0	52.0	1.1	49.9	49.9	8.7	8.7			8.7	8.7
Actuated g/C Ratio	0.04	0.70	0.70	0.01	0.68	0.68	0.12	0.12			0.12	0.12
Clearance Time (s)	3.7	6.0	6.0	3.7	6.0	6.0	4.1	4.1			4.1	4.1
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	77	2255	1115	26	2164	1070	159	192			156	187
v/s Ratio Prot	c0.04	0.55		0.01	c0.55			0.03				
v/s Ratio Perm			0.05			0.02	c0.07				0.04	0.05
v/c Ratio	0.94	0.78	0.08	0.96	0.81	0.04	0.58	0.24			0.34	0.45
Uniform Delay, d1	35.2	7.1	3.4	36.3	8.6	4.0	30.8	29.6			29.9	30.3
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	80.0	1.9	0.0	159.0	2.5	0.0	5.4	0.7			1.3	1.8
Delay (s)	115.2	9.0	3.4	195.3	11.1	4.0	36.2	30.2			31.2	32.1
Level of Service	F	A	A	F	B	A	D	C			C	C
Approach Delay (s)		12.7			13.5			34.2			31.8	
Approach LOS		B			B			C			C	

Intersection Summary

HCM Average Control Delay	14.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1516	178	243	1397	276	460
Ideal Flow (vphpl)	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	1.00	0.97	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	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)	3200	1583	3433	3200	1770	1571
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3200	1583	3433	3200	1770	1571
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1648	193	264	1518	300	500
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	1648	193	264	1518	300	500
Confl. Peds. (#/hr)			1		1	1
Heavy Vehicles (%)	2%	2%	2%	4%	2%	2%
Turn Type		Perm	Prot			pm+ov
Protected Phases	2		1	6	8	1
Permitted Phases		2				8
Actuated Green, G (s)	44.9	44.9	13.1	61.7	17.3	30.4
Effective Green, g (s)	46.9	46.9	12.8	63.7	17.0	29.8
Actuated g/C Ratio	0.53	0.53	0.14	0.72	0.19	0.34
Clearance Time (s)	6.0	6.0	3.7	6.0	3.7	3.7
Vehicle Extension (s)	2.5	2.5	2.5	2.5	3.0	2.5
Lane Grp Cap (vph)	1692	837	495	2298	339	599
v/s Ratio Prot	c0.52		0.08	0.47	0.17	c0.12
v/s Ratio Perm		0.12				0.20
v/c Ratio	0.97	0.23	0.53	0.66	0.88	0.83
Uniform Delay, d1	20.3	11.2	35.2	6.7	34.9	27.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.0	0.1	0.9	0.6	22.9	9.6
Delay (s)	36.3	11.3	36.0	7.4	57.8	36.8
Level of Service	D	B	D	A	E	D
Approach Delay (s)	33.7			11.6	44.7	
Approach LOS	C			B	D	

Intersection Summary

HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	88.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	1745	228	301	1480	10	154	2	311	6	2	6
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	3.7		4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (prot)	1770	3200	1583	3433	3200			1775	1568		1793	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	1.00
Satd. Flow (perm)	1770	3200	1583	3433	3200			1775	1568		1793	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)	3	1897	248	327	1609	11	167	2	338	7	2	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	3	1897	248	327	1620	0	0	169	338	0	9	7
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split		pm+ov	Split		Perm
Protected Phases	5	2		1	6		8	8	1	4	4	
Permitted Phases			2						8			4
Actuated Green, G (s)	0.8	91.5	91.5	17.3	107.7			20.6	37.9		2.9	2.9
Effective Green, g (s)	0.8	93.5	93.5	17.0	109.7			20.6	37.9		2.9	2.9
Actuated g/C Ratio	0.01	0.62	0.62	0.11	0.73			0.14	0.25		0.02	0.02
Clearance Time (s)	4.0	6.0	6.0	3.7	6.0			4.0	3.7		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	2.5	3.0			3.0	2.5		3.0	3.0
Lane Grp Cap (vph)	9	1995	987	389	2340			244	396		35	31
v/s Ratio Prot	0.00	c0.59		0.10	0.51			0.10	c0.10		c0.01	
v/s Ratio Perm			0.16						0.12			0.00
v/c Ratio	0.33	0.95	0.25	0.84	0.69			0.69	0.85		0.26	0.23
Uniform Delay, d1	74.3	26.1	12.6	65.2	11.0			61.7	53.4		72.5	72.4
Progression Factor	1.00	1.00	1.00	1.09	0.53			1.00	1.00		1.00	1.00
Incremental Delay, d2	20.6	11.5	0.6	10.5	1.2			8.2	16.0		3.9	3.7
Delay (s)	94.9	37.6	13.2	81.3	7.0			69.9	69.4		76.4	76.1
Level of Service	F	D	B	F	A			E	E		E	E
Approach Delay (s)		34.9			19.5			69.6			76.3	
Approach LOS		C			B			E			E	

Intersection Summary

HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	82.1%	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)	3	1930	132	161	1703	2	85	3	122	2	2	3
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			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	0.98		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	1.00
Satd. Flow (prot)	1770	3200	1583	3273	3200			1777	1559		1817	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.98	1.00
Satd. Flow (perm)	1770	3200	1583	3273	3200			1777	1559		1817	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)	3	2098	143	175	1851	2	92	3	133	2	2	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	3	2098	143	175	1853	0	0	95	133	0	4	3
Confl. Peds. (#/hr)				1		1			1	1		
Heavy Vehicles (%)	2%	2%	2%	7%	3%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split		Perm	Split		Perm
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases			2						3			4
Actuated Green, G (s)	0.6	103.1	103.1	11.5	114.0			12.8	12.8		5.5	5.5
Effective Green, g (s)	0.3	105.1	105.1	11.2	116.0			12.5	12.5		5.2	5.2
Actuated g/C Ratio	0.00	0.70	0.70	0.07	0.77			0.08	0.08		0.03	0.03
Clearance Time (s)	3.7	6.0	6.0	3.7	6.0			3.7	3.7		3.7	3.7
Vehicle Extension (s)	3.0	3.0	3.0	2.5	3.0			2.5	2.5		2.5	2.5
Lane Grp Cap (vph)	4	2242	1109	244	2475			148	130		63	55
v/s Ratio Prot	0.00	c0.66		c0.05	c0.58			0.05			c0.00	
v/s Ratio Perm			0.09						c0.09			0.00
v/c Ratio	0.75	0.94	0.13	0.72	0.75			0.64	1.02		0.06	0.05
Uniform Delay, d1	74.8	19.5	7.4	67.9	9.2			66.6	68.8		70.0	70.0
Progression Factor	0.86	0.38	0.38	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	147.6	4.2	0.1	9.0	2.1			8.1	85.2		0.3	0.3
Delay (s)	211.8	11.6	2.9	76.9	11.3			74.7	154.0		70.4	70.3
Level of Service	F	B	A	E	B			E	F		E	E
Approach Delay (s)		11.3			16.9			120.9			70.3	
Approach LOS		B			B			F			E	

Intersection Summary

HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	69	1985	1817	47	4	49
Ideal Flow (vphpl)	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	0.95	0.95	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)	1770	3200	3200	1583	1770	1583
Flt Permitted	0.07	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	140	3200	3200	1583	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	2158	1975	51	4	53
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	75	2158	1975	51	4	53
Turn Type	Perm			Perm		Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	61.2	61.2	61.2	61.2	8.2	8.2
Effective Green, g (s)	61.2	61.2	61.2	61.2	8.2	8.2
Actuated g/C Ratio	0.79	0.79	0.79	0.79	0.11	0.11
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	111	2530	2530	1252	188	168
v/s Ratio Prot		c0.67	0.62		0.00	
v/s Ratio Perm	0.54			0.03		c0.03
v/c Ratio	0.68	0.85	0.78	0.04	0.02	0.32
Uniform Delay, d1	3.6	5.2	4.4	1.8	31.0	32.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.1	3.0	1.6	0.0	0.0	1.1
Delay (s)	18.7	8.2	6.1	1.8	31.1	33.1
Level of Service	B	A	A	A	C	C
Approach Delay (s)		8.6	5.9		32.9	
Approach LOS		A	A		C	

Intersection Summary

HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	11	22	261	45	175	25	127	27	38	40	26
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	1.00		1.00	1.00	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.95		1.00	0.97		1.00	0.94	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1719			1707		1770	1808		1768	1753	
Flt Permitted		0.76			0.79		0.71	1.00		0.65	1.00	
Satd. Flow (perm)		1344			1387		1324	1808		1212	1753	
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)	37	12	24	284	49	190	27	138	29	41	43	28
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	73	0	0	523	0	27	167	0	41	71	0
Confl. Peds. (#/hr)				1		1			1	1		
Heavy Vehicles (%)	4%	2%	2%	2%	4%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.5			18.5		9.2	9.2		9.2	9.2	
Effective Green, g (s)		18.5			18.5		9.2	9.2		9.2	9.2	
Actuated g/C Ratio		0.52			0.52		0.26	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)		696			719		341	466		312	452	
v/s Ratio Prot								c0.09			0.04	
v/s Ratio Perm		0.05			c0.38		0.02			0.03		
v/c Ratio		0.10			0.73		0.08	0.36		0.13	0.16	
Uniform Delay, d1		4.4			6.7		10.0	10.8		10.2	10.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1			3.7		0.1	0.5		0.2	0.2	
Delay (s)		4.4			10.3		10.1	11.3		10.4	10.4	
Level of Service		A			B		B	B		B	B	
Approach Delay (s)		4.4			10.3			11.1			10.4	
Approach LOS		A			B			B			B	

Intersection Summary

HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	35.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	336	775	0	0	275	285	182	1	147	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			
Lane Util. Factor	0.97	1.00			1.00	1.00		1.00	1.00			
Frpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	0.99			
Flpb, ped/bikes	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	3400	1863			1863	1553		1770	1562			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	3400	1863			1863	1553		1770	1562			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	365	842	0	0	299	310	198	1	160	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	365	842	0	0	299	310	0	199	160	0	0	0
Confl. Peds. (#/hr)			2				2		2			
Heavy Vehicles (%)	3%	2%	2%	2%	2%	4%	2%	2%	2%	2%	2%	2%
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	2			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	9.0	26.0			13.3	13.3		10.7	10.7			
Effective Green, g (s)	8.7	28.0			15.3	15.3		11.6	11.6			
Actuated g/C Ratio	0.18	0.59			0.32	0.32		0.24	0.24			
Clearance Time (s)	3.7	6.0			6.0	6.0		4.9	4.9			
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	621	1096			599	499		431	381			
v/s Ratio Prot	0.11	c0.45			0.16							
v/s Ratio Perm						0.20		0.11	0.10			
v/c Ratio	0.59	0.77			0.50	0.62		0.46	0.42			
Uniform Delay, d1	17.8	7.4			13.1	13.7		15.3	15.2			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.4	3.3			0.7	2.4		0.8	0.8			
Delay (s)	19.2	10.7			13.7	16.1		16.1	15.9			
Level of Service	B	B			B	B		B	B			
Approach Delay (s)		13.3			14.9			16.0			0.0	
Approach LOS		B			B			B			A	

Intersection Summary

HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	47.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	608	374	122	335	0	0	0	0	503	6	665
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	6.0	4.0	4.0						4.0	4.0
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frpb, ped/bikes		1.00	0.97	1.00	1.00						1.00	1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1845	1542	1770	1845						1775	1583
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1845	1542	1770	1845						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)	0	661	407	133	364	0	0	0	0	547	7	723
RTOR Reduction (vph)	0	0	256	0	0	0	0	0	0	0	0	305
Lane Group Flow (vph)	0	661	151	133	364	0	0	0	0	0	554	418
Confl. Peds. (#/hr)			2	2								
Heavy Vehicles (%)	2%	3%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	6						4	
Permitted Phases			2							4		4
Actuated Green, G (s)		28.6	28.6	8.2	40.5						25.7	25.7
Effective Green, g (s)		30.6	28.6	7.9	42.5						26.6	26.6
Actuated g/C Ratio		0.40	0.37	0.10	0.55						0.35	0.35
Clearance Time (s)		6.0	6.0	3.7	6.0						4.9	4.9
Vehicle Extension (s)		3.0	3.0	3.0	3.0						3.0	3.0
Lane Grp Cap (vph)		732	572	181	1017						612	546
v/s Ratio Prot		c0.36		c0.08	0.20							
v/s Ratio Perm			0.10								0.31	0.26
v/c Ratio		0.90	0.26	0.73	0.36						0.91	0.77
Uniform Delay, d1		21.9	16.9	33.6	9.7						24.0	22.5
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		14.4	0.2	14.3	0.2						16.9	6.4
Delay (s)		36.3	17.2	47.9	9.9						41.0	28.8
Level of Service		D	B	D	A						D	C
Approach Delay (s)		29.0			20.1			0.0			34.1	
Approach LOS		C			C			A			C	

Intersection Summary

HCM Average Control Delay	29.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	2	1214	2	0	0	0	0	171	1	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	
Lane Util. Factor		1.00		0.95	0.95						1.00	
Frt		0.86		1.00	1.00						1.00	
Flt Protected		1.00		0.95	0.95						0.95	
Satd. Flow (prot)		1611		1665	1669						1631	
Flt Permitted		1.00		0.95	0.95						0.95	
Satd. Flow (perm)		1611		1665	1669						1631	
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	2	1320	2	0	0	0	0	186	1	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	2	0	660	662	0	0	0	0	0	187	0
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	2%	2%	2%	11%	2%	2%
Turn Type				Split						Perm		
Protected Phases		4		8	8						6	
Permitted Phases										6		
Actuated Green, G (s)		0.9		28.3	28.3						11.0	
Effective Green, g (s)		0.9		28.3	28.3						11.0	
Actuated g/C Ratio		0.02		0.54	0.54						0.21	
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)		28		903	905						344	
v/s Ratio Prot		c0.00		0.40	c0.40							
v/s Ratio Perm											0.11	
v/c Ratio		0.07		0.73	0.73						0.54	
Uniform Delay, d1		25.2		9.1	9.1						18.4	
Progression Factor		1.00		1.00	1.00						1.00	
Incremental Delay, d2		1.1		3.1	3.1						1.8	
Delay (s)		26.3		12.1	12.1						20.1	
Level of Service		C		B	B						C	
Approach Delay (s)		26.3			12.1			0.0			20.1	
Approach LOS		C			B			A			C	

Intersection Summary

HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	171	0	0	1216	0	1000
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)	186	0	0	1322	0	1087
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	365					
pX, platoon unblocked						
vC, conflicting volume			186		847	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			186		847	186
tC, single (s)			4.1		6.8	7.1
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.4
p0 queue free %			100		100	0
cM capacity (veh/h)			1386		301	806

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2
Volume Total	186	661	661	362	725
Volume Left	0	0	0	0	0
Volume Right	0	0	0	362	725
cSH	1700	1700	1700	806	806
Volume to Capacity	0.11	0.39	0.39	0.45	0.90
Queue Length 95th (ft)	0	0	0	59	304
Control Delay (s)	0.0	0.0	0.0	13.1	34.9
Lane LOS				B	D
Approach Delay (s)	0.0	0.0		27.6	
Approach LOS				D	

Intersection Summary			
Average Delay	11.6		
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	6	1165	1214	179	5	2
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)	7	1266	1320	195	5	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		600				
pX, platoon unblocked						
vC, conflicting volume	1514				1966	660
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1514				1966	660
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				90	99
cM capacity (veh/h)	437				54	406

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SW 1
Volume Total	7	633	633	660	660	195	8
Volume Left	7	0	0	0	0	0	5
Volume Right	0	0	0	0	0	195	2
cSH	437	1700	1700	1700	1700	1700	76
Volume to Capacity	0.01	0.37	0.37	0.39	0.39	0.11	0.10
Queue Length 95th (ft)	1	0	0	0	0	0	8
Control Delay (s)	13.4	0.0	0.0	0.0	0.0	0.0	60.2
Lane LOS	B						F
Approach Delay (s)	0.1			0.0			60.2
Approach LOS							F

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	43.6%	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)	475	598	340	678	818	156	355	854	486	149	994	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	2.4	4.0	4.0	3.7	4.0	4.0	2.7	4.0	4.0	3.7
Lane Util. Factor	0.97	0.95	1.00	0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3539	1567	4990	3539	1566	3433	3539	1563	1770	3539	1567
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3539	1567	4990	3539	1566	3433	3539	1563	1770	3539	1567
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)	516	650	370	737	889	170	386	928	528	162	1080	304
RTOR Reduction (vph)	0	0	4	0	0	11	0	0	0	0	0	7
Lane Group Flow (vph)	516	650	366	737	889	159	386	928	528	162	1080	297
Confl. Peds. (#/hr)	4		3	2		3	3		2	3		3
Turn Type	Prot		pm+ov	Prot		pm+ov	Prot		Free	Prot		pm+ov
Protected Phases	7	4	5	3	8	1	5	2		1	6	7
Permitted Phases			4			8			Free			6
Actuated Green, G (s)	15.5	27.8	39.7	15.3	27.6	38.5	11.9	32.6	104.6	10.9	31.6	47.1
Effective Green, g (s)	15.2	29.1	42.3	15.0	28.9	38.5	11.6	33.9	104.6	10.6	32.9	47.1
Actuated g/C Ratio	0.15	0.28	0.40	0.14	0.28	0.37	0.11	0.32	1.00	0.10	0.31	0.45
Clearance Time (s)	3.7	5.3	3.7	3.7	5.3	3.7	3.7	5.3		3.7	5.3	3.7
Vehicle Extension (s)	3.0	3.5	3.0	3.0	3.5	3.0	3.0	4.0		3.0	4.0	3.0
Lane Grp Cap (vph)	499	985	634	716	978	576	381	1147	1563	179	1113	706
v/s Ratio Prot	c0.15	0.18	0.07	0.15	c0.25	0.03	c0.11	0.26		0.09	c0.31	0.06
v/s Ratio Perm			0.16			0.07			c0.34			0.13
v/c Ratio	1.03	0.66	0.58	1.03	0.91	0.28	1.01	0.81	0.34	0.91	0.97	0.42
Uniform Delay, d1	44.7	33.4	24.2	44.8	36.6	23.3	46.5	32.4	0.0	46.5	35.4	19.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	49.3	1.7	1.3	41.4	12.2	0.3	49.5	4.5	0.6	41.1	20.2	0.4
Delay (s)	94.0	35.1	25.5	86.2	48.8	23.5	96.0	36.9	0.6	87.6	55.5	19.9
Level of Service	F	D	C	F	D	C	F	D	A	F	E	B
Approach Delay (s)		52.6			61.7			38.9			51.9	
Approach LOS		D			E			D			D	

Intersection Summary

HCM Average Control Delay	51.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	104.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	720	656	3	7	900	144	1	3	5	193	2	811
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		1.00	0.95			1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98			0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.95	1.00
Satd. Flow (prot)	3433	3537		1770	3447			1714			1758	1583
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.72	1.00
Satd. Flow (perm)	3433	3537		1770	3447			1679			1332	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)	783	713	3	8	978	157	1	3	5	210	2	882
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	0	0	0	9
Lane Group Flow (vph)	783	716	0	8	1120	0	0	9	0	0	212	873
Heavy Vehicles (%)	2%	2%	2%	2%	2%	6%	2%	2%	2%	3%	2%	2%
Turn Type	Prot			Prot			Perm			Perm		pm+ov
Protected Phases	7	4		3	8			2			6	7
Permitted Phases							2			6		6
Actuated Green, G (s)	26.0	54.4		0.8	29.2			15.1			15.1	41.1
Effective Green, g (s)	26.0	54.4		0.8	29.2			15.1			15.1	41.1
Actuated g/C Ratio	0.32	0.66		0.01	0.35			0.18			0.18	0.50
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)	1085	2338		17	1223			308			244	867
v/s Ratio Prot	0.23	0.20		0.00	c0.32							c0.32
v/s Ratio Perm								0.01			0.16	0.23
v/c Ratio	0.72	0.31		0.47	0.92			0.03			0.87	1.01
Uniform Delay, d1	24.9	5.9		40.5	25.4			27.6			32.6	20.6
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	1.00
Incremental Delay, d2	2.4	0.1		19.2	10.7			0.0			26.2	32.3
Delay (s)	27.3	6.0		59.7	36.0			27.6			58.9	52.9
Level of Service	C	A		E	D			C			E	D
Approach Delay (s)		17.1			36.2			27.6			54.0	
Approach LOS		B			D			C			D	

Intersection Summary

HCM Average Control Delay	33.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	82.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	692	412	39	463	491	384	58	783	692	299	805	423
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	6.5	4.0	4.0	1.5	4.0	4.0	6.5	4.0	4.0	2.5
Lane Util. Factor	0.94	0.95	1.00	0.97	0.95	1.00	1.00	0.95	0.88	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	4990	3539	1583	3433	3539	1583	1770	3539	2787	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	4990	3539	1583	3433	3539	1583	1770	3539	2787	3433	3539	2787
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	752	448	42	503	534	417	63	851	752	325	875	460
RTOR Reduction (vph)	0	0	33	0	0	7	0	0	556	0	0	98
Lane Group Flow (vph)	752	448	9	503	534	410	63	851	196	325	875	362
Turn Type	Prot		Perm	Prot		pm+ov	Prot		Perm	Prot		pm+ov
Protected Phases	5	2		1	6	7	3	8		7	4	5
Permitted Phases			2			6			8			4
Actuated Green, G (s)	12.5	16.8	16.8	12.9	16.7	25.6	4.3	20.7	20.7	8.9	25.8	38.3
Effective Green, g (s)	13.0	19.3	16.8	12.4	18.7	29.6	3.8	23.2	20.7	8.4	27.8	42.3
Actuated g/C Ratio	0.16	0.24	0.21	0.16	0.24	0.37	0.05	0.29	0.26	0.11	0.35	0.53
Clearance Time (s)	4.5	6.5	6.5	3.5	6.0	3.5	3.5	6.5	6.5	3.5	6.0	4.5
Vehicle Extension (s)	1.0	4.5	4.5	1.0	4.5	1.0	1.0	4.5	4.5	1.0	4.5	1.0
Lane Grp Cap (vph)	818	861	335	537	835	591	85	1035	728	364	1241	1487
v/s Ratio Prot	c0.15	0.13		0.15	0.15	c0.10	0.04	c0.24		c0.09	0.25	0.04
v/s Ratio Perm			0.01			0.16			0.07			0.09
v/c Ratio	0.92	0.52	0.03	0.94	0.64	0.69	0.74	0.82	0.27	0.89	0.71	0.24
Uniform Delay, d1	32.6	26.0	24.8	33.1	27.3	21.0	37.3	26.1	23.3	35.0	22.2	9.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.9	0.9	0.1	23.7	2.0	2.9	25.8	5.9	0.3	22.5	2.1	0.0
Delay (s)	47.5	26.9	24.8	56.7	29.3	23.9	63.1	32.0	23.6	57.5	24.3	9.9
Level of Service	D	C	C	E	C	C	E	C	C	E	C	A
Approach Delay (s)		39.3			37.2			29.4			26.8	
Approach LOS		D			D			C			C	

Intersection Summary

HCM Average Control Delay	32.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	79.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst: LM
Agency/Co: HMM
Date: 10/15/2008
Analysis Period: Cumulative AM-Mitigated
Highway: 68
From/To: San Benancio Rd. / Torero Dr.
Jurisdiction: 252572
Analysis Year:
Project ID: Direction 1 = Eastbound Direction 2 = Westbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		0	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.0	mph
Free-flow speed	60.0	mph	60.0	mph

VOLUME

Direction	1		2	
Volume, V	1692	vph	1931	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	470		536	
Trucks and buses	4	%	4	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.980		0.980	
Flow rate, vp	958	pcphpl	1094	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	958	pcphpl	1094	pcphpl
Free-flow speed, FFS	60.0	mph	60.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	B		C	
Density, D	16.0	pc/mi/ln	18.2	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	LM
Agency/Co:	HMM
Date:	10/15/2008
Analysis Period:	Cumulative AM-Mitigated
Highway:	68
From/To:	Torero Dr. / Begin-End Freeway
Jurisdiction:	252572
Analysis Year:	
Project ID:	Direction 1 = Eastbound Direction 2 = Westbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		0	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.0	mph
Free-flow speed	60.0	mph	60.0	mph

VOLUME

Direction	1		2	
Volume, V	1676	vph	1529	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	466		425	
Trucks and buses	4	%	4	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.980		0.980	
Flow rate, vp	949	pcphpl	866	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	949	pcphpl	866	pcphpl
Free-flow speed, FFS	60.0	mph	60.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	B		B	
Density, D	15.8	pc/mi/ln	14.4	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst: LM
Agency/Co: HMM
Date: 10/15/2008
Analysis Period: Cumulative AM-Mitigated
Highway: 218
From/To: Highway 68 / General Jim Moore
Jurisdiction: 252572
Analysis Year:
Project ID: Direction 1 = Northbound Direction 2 = Southbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		0	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.0	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	624	vph	717	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	173		199	
Trucks and buses	2	%	2	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.990		0.990	
Flow rate, vp	350	pcphpl	402	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	350	pcphpl	402	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	A		A	
Density, D	7.8	pc/mi/ln	8.9	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst: LM
Agency/Co: HMM
Date: 10/15/2008
Analysis Period: Cumulative AM-Mitigated
Highway: Reservation Road
From/To: Davis Road / Highway 68
Jurisdiction: 252572
Analysis Year:
Project ID: Direction 1 = Eastbound Direction 2 = Westbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	7		7	
Median type	Undivided		Undivided	
Free-flow speed:	Base		Base	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	1.6	mph	1.6	mph
Access points adjustment, FA	1.8	mph	1.8	mph
Free-flow speed	56.7	mph	56.7	mph

VOLUME

Direction	1		2	
Volume, V	871	vph	826	vph
Peak-hour factor, PHF	0.92		0.92	
Peak 15-minute volume, v15	237		224	
Trucks and buses	6	%	6	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.971		0.971	
Flow rate, vp	487	pcphpl	462	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	487	pcphpl	462	pcphpl
Free-flow speed, FFS	56.7	mph	56.7	mph
Avg. passenger-car travel speed, S	56.7	mph	56.7	mph
Level of service, LOS	A		A	
Density, D	8.6	pc/mi/ln	8.2	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	LM
Agency/Co:	HMM
Date:	10/15/2008
Analysis Period:	Cumulative AM-Mitigated
Highway:	Davis Road
From/To:	Reservation Road / Blanco Road
Jurisdiction:	252572
Analysis Year:	
Project ID:	Direction 1 = Northbound Direction 2 = Southbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	3		3	
Median type	Undivided		Undivided	
Free-flow speed:	Base		Base	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	1.6	mph	1.6	mph
Access points adjustment, FA	0.8	mph	0.8	mph
Free-flow speed	57.7	mph	57.7	mph

VOLUME

Direction	1		2	
Volume, V	1014	vph	1224	vph
Peak-hour factor, PHF	0.92		0.92	
Peak 15-minute volume, v15	276		333	
Trucks and buses	3	%	3	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.985		0.985	
Flow rate, vp	559	pcphpl	675	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	559	pcphpl	675	pcphpl
Free-flow speed, FFS	57.7	mph	57.7	mph
Avg. passenger-car travel speed, S	57.7	mph	57.7	mph
Level of service, LOS	A		B	
Density, D	9.7	pc/mi/ln	11.7	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	LM
Agency/Co:	HMM
Date:	10/15/2008
Analysis Period:	Cumulative PM-Mitigated
Highway:	68
From/To:	San Benancio Rd. / Torero Dr.
Jurisdiction:	252572
Analysis Year:	
Project ID:	Direction 1 = Eastbound Direction 2 = Westbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		0	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.0	mph
Free-flow speed	60.0	mph	60.0	mph

VOLUME

Direction	1		2	
Volume, V	2054	vph	1866	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	571		518	
Trucks and buses	4	%	4	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.980		0.980	
Flow rate, vp	1163	pcphpl	1057	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	1163	pcphpl	1057	pcphpl
Free-flow speed, FFS	60.0	mph	60.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	C		B	
Density, D	19.4	pc/mi/ln	17.6	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst: LM
Agency/Co: HMM
Date: 10/15/2008
Analysis Period: Cumulative PM-Mitigated
Highway: 68
From/To: Torero Dr. / Begin-End Freeway
Jurisdiction: 252572
Analysis Year:
Project ID: Direction 1 = Eastbound Direction 2 = Westbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		0	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.0	mph
Free-flow speed	60.0	mph	60.0	mph

VOLUME

Direction	1		2	
Volume, V	1989	vph	1864	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	553		518	
Trucks and buses	4	%	4	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.980		0.980	
Flow rate, vp	1127	pcphpl	1056	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	1127	pcphpl	1056	pcphpl
Free-flow speed, FFS	60.0	mph	60.0	mph
Avg. passenger-car travel speed, S	60.0	mph	60.0	mph
Level of service, LOS	C		B	
Density, D	18.8	pc/mi/ln	17.6	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	LM
Agency/Co:	HMM
Date:	10/15/2008
Analysis Period:	Cumulative PM-Mitigated
Highway:	218
From/To:	Highway 68 / General Jim Moore
Jurisdiction:	252572
Analysis Year:	
Project ID:	Direction 1 = Northbound Direction 2 = Southbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	0		0	
Median type				
Free-flow speed:	Measured		Measured	
FFS or BFFS	45.0	mph	45.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	0.0	mph	0.0	mph
Access points adjustment, FA	0.0	mph	0.0	mph
Free-flow speed	45.0	mph	45.0	mph

VOLUME

Direction	1		2	
Volume, V	887	vph	557	vph
Peak-hour factor, PHF	0.90		0.90	
Peak 15-minute volume, v15	246		155	
Trucks and buses	2	%	2	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.990		0.990	
Flow rate, vp	497	pcphpl	312	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	497	pcphpl	312	pcphpl
Free-flow speed, FFS	45.0	mph	45.0	mph
Avg. passenger-car travel speed, S	45.0	mph	45.0	mph
Level of service, LOS	B		A	
Density, D	11.0+	pc/mi/ln	6.9	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	LM
Agency/Co:	HMM
Date:	10/15/2008
Analysis Period:	Cumulative PM-Mitigated
Highway:	Reservation Road
From/To:	Davis Road / Highway 68
Jurisdiction:	252572
Analysis Year:	
Project ID:	Direction 1 = Eastbound Direction 2 = Westbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	7		7	
Median type	Undivided		Undivided	
Free-flow speed:	Base		Base	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	1.6	mph	1.6	mph
Access points adjustment, FA	1.8	mph	1.8	mph
Free-flow speed	56.7	mph	56.7	mph

VOLUME

Direction	1		2	
Volume, V	854	vph	1051	vph
Peak-hour factor, PHF	0.92		0.92	
Peak 15-minute volume, v15	232		286	
Trucks and buses	6	%	6	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.971		0.971	
Flow rate, vp	478	pcphpl	588	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	478	pcphpl	588	pcphpl
Free-flow speed, FFS	56.7	mph	56.7	mph
Avg. passenger-car travel speed, S	56.7	mph	56.7	mph
Level of service, LOS	A		A	
Density, D	8.4	pc/mi/ln	10.4	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.

HCS+: Multilane Highways Release 5.2

Phone: Fax:
E-mail:

OPERATIONAL ANALYSIS

Analyst:	LM
Agency/Co:	HMM
Date:	10/15/2008
Analysis Period:	Cumulative PM-Mitigated
Highway:	Davis Road
From/To:	Reservation Road / Blanco Road
Jurisdiction:	252572
Analysis Year:	
Project ID:	Direction 1 = Northbound Direction 2 = Southbound

FREE-FLOW SPEED

Direction	1		2	
Lane width	12.0	ft	12.0	ft
Lateral clearance:				
Right edge	6.0	ft	6.0	ft
Left edge	6.0	ft	6.0	ft
Total lateral clearance	12.0	ft	12.0	ft
Access points per mile	3		3	
Median type	Undivided		Undivided	
Free-flow speed:	Base		Base	
FFS or BFFS	60.0	mph	60.0	mph
Lane width adjustment, FLW	0.0	mph	0.0	mph
Lateral clearance adjustment, FLC	0.0	mph	0.0	mph
Median type adjustment, FM	1.6	mph	1.6	mph
Access points adjustment, FA	0.8	mph	0.8	mph
Free-flow speed	57.7	mph	57.7	mph

VOLUME

Direction	1		2	
Volume, V	1533	vph	1307	vph
Peak-hour factor, PHF	0.92		0.92	
Peak 15-minute volume, v15	417		355	
Trucks and buses	3	%	3	%
Recreational vehicles	0	%	0	%
Terrain type	Level		Level	
Grade	0.00	%	0.00	%
Segment length	0.00	mi	0.00	mi
Number of lanes	2		2	
Driver population adjustment, fP	1.00		1.00	
Trucks and buses PCE, ET	1.5		1.5	
Recreational vehicles PCE, ER	1.2		1.2	
Heavy vehicle adjustment, fHV	0.985		0.985	
Flow rate, vp	845	pcphpl	720	pcphpl

RESULTS

Direction	1		2	
Flow rate, vp	845	pcphpl	720	pcphpl
Free-flow speed, FFS	57.7	mph	57.7	mph
Avg. passenger-car travel speed, S	57.7	mph	57.7	mph
Level of service, LOS	B		B	
Density, D	14.7	pc/mi/ln	12.5	pc/mi/ln

Overall results are not computed when free-flow speed is less than 45 mph.