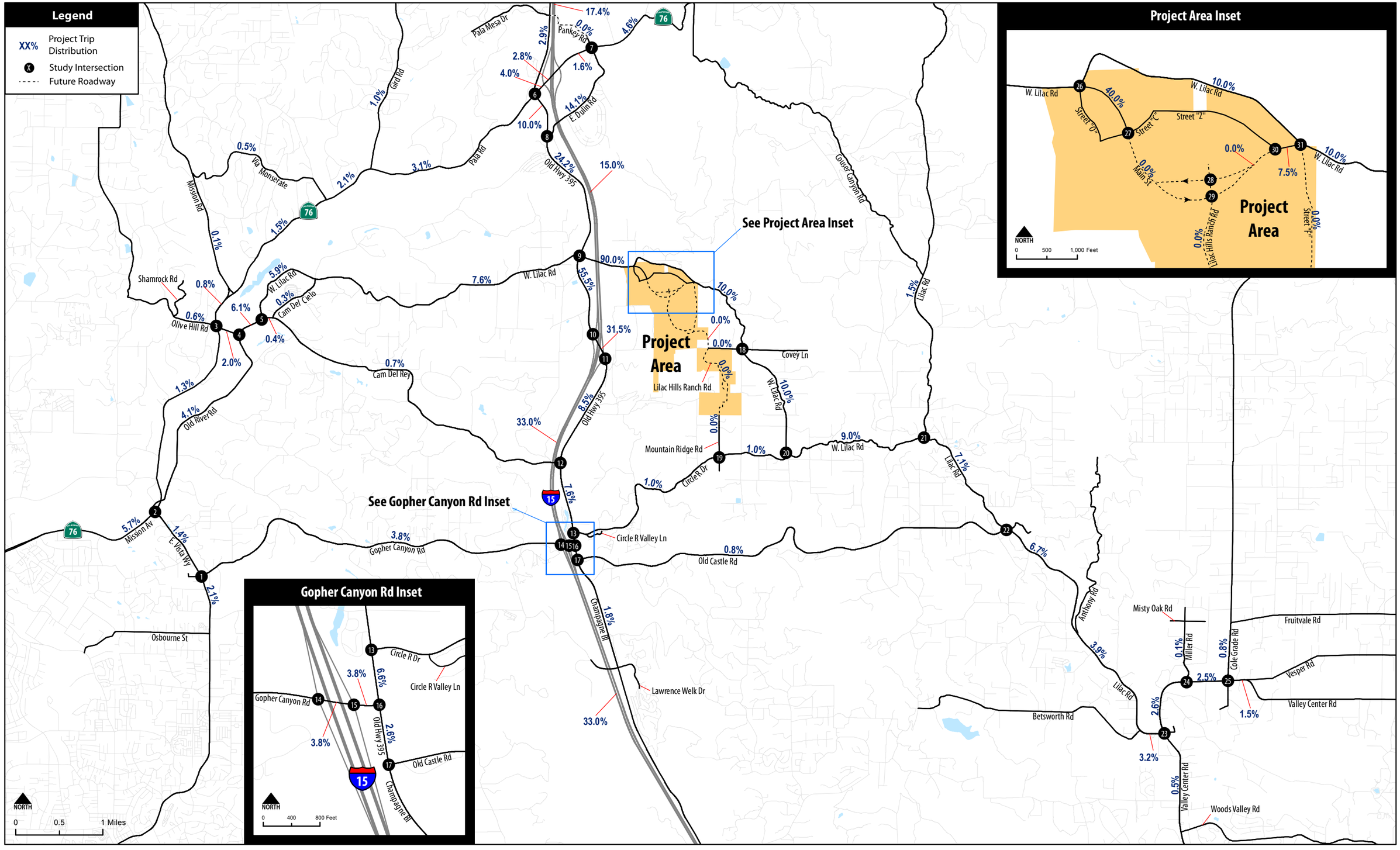


Lilac Hills Ranch Traffic Impact Study

Figure 4-3
Project Trip Distribution (Phase A) - Existing Network

CHEN RYAN

ATTACHMENT C

Intersection	
Intersection Delay (sec/veh):	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	41	1	0	33	2	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length		0	0		0	0
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.75	0.75	0.50	0.50
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	51	1	0	44	4	0
Number of Lanes	1	0	0	1	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	0	-	0	96	-
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	44	-
Follow-up Headway	-	-	0	-	3.518	0
Pot Capacity-1 Maneuver	-	-	0	-	903	0
Stage 1	-	-	0	-	970	0
Stage 2	-	-	0	-	978	0
Time blocked-Platoon(%)	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	903	-
Mov Capacity-2 Maneuver	-	-	-	-	903	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	978	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	9
HCM LOS	A	A	A

Lane	NBLn1	EBT	EBR	WBT
Capacity (vph)	903			
HCM Control Delay (s)	9	-	-	-
HCM Lane VC Ratio	0.004	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th Percentile Queue (veh)	0.013	-	-	-

Intersection	
Intersection Delay (sec/veh):	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	14	2	0	50	1	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length		0	0		0	0
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.48	0.48	0.25	0.25
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	17	2	0	104	4	0
Number of Lanes	1	0	0	1	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	0	-	0	124	-
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	104	-
Follow-up Headway	-	-	0	-	3.518	0
Pot Capacity-1 Maneuver	-	-	0	-	871	0
Stage 1	-	-	0	-	1003	0
Stage 2	-	-	0	-	920	0
Time blocked-Platoon(%)	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	871	-
Mov Capacity-2 Maneuver	-	-	-	-	871	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	9.2
HCM LOS	A	A	A

Lane	NBLn1	EBT	EBR	WBT
Capacity (vph)	871			
HCM Control Delay (s)	9.2	-	-	-
HCM Lane VC Ratio	0.005	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th Percentile Queue (veh)	0.014	-	-	-

Intersection	
Intersection Delay (sec/veh):	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	41	19	18	33	9	8
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length		0	0		0	0
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.75	0.75	0.50	0.50
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	51	23	24	44	18	16
Number of Lanes	1	0	0	1	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	0	74	0	155	63
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	92	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1526	-	836	1002
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	932	-
Time blocked-Platoon(%)	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1526	-	823	1002
Mov Capacity-2 Maneuver	-	-	-	-	823	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	2.6	9.2
HCM LOS	A	A	A

Lane	NBLn1	EBT	EBR	WBL	WBT
Capacity (vph)	899				
HCM Control Delay (s)	9.2	-	-	7.397	-
HCM Lane VC Ratio	0.038	-	-	0.016	-
HCM Lane LOS	A	-	-	A	-
HCM 95th Percentile Queue (veh)	0.118	-	-	0.048	-

Intersection	
Intersection Delay (sec/veh):	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	14	8	6	50	16	15
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length		0	0		0	0
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.48	0.48	0.25	0.25
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	17	10	13	104	64	60
Number of Lanes	1	0	0	1	1	0

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	0	28	0	153	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	130	-
Follow-up Headway	-	-	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	-	1585	-	839	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	896	-
Time blocked-Platoon(%)	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1585	-	831	1054
Mov Capacity-2 Maneuver	-	-	-	-	831	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	888	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0.8	9.5
HCM LOS	A	A	A

Lane	NBLn1	EBT	EBR	WBL	WBT
Capacity (vph)	926				
HCM Control Delay (s)	9.5	-	-	7.289	-
HCM Lane VC Ratio	0.134	-	-	0.008	-
HCM Lane LOS	A	-	-	A	-
HCM 95th Percentile Queue (veh)	0.462	-	-	0.024	-

Appendix P

Peak Hour Intersection Capacity Worksheets – Existing Plus Project (Phase A) Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	0	804	1	275	0	291	343	152	460	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	4	4	0	903	1	243	0	331	390	179	541	0
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.25	0.25	0.25	0.89	0.89	0.89	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	7	0	667	1	179	1	244	288	145	785	0
Arrive On Green	0.01	0.01	0.00	0.49	0.49	0.49	0.00	0.31	0.31	0.08	0.42	0.00
Sat Flow, veh/h	909	909	0	1362	2	367	1774	781	920	1774	1863	0
Grp Volume(v), veh/h	8	0	0	1147	0	0	0	0	721	179	541	0
Grp Sat Flow(s),veh/h/ln	1817	0	0	1730	0	0	1774	0	1700	1774	1863	0
Q Serve(g_s), s	0.6	0.0	0.0	72.0	0.0	0.0	0.0	0.0	46.0	12.0	34.8	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	72.0	0.0	0.0	0.0	0.0	46.0	12.0	34.8	0.0
Prop In Lane	0.50		0.00	0.79		0.21	1.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h	14	0	0	847	0	0	1	0	532	145	785	0
V/C Ratio(X)	0.58	0.00	0.00	1.35	0.00	0.00	0.00	0.00	1.36	1.24	0.69	0.00
Avail Cap(c_a), veh/h	49	0	0	847	0	0	48	0	532	145	785	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	72.8	0.0	0.0	37.6	0.0	0.0	0.0	0.0	50.6	67.6	34.7	0.0
Incr Delay (d2), s/veh	33.2	0.0	0.0	167.4	0.0	0.0	0.0	0.0	172.2	152.2	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	73.7	0.0	0.0	0.0	0.0	47.0	12.0	18.4	0.0
LnGrp Delay(d),s/veh	106.0	0.0	0.0	204.9	0.0	0.0	0.0	0.0	222.8	219.7	37.3	0.0
LnGrp LOS	F			F					F	F	D	
Approach Vol, veh/h		8			1147			721			720	
Approach Delay, s/veh		106.0			204.9			222.8			82.6	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	50.0		5.1	0.0	66.0		76.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	12.0	46.0		4.0	4.0	54.0		72.0
Max Q Clear Time (g_c+I1), s	14.0	48.0		2.6	0.0	36.8		74.0
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	7.6		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		175.7
HCM 2010 LOS		F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	167	209	250	46	278	33	521	239	268	801	6
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	201	204	325	0	274	34	543	207	288	861	6
Adj No. of Lanes	0	2	0	2	0	1	1	3	1	2	3	0
Peak Hour Factor	0.83	0.83	0.83	0.87	0.87	0.87	0.96	0.96	0.96	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	315	276	773	0	345	49	1318	410	410	1828	13
Arrive On Green	0.17	0.17	0.17	0.22	0.00	0.22	0.03	0.26	0.26	0.12	0.35	0.35
Sat Flow, veh/h	54	1806	1583	3548	0	1583	1774	5085	1583	3442	5210	36
Grp Volume(v), veh/h	207	0	204	325	0	274	34	543	207	288	560	307
Grp Sat Flow(s),veh/h/ln	1860	0	1583	1774	0	1583	1774	1695	1583	1721	1695	1856
Q Serve(g_s), s	7.2	0.0	8.5	5.5	0.0	11.4	1.3	6.2	7.8	5.6	9.0	9.0
Cycle Q Clear(g_c), s	7.2	0.0	8.5	5.5	0.0	11.4	1.3	6.2	7.8	5.6	9.0	9.0
Prop In Lane	0.03		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	324	0	276	773	0	345	49	1318	410	410	1189	651
V/C Ratio(X)	0.64	0.00	0.74	0.42	0.00	0.79	0.69	0.41	0.50	0.70	0.47	0.47
Avail Cap(c_a), veh/h	561	0	477	1375	0	613	204	1970	613	938	1849	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	0.0	27.3	23.5	0.0	25.8	33.6	21.4	22.0	29.5	17.6	17.6
Incr Delay (d2), s/veh	2.1	0.0	3.9	0.4	0.0	4.2	16.0	0.2	1.0	2.2	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	4.0	2.7	0.0	5.4	0.9	2.9	3.5	2.8	4.2	4.7
LnGrp Delay(d),s/veh	28.8	0.0	31.2	23.8	0.0	30.0	49.6	21.6	23.0	31.7	17.9	18.1
LnGrp LOS	C		C	C		C	D	C	C	C	B	B
Approach Vol, veh/h		411			599			784			1155	
Approach Delay, s/veh		30.0			26.6			23.2			21.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.9	28.4		19.2	12.3	22.1		16.1
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	8.0	38.0		27.0	19.0	27.0		21.0
Max Q Clear Time (g_c+I1), s	3.3	11.0		13.4	7.6	9.8		10.5
Green Ext Time (p_c), s	0.0	10.2		1.8	0.7	8.3		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	24.1
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	59	166	74	70	84	255	39	626	85	253	719	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	69	193	74	91	109	279	43	688	71	288	817	24
Adj No. of Lanes	2	1	1	1	1	1	1	3	1	2	3	1
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	540	405	344	279	415	352	139	1326	413	449	1439	448
Arrive On Green	0.16	0.22	0.22	0.16	0.22	0.22	0.08	0.26	0.26	0.13	0.28	0.28
Sat Flow, veh/h	3442	1863	1583	1774	1863	1583	1774	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	69	193	74	91	109	279	43	688	71	288	817	24
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1774	1863	1583	1774	1695	1583	1721	1695	1583
Q Serve(g_s), s	1.3	6.9	2.9	3.5	3.7	12.7	1.7	8.8	2.7	6.1	10.5	0.8
Cycle Q Clear(g_c), s	1.3	6.9	2.9	3.5	3.7	12.7	1.7	8.8	2.7	6.1	10.5	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	540	405	344	279	415	352	139	1326	413	449	1439	448
V/C Ratio(X)	0.13	0.48	0.22	0.33	0.26	0.79	0.31	0.52	0.17	0.64	0.57	0.05
Avail Cap(c_a), veh/h	869	607	516	485	656	557	302	1863	580	824	2063	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	26.1	24.6	28.6	24.5	28.0	33.3	24.1	21.9	31.5	23.4	19.9
Incr Delay (d2), s/veh	0.1	0.9	0.3	0.7	0.3	4.0	1.2	0.3	0.2	1.5	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	1.3	1.7	1.9	5.9	0.9	4.2	1.2	3.0	5.0	0.4
LnGrp Delay(d),s/veh	27.8	27.0	24.9	29.3	24.9	32.1	34.5	24.5	22.1	33.0	23.8	20.0
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	B
Approach Vol, veh/h		336			479			802			1129	
Approach Delay, s/veh		26.7			29.9			24.8			26.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	25.9	16.1	20.7	12.0	27.6	15.7	21.1
Change Period (Y+Rc), s	3.7	6.0	4.1	* 4.1	6.0	* 6	3.7	4.1
Max Green Setting (Gmax), s	18.3	28.0	20.9	* 25	13.0	* 31	19.3	26.9
Max Q Clear Time (g_c+I1), s	8.1	10.8	5.5	8.9	3.7	12.5	3.3	14.7
Green Ext Time (p_c), s	0.7	8.8	0.2	2.5	0.0	9.1	0.1	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	7.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	446	0	0	221	218	76
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	Free	Free	Free	Free	Free	Free
Storage Length		0	0		0	0
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	485	0	0	240	237	83
Number of Lanes	1	0	0	1	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	-	0	725	485
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	240	-
Follow-up Headway	-	0	0	-	3.518	3.318
Pot Capacity-1 Maneuver	-	0	0	-	392	582
Stage 1	-	0	0	-	619	-
Stage 2	-	0	0	-	800	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	392	582
Mov Capacity-2 Maneuver	-	-	-	-	392	-
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	800	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	23.4
HCM LOS	A	A	C

Lane	NBLn1	NBLn2	EBT	WBT
Capacity (vph)	392	582		
HCM Control Delay (s)	27.3	12.2	-	-
HCM Lane VC Ratio	0.604	0.142	-	-
HCM Lane LOS	D	B	-	-
HCM 95th Percentile Queue (veh)	3.829	0.492	-	-

Intersection	
Intersection Delay (sec/veh):	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	221	257	290	10	4	249
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.78	0.78	0.73	0.73
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	291	338	372	13	5	341
Number of Lanes	0	1	1	0	1	1

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	385	0	0	0	1299	379
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	920	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1173	-	-	-	178	668
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	388	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1173	-	-	-	124	668
Mov Capacity-2 Maneuver	-	-	-	-	124	-
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	270	-

Approach	EB	WB	SB
HCM Control Delay (s)	4.2	0	16.2
HCM LOS	A	A	C

Lane	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (vph)					124	668
HCM Control Delay (s)	9.078	-	-	-	35.4	15.9
HCM Lane VC Ratio	0.248	-	-	-	0.044	0.511
HCM Lane LOS	A	-	-	-	E	C
HCM 95th Percentile Queue (veh)	0.98	-	-	-	0.137	2.921

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	46	449	36	39	692	87	106	55	50	255	104	56
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	50	488	34	42	752	52	126	65	48	263	107	46
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.84	0.84	0.84	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	917	410	148	969	875	161	83	214	312	127	55
Arrive On Green	0.06	0.26	0.26	0.08	0.27	0.27	0.13	0.13	0.13	0.28	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1190	614	1583	1120	456	196
Grp Volume(v), veh/h	50	488	34	42	752	52	191	0	48	416	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1803	0	1583	1772	0	0
Q Serve(g_s), s	2.2	9.4	1.3	1.8	15.6	1.2	8.2	0.0	2.2	17.6	0.0	0.0
Cycle Q Clear(g_c), s	2.2	9.4	1.3	1.8	15.6	1.2	8.2	0.0	2.2	17.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.66		1.00	0.63		0.11
Lane Grp Cap(c), veh/h	104	917	410	148	969	875	243	0	214	494	0	0
V/C Ratio(X)	0.48	0.53	0.08	0.28	0.78	0.06	0.78	0.00	0.22	0.84	0.00	0.00
Avail Cap(c_a), veh/h	178	1370	613	267	1512	1117	430	0	378	864	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.3	25.3	22.3	34.2	26.6	8.2	33.3	0.0	30.7	27.1	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.5	0.1	1.0	1.4	0.0	5.5	0.0	0.5	4.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.7	0.6	0.9	7.8	0.9	4.4	0.0	1.0	9.1	0.0	0.0
LnGrp Delay(d),s/veh	39.7	25.8	22.4	35.3	28.0	8.3	38.8	0.0	31.2	31.1	0.0	0.0
LnGrp LOS	D	C	C	D	C	A	D		C	C		
Approach Vol, veh/h		572			846			239			416	
Approach Delay, s/veh		26.8			27.2			37.3			31.1	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	26.6		26.4	10.7	26.8		15.7
Change Period (Y+Rc), s	* 4.2	6.0		* 4.2	6.0	5.0		5.0
Max Green Setting (Gmax), s	* 12	30.8		* 39	8.0	34.0		19.0
Max Q Clear Time (g_c+I1), s	3.8	11.4		19.6	4.2	17.6		10.2
Green Ext Time (p_c), s	0.0	2.8		2.6	1.1	4.2		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	29.0
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	1	324	9	3	285	3	14	1	11	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	550		0	530		0	0		0	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	1	405	11	4	356	4	17	1	14	0	0	0
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	360	0	0	416	0	0	599	781	209	571	784	180
Stage 1	-	-	-	-	-	-	413	413	-	366	366	-
Stage 2	-	-	-	-	-	-	186	368	-	205	418	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1195	-	-	1139	-	-	385	325	797	404	323	832
Stage 1	-	-	-	-	-	-	587	592	-	626	621	-
Stage 2	-	-	-	-	-	-	798	620	-	778	589	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1195	-	-	1139	-	-	384	324	797	395	322	832
Mov Capacity-2 Maneuver	-	-	-	-	-	-	384	324	-	395	322	-
Stage 1	-	-	-	-	-	-	587	592	-	625	619	-
Stage 2	-	-	-	-	-	-	795	618	-	762	589	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0	0.1	12.9	0
HCM LOS	A	A	B	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	487							0
HCM Control Delay (s)	12.9	8.016	0	-	8.171	0	-	0
HCM Lane VC Ratio	0.067	0.001	-	-	0.003	-	-	-
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th Percentile Queue (veh)	0.214	0.003	-	-	0.01	-	-	-

Intersection	
Intersection Delay (sec/veh):	8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	224	116	90	46	21	181
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	400	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.81	0.81	0.85	0.85
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	299	155	111	57	25	213
Number of Lanes	1	1	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	403	140	0	0	168	0
Stage 1	140	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	603	908	-	-	1410	-
Stage 1	887	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	591	908	-	-	1410	-
Mov Capacity-2 Maneuver	591	-	-	-	-	-
Stage 1	887	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	14.7	0	0.8
HCM LOS	B	A	A

Lane	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (vph)			591	908		
HCM Control Delay (s)	-	-	17.2	9.8	7.599	-
HCM Lane VC Ratio	-	-	0.505	0.17	0.018	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th Percentile Queue (veh)	-	-	2.844	0.612	0.053	-

Intersection	
Intersection Delay (sec/veh):	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	59	12	57	146	35	73	32	31	59	25	205	145
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
Storage Length	0		50	200		50	200		0	200		0
Median Width		12			12			12			12	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.48	0.48	0.48	0.92	0.92	0.92	0.72	0.72	0.72	0.84	0.84	0.84
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	123	25	119	159	38	79	44	43	82	30	244	173
Number of Lanes	0	1	1	1	1	1	1	1	0	1	2	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	622	604	209	367	649	63	417	0	0	125	0	0
Stage 1	391	391	-	172	172	-	-	-	-	-	-	-
Stage 2	231	213	-	195	477	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	371	411	797	564	387	988	1138	-	-	1459	-	-
Stage 1	605	606	-	813	755	-	-	-	-	-	-	-
Stage 2	751	725	-	788	554	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	300	387	797	436	364	988	1138	-	-	1459	-	-
Mov Capacity-2 Maneuver	300	387	-	436	364	-	-	-	-	-	-	-
Stage 1	582	594	-	782	726	-	-	-	-	-	-	-
Stage 2	629	697	-	629	543	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	19.3	14.1	2.2	0.5
HCM LOS	C	B	A	A

Lane	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (vph)				312	797	436	403	988			
HCM Control Delay (s)	8.292	0	-	26.5	10.3	15.9	16.5	9	7.519	0	-
HCM Lane VC Ratio	0.039	-	-	0.474	0.149	0.243	0.226	0.08	0.02	-	-
HCM Lane LOS	A	A	-	D	B	C	C	A	A	A	-
HCM 95th Percentile Queue (veh)	0.122	-	-	2.419	0.522	0.94	0.856	0.261	0.062	-	-

Intersection	
Intersection Delay (sec/veh):	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	119	315	7	143	0	0	0	0	56	0	24
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	Yield	Yield	Yield
Storage Length	0		0	0		0	0		0	0		50
Median Width		12			12			12			12	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.92	0.92	0.92	0.88	0.88	0.88
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	125	332	8	168	0	0	0	0	64	0	27
Number of Lanes	0	1	0	1	1	0	0	0	0	1	0	1

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	-	0	0	457	0	-			475	~	84
Stage 1	-	-	-	-	-	-			184	-	-
Stage 2	-	-	-	-	-	-			291	-	-
Follow-up Headway	0	-	-	2.218	-	0			3.518	0	3.318
Pot Capacity-1 Maneuver	0	-	-	1104	-	0			500	0	975
Stage 1	0	-	-	-	-	0			818	0	-
Stage 2	0	-	-	-	-	0			717	0	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	-	-	-	1104	-	-			497	-	975
Mov Capacity-2 Maneuver	-	-	-	-	-	-			497	-	-
Stage 1	-	-	-	-	-	-			-	-	-
Stage 2	-	-	-	-	-	-			717	-	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	0.4	12
HCM LOS	A	A	B

Lane	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (vph)					497	975
HCM Control Delay (s)	-	-	8.285	-	13.3	8.8
HCM Lane VC Ratio	-	-	0.007	-	0.128	0.028
HCM Lane LOS	-	-	A	-	B	A
HCM 95th Percentile Queue (veh)	-	-	0.023	-	0.437	0.086

Intersection	
Intersection Delay (sec/veh):	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	133	5	0	70	87	5
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	Free	Free
Storage Length		0	0		0	250
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.84	0.84
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	145	5	0	76	104	6
Number of Lanes	1	0	0	2	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	0	-	0	186	148
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	38	-
Follow-up Headway	-	-	0	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	0	-	786	872
Stage 1	-	-	0	-	864	-
Stage 2	-	-	0	-	980	-
Time blocked-Platoon(%)	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	786	872
Mov Capacity-2 Maneuver	-	-	-	-	786	-
Stage 1	-	-	-	-	864	-
Stage 2	-	-	-	-	980	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	10.2
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBT	EBR	WBT
Capacity (vph)	786	872			
HCM Control Delay (s)	10.3	9.2	-	-	-
HCM Lane VC Ratio	0.132	0.007	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th Percentile Queue (veh)	0.453	0.021	-	-	-

Intersection	
Intersection Delay (sec/veh):	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	11	189	109	72	144	17
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	160			90
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.95	0.95
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	13	220	122	81	152	18
Number of Lanes	1	0	1	1	1	1

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	486	85	170	0	0	0
Stage 1	161	-	-	-	-	-
Stage 2	325	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	540	974	1407	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	493	974	1407	-	-	-
Mov Capacity-2 Maneuver	493	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	669	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	10.2	4.7	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			924		
HCM Control Delay (s)	7.802	-	10.2	-	-
HCM Lane VC Ratio	0.087	-	0.252	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.286	-	0.998	-	-

Intersection	
Intersection Delay (sec/veh):	6.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	218	37	149	59	18	350
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		100	170	
Median Width	12		12			12
Grade (%)	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.85	0.85	0.94	0.94
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	251	43	175	69	19	372
Number of Lanes	1	0	1	1	1	1

Major/Minor			Major 1		Major 2	
Conflicting Flow Rate - All	620	123	0	0	244	0
Stage 1	210	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	462	*1357	-	-	1337	-
Stage 1	859	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Time blocked-Platoon(%)	10	10	-	-	10	-
Mov Capacity-1 Maneuver	456	*1357	-	-	1337	-
Mov Capacity-2 Maneuver	456	-	-	-	-	-
Stage 1	859	-	-	-	-	-
Stage 2	660	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	21.5	0	0.4
HCM LOS	C	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			*505		
HCM Control Delay (s)	-	-	21.5	7.732	-
HCM Lane VC Ratio	-	-	0.58	0.014	-
HCM Lane LOS	-	-	C	A	-
HCM 95th Percentile Queue (veh)	-	-	3.647	0.044	-

Intersection	
Intersection Delay (sec/veh):	149.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	233	226	373	334	0	0	0	0	53	2	554
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	Free	Free	Free	None	None	None	None	None	None	Free	Free	Free
Storage Length	0		0	200		0	0		0	0		25
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.86	0.86	0.86	0.92	0.92	0.92	0.95	0.95	0.95
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	299	290	434	388	0	0	0	0	56	2	583
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	388	0	0	589	0	-			1700	1845	194
Stage 1	-	-	-	-	-	-			1256	1256	-
Stage 2	-	-	-	-	-	-			444	589	-
Follow-up Headway	2.22	-	-	2.22	-	0			3.52	4.02	3.32
Pot Capacity-1 Maneuver	1167	-	-	982	-	0			60	74	815
Stage 1	-	-	-	-	-	0			181	241	-
Stage 2	-	-	-	-	-	0			563	494	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	1167	-	-	982	-	-			# 39	41	815
Mov Capacity-2 Maneuver	-	-	-	-	-	-			# 39	41	-
Stage 1	-	-	-	-	-	-			181	134	-
Stage 2	-	-	-	-	-	-			563	494	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	6.1	$ 469.6
HCM LOS	A	A	F

Lane	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)						327
HCM Control Delay (s)	0	-	-	11.533	-	$ -1
HCM Lane VC Ratio	-	-	-	0.442	-	1.96
HCM Lane LOS	A	-	-	B	-	F
HCM 95th Percentile Queue (veh)	0	-	-	2.296	-	44.642

Intersection	
Intersection Delay (sec/veh):	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	143	143	0	0	545	62	162	2	130	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	Free	Free	Free	None	None	None	None	None	None
Storage Length	220		0	0		0	0		25	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	146	146	0	0	592	67	182	2	146	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	1	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow Rate - All	659	0	-	146	0	0	734	1097	73
Stage 1	-	-	-	-	-	-	438	438	-
Stage 2	-	-	-	-	-	-	296	659	-
Follow-up Headway	2.22	-	0	2.22	-	-	3.52	4.02	3.32
Pot Capacity-1 Maneuver	925	-	0	1434	-	-	308	212	974
Stage 1	-	-	0	-	-	-	567	577	-
Stage 2	-	-	0	-	-	-	688	459	-
Time blocked-Platoon(%)	0	-	0	0	-	-	0	0	0
Mov Capacity-1 Maneuver	925	-	-	1434	-	-	271	179	974
Mov Capacity-2 Maneuver	-	-	-	-	-	-	271	179	-
Stage 1	-	-	-	-	-	-	478	486	-
Stage 2	-	-	-	-	-	-	688	459	-

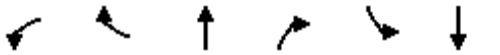
Approach	EB	WB	NB
HCM Control Delay (s)	4.8	0	28.2
HCM LOS	A	A	D

Lane	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR
Capacity (vph)	269	974					
HCM Control Delay (s)	43.2	9.3	9.619	-	0	-	-
HCM Lane VC Ratio	0.685	0.15	0.158	-	-	-	-
HCM Lane LOS	E	A	A	-	A	-	-
HCM 95th Percentile Queue (veh)	4.561	0.527	0.559	-	0	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	411	264	217	200	98	195
Number	7	14	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	428	207	244	225	113	149
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.89	0.89	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	543	765	312	869	330	281
Arrive On Green	0.31	0.31	0.18	0.47	0.18	0.18
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583
Grp Volume(v), veh/h	428	207	244	225	113	149
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583
Q Serve(g_s), s	8.7	3.1	5.2	2.9	2.1	3.4
Cycle Q Clear(g_c), s	8.7	3.1	5.2	2.9	2.1	3.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	543	765	312	869	330	281
V/C Ratio(X)	0.79	0.27	0.78	0.26	0.34	0.53
Avail Cap(c_a), veh/h	829	1021	524	1529	767	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	6.1	15.6	6.4	14.3	14.8
Incr Delay (d2), s/veh	2.9	0.2	4.3	0.2	0.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	1.8	2.9	1.5	1.1	1.6
LnGrp Delay(d),s/veh	15.5	6.3	19.9	6.6	14.9	16.4
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h	635			469	262	
Approach Delay, s/veh	12.5			13.5	15.7	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	11.5	11.5		16.6		23.0		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	11.7	16.3		18.5		32.5		
Max Q Clear Time (g_c+I1), s	7.2	5.4		10.7		4.9		
Green Ext Time (p_c), s	0.3	1.6		1.4		2.2		

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	88	269	58	29	161	193
Number	3	18	2	12	1	6
Initial Queue, veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863
Lanes	1	1	1	0	1	1
Capacity, veh/h	231	419	751	181	239	1350
Arriving On Green	0.13	0.13	0.52	0.52	0.27	1.00
Sat Flow, veh/h	1774.0	1583.3	1450.8	350.2	1774.0	1862.7
Grp Volume(v), veh/h	104.8	165.5	0.0	90.0	191.7	229.8
Grp Sat Flow(s),veh/h/ln	1774.0	1583.3	0.0	1800.9	1774.0	1862.7
Q Serve(g_s), s	3.0	4.7	0.0	1.4	5.6	0.0
Cycle Q Clear(g_c), s	3.0	4.7	0.0	1.4	5.6	0.0
Proportion In Lane	1.000	1.000		0.194	1.000	
Lane Grp Cap(c), veh/h	230.8	419.4	0.0	932.2	239.2	1350.3
V/C Ratio(X)	0.454	0.395	0.000	0.097	0.801	0.170
Avail Cap(c_a), veh/h	546.6	701.3	0.0	932.2	514.4	1350.3
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.000	1.000	0.000	1.000	0.979	0.979
Uniform Delay (d), s/veh	22.2	16.6	0.0	6.8	19.5	0.0
Incr Delay (d2), s/veh	1.4	0.6	0.0	0.2	6.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	23.6	17.3	0.0	7.0	25.5	0.3
Lane Group LOS	C	B		A	C	A
Approach Volume, veh/h	270		90			421
Approach Delay, s/veh	19.7		7.0			11.7
Approach LOS	B		A			B

Timer					
Assigned Phase		2		1	6
Phase Duration (G+Y+Rc), s		32.56		11.44	44.00
Change Period (Y+Rc), s		4.00		4.00	4.00
Max Green Setting (Gmax), s		20.00		16.00	40.00
Max Q Clear Time (g_c+I1), s		3.40		7.55	2.00
Green Extension Time (p_c)		1.38		0.30	1.67

Intersection Summary	
HCM 2010 Control Delay	13.9
HCM 2010 Level of Service	B

Intersection	
Intersection Delay (sec/veh):	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	9	0	5	3	0	2	7	26	1	0	24	5
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.42	0.42	0.42	0.75	0.75	0.75	0.55	0.55	0.55
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	13	0	7	7	0	5	9	35	1	0	44	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	105	103	49	106	107	36	53	0	0	36	0	0
Stage 1	49	49	-	54	54	-	-	-	-	-	-	-
Stage 2	56	54	-	52	53	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	875	788	1020	873	784	1037	1553	-	-	1575	-	-
Stage 1	964	854	-	958	850	-	-	-	-	-	-	-
Stage 2	956	850	-	961	851	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	867	783	1020	863	779	1037	1553	-	-	1575	-	-
Mov Capacity-2 Maneuver	867	783	-	863	779	-	-	-	-	-	-	-
Stage 1	958	854	-	952	845	-	-	-	-	-	-	-
Stage 2	946	845	-	954	851	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	9	8.9	1.5	0
HCM LOS	A	A	A	A

Lane	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (vph)				916	925			
HCM Control Delay (s)	7.332	0	-	9	8.9	0	-	-
HCM Lane VC Ratio	0.006	-	-	0.022	0.013	-	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th Percentile Queue (veh)	0.018	-	-	0.067	0.039	0	-	-

Intersection	
Intersection Delay (sec/veh):	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	2	23	0	0	110	6	0	0	0	5	0	7
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.83	0.83	0.83	0.92	0.92	0.92	0.75	0.75	0.75
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	3	29	0	0	133	7	0	0	0	7	0	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	140	0	0	29	0	0	176	175	29	172	172	137
Stage 1	-	-	-	-	-	-	35	35	-	137	137	-
Stage 2	-	-	-	-	-	-	141	140	-	35	35	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1443	-	-	1584	-	-	786	718	1046	791	722	911
Stage 1	-	-	-	-	-	-	981	866	-	866	784	-
Stage 2	-	-	-	-	-	-	862	781	-	981	866	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1443	-	-	1584	-	-	777	717	1046	790	721	911
Mov Capacity-2 Maneuver	-	-	-	-	-	-	777	717	-	790	721	-
Stage 1	-	-	-	-	-	-	979	864	-	864	784	-
Stage 2	-	-	-	-	-	-	853	781	-	979	864	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0.6	0	0	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	0							856
HCM Control Delay (s)	0	7.499	0	-	0	-	-	9.3
HCM Lane VC Ratio	-	0.002	-	-	-	-	-	0.019
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th Percentile Queue (veh)	-	0.005	-	-	0	-	-	0.057

Intersection	
Intersection Delay (sec/veh):	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	66	20	13	20	26	25
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.83	0.83	0.69	0.69
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	74	22	16	24	38	36
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow Rate - All	140	28	0	0	40	0
Stage 1	28	-	-	-	-	-
Stage 2	112	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	853	1047	-	-	1570	-
Stage 1	995	-	-	-	-	-
Stage 2	913	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	832	1047	-	-	1570	-
Mov Capacity-2 Maneuver	832	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	890	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	9.6	0	3.7
HCM LOS	A	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			874		
HCM Control Delay (s)	-	-	9.6	7.349	-
HCM Lane VC Ratio	-	-	0.111	0.024	-
HCM Lane LOS	-	-	A	A	-
HCM 95th Percentile Queue (veh)	-	-	0.371	0.074	-

Intersection	
Intersection Delay (sec/veh):	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	9	56	28	63	100	30
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.82	0.82	0.75	0.75
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	13	84	34	77	133	40
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	298	153	173	0	0	0
Stage 1	153	-	-	-	-	-
Stage 2	145	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	693	893	1404	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	882	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	676	893	1404	-	-	-
Mov Capacity-2 Maneuver	676	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	860	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	9.7	2.3	0
HCM LOS	A	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			855		
HCM Control Delay (s)	7.628	-	9.7	-	-
HCM Lane VC Ratio	0.024	-	0.113	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th Percentile Queue (veh)	0.075	-	0.382	-	-

Intersection	
Intersection Delay (sec/veh):	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	11	111	227	53	93	54
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	170			80	0	0
Median Width		12	12		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.94	0.94	0.90	0.90
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	13	135	241	56	103	60
Number of Lanes	1	1	1	1	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	297	0	0	0	430	149
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	161	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1264	-	-	-	582	898
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	868	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1264	-	-	-	576	898
Mov Capacity-2 Maneuver	-	-	-	-	576	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SB
HCM Control Delay (s)	0.7	0	12.2
HCM LOS	A	A	B

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					663
HCM Control Delay (s)	7.879	-	-	-	12.2
HCM Lane VC Ratio	0.011	-	-	-	0.246
HCM Lane LOS	A	-	-	-	B
HCM 95th Percentile Queue (veh)	0.032	-	-	-	0.966

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	121	0	200	0	0	0	111	284	0	3	662	148
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	0	1863	0	0	0	1863	1863	0	1863	1863	1863
Lanes	1	1	1	0	1	0	2	2	0	1	2	0
Capacity, veh/h	231	0	206	0	0	0	223	2153	0	4	1563	302
Arriving On Green	0.13	0.00	0.13	0.00	0.00	0.00	0.06	0.58	0.00	0.00	0.51	0.51
Sat Flow, veh/h	1774.0	0.0	1583.3	0.0	0.0	0.0	3441.6	3725.5	0.0	1774.0	3035.2	586.7
Grp Volume(v), veh/h	136.0	0.0	125.8	0.0	0.0	0.0	126.1	322.7	0.0	3.4	461.6	436.1
Grp Sat Flow(s),veh/h/ln	1774.0	0.0	1583.3	0.0	0.0	0.0	1720.8	1862.7	0.0	1774.0	1862.7	1759.2
Q Serve(g_s), s	3.0	5.4	3.1	0.0	0.0	0.0	1.5	1.7	0.0	0.1	6.6	6.6
Cycle Q Clear(g_c), s	3.0	5.4	3.1	0.0	0.0	0.0	1.5	1.7	0.0	0.1	6.6	6.6
Proportion In Lane	1.000		1.000	0.000		0.000	1.000		0.000	1.000		0.334
Lane Grp Cap(c), veh/h	231.0	0.0	206.2	0.0	0.0	0.0	223.3	2152.6	0.0	4.3	959.1	905.8
V/C Ratio(X)	0.589	0.000	0.610	0.000	0.000	0.000	0.565	0.150	0.000	0.795	0.481	0.481
Avail Cap(c_a), veh/h	711.8	0.0	635.3	0.0	0.0	0.0	382.7	2152.6	0.0	193.0	959.1	905.8
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	0.000	1.000	0.000	0.000	0.000	1.000	1.000	0.000	1.000	1.000	1.000
Uniform Delay (d), s/veh	16.9	0.0	17.0	0.0	0.0	0.0	18.8	4.0	0.0	20.6	6.5	6.5
Incr Delay (d2), s/veh	2.4	0.0	2.9	0.0	0.0	0.0	2.2	0.1	0.0	139.8	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	19.3	0.0	19.9	0.0	0.0	0.0	21.0	4.2	0.0	160.4	8.2	8.3
Lane Group LOS	B		B				C	A		F	A	A
Approach Volume, veh/h		262			0			449			901	
Approach Delay, s/veh		19.6			0.0			8.9			8.8	
Approach LOS		B						A			A	

Timer												
Assigned Phase		4			8		5	2		1	6	
Phase Duration (G+Y+Rc), s		9.39			0.00		6.68	27.90		4.08	25.30	
Change Period (Y+Rc), s		4.00			4.00		4.00	4.00		4.00	4.00	
Max Green Setting (Gmax), s		16.60			16.50		4.60	21.40		4.50	21.30	
Max Q Clear Time (g_c+I1), s		5.11			0.00		3.47	3.66		2.08	8.62	
Green Extension Time (p_c)		0.56			0.00		0.03	6.90		0.00	5.77	

Intersection Summary		
HCM 2010 Control Delay		10.6
HCM 2010 Level of Service		B

Intersection	
Intersection Delay (sec/veh):	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	26	682	803	4	9	64
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	90			0	0	0
Median Width		24	24		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.91	0.91	0.70	0.70
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	31	822	882	4	13	91
Number of Lanes	1	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	886	0	0	0	1357	443
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	473	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	760	-	-	-	140	562
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	593	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	760	-	-	-	134	562
Mov Capacity-2 Maneuver	-	-	-	-	134	-
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	569	-

Approach	EB	WB	SB
HCM Control Delay (s)	0.4	0	17
HCM LOS	A	A	C

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					403
HCM Control Delay (s)	9.94	-	-	-	17
HCM Lane VC Ratio	0.041	-	-	-	0.259
HCM Lane LOS	A	-	-	-	C
HCM 95th Percentile Queue (veh)	0.129	-	-	-	1.02

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	337	309	36	16	324	143	24	13	17	195	25	460
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Lanes	2	1	1	1	2	0	0	1	0	0	1	2
Capacity, veh/h	454	596	506	25	585	142	230	125	77	300	38	529
Arriving On Green	0.13	0.32	0.32	0.01	0.20	0.20	0.24	0.24	0.24	0.19	0.19	0.19
Sat Flow, veh/h	3441.6	1583.3	1583.3	1774.0	2900.4	701.3	939.0	508.6	313.0	1581.0	202.7	2786.7
Grp Volume(v), veh/h	366.3	335.9	9.8	21.6	279.9	264.7	60.0	0.0	0.0	268.3	0.0	317.1
Grp Sat Flow(s),veh/h/ln	1720.8	1862.7	1583.3	1774.0	1862.7	1739.0	1760.6	0.0	0.0	1783.7	0.0	1393.3
Q Serve(g_s), s	7.1	10.3	0.3	0.8	9.7	9.9	1.8	0.0	0.0	9.9	0.0	7.2
Cycle Q Clear(g_c), s	7.1	10.3	0.3	0.8	9.7	9.9	1.8	0.0	0.0	9.9	0.0	7.2
Proportion In Lane	1.000		1.000	1.000		0.403	0.533		0.178	0.886		1.000
Lane Grp Cap(c), veh/h	453.7	595.5	506.2	24.8	376.0	351.0	431.0	0.0	0.0	338.4	0.0	528.7
V/C Ratio(X)	0.807	0.564	0.019	0.872	0.744	0.754	0.139	0.000	0.000	0.793	0.000	0.600
Avail Cap(c_a), veh/h	453.7	595.5	506.2	115.6	445.2	415.7	431.0	0.0	0.0	426.3	0.0	666.1
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	1.000	0.000	1.000
Uniform Delay (d), s/veh	29.1	19.5	16.1	34.0	25.9	25.9	20.4	0.0	0.0	26.7	0.0	25.6
Incr Delay (d2), s/veh	10.4	1.2	0.0	54.8	5.6	6.4	0.7	0.0	0.0	7.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	39.5	20.7	16.1	88.8	31.4	32.3	21.1	0.0	0.0	34.5	0.0	26.7
Lane Group LOS	D	C	B	F	C	C	C			C		C
Approach Volume, veh/h		712			566			60			585	
Approach Delay, s/veh		30.3			34.0			21.1			30.3	
Approach LOS		C			C			C			C	

Timer												
Assigned Phase	7	4		3	8			2			6	
Phase Duration (G+Y+Rc), s	13.10	26.07		4.96	17.93			20.90			17.10	
Change Period (Y+Rc), s	4.00	4.00		4.00	4.00			4.00			4.00	
Max Green Setting (Gmax), s	9.10	21.10		4.50	16.50			16.90			16.50	
Max Q Clear Time (g_c+I1), s	9.14	12.33		2.84	11.89			3.84			11.90	
Green Extension Time (p_c)	0.00	3.24		0.00	2.04			0.17			1.20	

Intersection Summary	
HCM 2010 Control Delay	31.1
HCM 2010 Level of Service	C

Intersection	
Intersection Delay (sec/veh)	4.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	108	119	72	121
Demand Flow Rate (pc/h)	110	121	73	123
Vehicles Circulating (pc/h)	13	105	93	177
Vehicles Exiting (pc/h)	287	61	30	49
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	4.1	4.7	4.2	5.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	110	121	73	123
Capacity, Entry Lane (pc/h)	1115	1017	1030	947
Entry HV Adjustment Factor	0.982	0.982	0.984	0.983
Flow Rate, Entry (vph)	108	119	72	121
Capacity, Entry (vph)	1095	999	1014	931
Volume to Capacity Ratio	0.099	0.119	0.071	0.130
Control Delay (sec/veh)	4.1	4.7	4.2	5.1
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Intersection	
Intersection Delay (sec/veh)	3.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	27	97	0	50
Demand Flow Rate (pc/h)	27	99	0	51
Vehicles Circulating (pc/h)	40	22	67	5
Vehicles Exiting (pc/h)	16	45	0	116
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	3.5	4.1	0.0	3.6
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	27	99	0	51
Capacity, Entry Lane (pc/h)	1086	1105	1057	1124
Entry HV Adjustment Factor	0.996	0.979	1.000	0.980
Flow Rate, Entry (vph)	27	97	0	50
Capacity, Entry (vph)	1082	1082	1057	1102
Volume to Capacity Ratio	0.025	0.090	0.000	0.045
Control Delay (sec/veh)	3.5	4.1	3.4	3.6
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Intersection	
Intersection Delay (sec/veh):	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	0	0	0	5	12	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	0	0	0	5	13	0
Number of Lanes	0	1	1	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	-	0	0	0	3	-
Stage 1	-	-	-	-	3	-
Stage 2	-	-	-	-	0	-
Follow-up Headway	0	-	-	-	3.518	0
Pot Capacity-1 Maneuver	0	-	-	-	1019	0
Stage 1	0	-	-	-	1020	0
Stage 2	0	-	-	-	-	0
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	1019	-
Mov Capacity-2 Maneuver	-	-	-	-	1019	-
Stage 1	-	-	-	-	1020	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	0	8.6
HCM LOS	A	A	A

Lane	EBT	WBT	WBR	SBLn1
Capacity (vph)				1019
HCM Control Delay (s)	-	-	-	8.6
HCM Lane VC Ratio	-	-	-	0.013
HCM Lane LOS	-	-	-	A
HCM 95th Percentile Queue (veh)	-	-	-	0.039

Intersection	
Intersection Delay (sec/veh)	3.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	13	40	0	18
Demand Flow Rate (pc/h)	13	41	0	18
Vehicles Circulating (pc/h)	18	0	31	5
Vehicles Exiting (pc/h)	5	31	0	36
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	3.4	3.6	0.0	3.3
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	13	41	0	18
Capacity, Entry Lane (pc/h)	1110	1130	1095	1124
Entry HV Adjustment Factor	0.980	0.973	1.000	1.000
Flow Rate, Entry (vph)	13	40	0	18
Capacity, Entry (vph)	1088	1100	1095	1124
Volume to Capacity Ratio	0.012	0.036	0.000	0.016
Control Delay (sec/veh)	3.4	3.6	3.3	3.3
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	402	1	185	6	379	872	313	380	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	0	0	428	1	107	7	412	839	340	413	5
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.25	0.25	0.25	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1	0	347	1	87	50	265	539	237	1042	13
Arrive On Green	0.00	0.00	0.00	0.25	0.25	0.25	0.03	0.48	0.48	0.13	0.57	0.57
Sat Flow, veh/h	0	1863	0	1383	3	346	1774	549	1117	1774	1837	22
Grp Volume(v), veh/h	0	0	0	536	0	0	7	0	1251	340	0	418
Grp Sat Flow(s),veh/h/ln	0	1863	0	1733	0	0	1774	0	1666	1774	0	1859
Q Serve(g_s), s	0.0	0.0	0.0	35.4	0.0	0.0	0.5	0.0	68.0	18.8	0.0	17.7
Cycle Q Clear(g_c), s	0.0	0.0	0.0	35.4	0.0	0.0	0.5	0.0	68.0	18.8	0.0	17.7
Prop In Lane	0.00		0.00	0.80		0.20	1.00		0.67	1.00		0.01
Lane Grp Cap(c), veh/h	0	1	0	435	0	0	50	0	803	237	0	1055
V/C Ratio(X)	0.00	0.00	0.00	1.23	0.00	0.00	0.14	0.00	1.56	1.44	0.00	0.40
Avail Cap(c_a), veh/h	0	66	0	435	0	0	214	0	803	237	0	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	52.8	0.0	0.0	66.8	0.0	36.5	61.1	0.0	17.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	123.1	0.0	0.0	1.2	0.0	256.9	219.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	31.8	0.0	0.0	0.3	0.0	88.6	23.6	0.0	9.1
LnGrp Delay(d),s/veh	0.0	0.0	0.0	175.9	0.0	0.0	68.1	0.0	293.4	280.4	0.0	17.3
LnGrp LOS				F			E		F	F		B
Approach Vol, veh/h		0			536			1258			758	
Approach Delay, s/veh		0.0			175.9			292.2			135.3	
Approach LOS					F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.0	76.0		0.0	12.0	88.0		41.0
Change Period (Y+Rc), s	* 5.2	8.0		4.0	8.0	* 8		5.6
Max Green Setting (Gmax), s	* 19	68.0		5.0	17.0	* 67		35.4
Max Q Clear Time (g_c+I1), s	20.8	70.0		0.0	2.5	19.7		37.4
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	23.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	221.2
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	68	62	183	62	348	80	983	201	375	694	15
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	3	78	60	126	151	297	84	1035	170	383	708	10
Adj No. of Lanes	0	2	0	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.87	0.87	0.87	0.97	0.97	0.97	0.95	0.95	0.95	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	10	248	189	381	400	340	196	1513	471	477	1682	24
Arrive On Green	0.13	0.13	0.13	0.21	0.21	0.21	0.11	0.30	0.30	0.14	0.33	0.33
Sat Flow, veh/h	74	1924	1465	1774	1863	1583	1774	5085	1583	3442	5167	73
Grp Volume(v), veh/h	75	0	66	126	151	297	84	1035	170	383	464	254
Grp Sat Flow(s),veh/h/ln	1859	0	1604	1774	1863	1583	1774	1695	1583	1721	1695	1850
Q Serve(g_s), s	3.3	0.0	3.4	5.4	6.3	16.4	4.0	16.2	7.6	9.7	9.7	9.7
Cycle Q Clear(g_c), s	3.3	0.0	3.4	5.4	6.3	16.4	4.0	16.2	7.6	9.7	9.7	9.7
Prop In Lane	0.04		0.91	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	240	0	207	381	400	340	196	1513	471	477	1104	602
V/C Ratio(X)	0.31	0.00	0.32	0.33	0.38	0.87	0.43	0.68	0.36	0.80	0.42	0.42
Avail Cap(c_a), veh/h	329	0	284	454	476	405	314	1790	557	731	1313	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	0.0	35.7	30.0	30.3	34.3	37.5	28.0	25.0	37.7	23.8	23.8
Incr Delay (d2), s/veh	0.7	0.0	0.9	0.5	0.6	16.6	1.5	0.9	0.5	3.7	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.5	2.7	3.3	8.7	2.0	7.7	3.4	4.9	4.6	5.0
LnGrp Delay(d),s/veh	36.5	0.0	36.6	30.5	30.9	50.9	39.0	28.9	25.4	41.4	24.1	24.3
LnGrp LOS	D		D	C	C	D	D	C	C	D	C	C
Approach Vol, veh/h		141			574			1289			1101	
Approach Delay, s/veh		36.5			41.2			29.1			30.2	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.2	35.9		24.0	16.7	33.4		16.3
Change Period (Y+Rc), s	* 4.2	6.5		4.6	* 4.2	6.5		4.6
Max Green Setting (Gmax), s	* 16	35.0		23.1	* 19	31.8		16.0
Max Q Clear Time (g_c+I1), s	6.0	11.7		18.4	11.7	18.2		5.4
Green Ext Time (p_c), s	0.1	12.1		1.0	0.8	8.7		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	32.0
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	97	64	73	61	85	314	47	1087	65	195	823	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	101	67	71	75	105	314	49	1144	63	199	840	39
Adj No. of Lanes	2	1	1	1	1	1	1	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.81	0.81	0.81	0.95	0.95	0.95	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	419	404	343	216	411	350	133	1588	495	348	1577	491
Arrive On Green	0.12	0.22	0.22	0.12	0.22	0.22	0.07	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	3442	1863	1583	1774	1863	1583	1774	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	101	67	71	75	105	314	49	1144	63	199	840	39
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1774	1863	1583	1774	1695	1583	1721	1695	1583
Q Serve(g_s), s	2.6	2.9	3.6	3.8	4.6	19.0	2.6	19.6	2.8	5.4	13.4	1.7
Cycle Q Clear(g_c), s	2.6	2.9	3.6	3.8	4.6	19.0	2.6	19.6	2.8	5.4	13.4	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	419	404	343	216	411	350	133	1588	495	348	1577	491
V/C Ratio(X)	0.24	0.17	0.21	0.35	0.26	0.90	0.37	0.72	0.13	0.57	0.53	0.08
Avail Cap(c_a), veh/h	517	404	343	458	481	409	180	1777	553	399	1705	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.1	31.3	31.6	39.6	31.7	37.3	43.3	30.0	24.2	42.2	28.1	24.0
Incr Delay (d2), s/veh	0.3	0.2	0.3	1.0	0.3	20.1	1.7	1.3	0.1	1.5	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.5	1.6	1.9	2.4	10.2	1.3	9.4	1.2	2.6	6.3	0.8
LnGrp Delay(d),s/veh	39.4	31.5	31.9	40.6	32.0	57.4	45.0	31.3	24.4	43.7	28.3	24.1
LnGrp LOS	D	C	C	D	C	E	D	C	C	D	C	C
Approach Vol, veh/h		239			494			1256			1078	
Approach Delay, s/veh		35.0			49.4			31.5			31.0	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	38.7	17.6	26.9	15.4	38.5	17.2	27.3
Change Period (Y+Rc), s	* 5.2	8.0	5.6	* 5.6	8.0	* 8	* 5.2	5.6
Max Green Setting (Gmax), s	* 11	34.4	25.4	* 14	10.0	* 33	* 15	25.4
Max Q Clear Time (g_c+I1), s	7.4	21.6	5.8	5.6	4.6	15.4	4.6	21.0
Green Ext Time (p_c), s	0.2	9.1	0.1	1.6	0.0	11.5	0.2	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.5
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	224	0	0	264	105	107
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	Free	Free	Free	Free	None	None
Storage Length		0	0		0	0
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	243	0	0	287	114	116
Number of Lanes	1	0	1	1	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	243	0	530	243
Stage 1	-	-	-	-	243	-
Stage 2	-	-	-	-	287	-
Follow-up Headway	-	0	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	0	1323	-	510	796
Stage 1	-	0	-	-	797	-
Stage 2	-	0	-	-	762	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1323	-	510	796
Mov Capacity-2 Maneuver	-	-	-	-	510	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	762	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	12.2
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (vph)	510	796			
HCM Control Delay (s)	14.1	10.3	-	0	-
HCM Lane VC Ratio	0.224	0.146	-	-	-
HCM Lane LOS	B	B	-	A	-
HCM 95th Percentile Queue (veh)	0.85	0.51	-	0	-

Intersection	
Intersection Delay (sec/veh):	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	103	285	243	5	3	109
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.83	0.83	0.83	0.83
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	112	310	293	6	4	131
Number of Lanes	0	1	1	0	1	1

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	299	0	0	0	830	296
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	534	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1262	-	-	-	340	743
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	588	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1262	-	-	-	304	743
Mov Capacity-2 Maneuver	-	-	-	-	304	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	525	-

Approach	EB	WB	SB
HCM Control Delay (s)	2.2	0	11.1
HCM LOS	A	A	B

Lane	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (vph)					304	743
HCM Control Delay (s)	8.13	-	-	-	17	10.9
HCM Lane VC Ratio	0.089	-	-	-	0.012	0.177
HCM Lane LOS	A	-	-	-	C	B
HCM 95th Percentile Queue (veh)	0.291	-	-	-	0.036	0.639

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	54	763	61	56	592	198	61	135	63	206	73	56
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	59	838	56	60	630	168	74	165	71	242	86	60
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	1009	452	157	1011	832	84	188	235	263	94	65
Arrive On Green	0.09	0.29	0.29	0.09	0.29	0.29	0.15	0.15	0.15	0.24	0.24	0.24
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	568	1266	1583	1098	390	272
Grp Volume(v), veh/h	59	838	56	60	630	168	239	0	71	388	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1834	0	1583	1760	0	0
Q Serve(g_s), s	3.2	22.5	2.7	3.2	15.7	5.7	13.0	0.0	4.1	21.9	0.0	0.0
Cycle Q Clear(g_c), s	3.2	22.5	2.7	3.2	15.7	5.7	13.0	0.0	4.1	21.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.31		1.00	0.62		0.15
Lane Grp Cap(c), veh/h	156	1009	452	157	1011	832	273	0	235	422	0	0
V/C Ratio(X)	0.38	0.83	0.12	0.38	0.62	0.20	0.88	0.00	0.30	0.92	0.00	0.00
Avail Cap(c_a), veh/h	206	1079	483	223	1114	878	289	0	249	450	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	43.8	34.0	26.9	43.7	31.5	12.8	42.4	0.0	38.6	37.7	0.0	0.0
Incr Delay (d2), s/veh	1.5	5.3	0.1	1.5	0.9	0.1	23.9	0.0	0.7	23.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	11.7	1.2	1.6	7.8	3.8	8.4	0.0	1.8	13.3	0.0	0.0
LnGrp Delay(d),s/veh	45.3	39.3	27.0	45.3	32.5	12.9	66.2	0.0	39.3	61.0	0.0	0.0
LnGrp LOS	D	D	C	D	C	B	E		D	E		
Approach Vol, veh/h		953			858			310			388	
Approach Delay, s/veh		39.0			29.5			60.1			61.0	
Approach LOS		D			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.1	36.0		21.1	14.2	36.0		30.4
Change Period (Y+Rc), s	* 5.2	7.0		6.0	* 5.2	7.0		6.0
Max Green Setting (Gmax), s	* 12	32.0		16.0	* 13	31.0		26.0
Max Q Clear Time (g_c+I1), s	5.2	17.7		15.0	5.2	24.5		23.9
Green Ext Time (p_c), s	0.0	8.0		0.1	0.0	4.4		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	41.8
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	351	27	8	438	7	14	1	4	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	550		0	530		0	0		0	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.80	0.80	0.80	0.80	0.80	0.80	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	382	29	10	547	9	17	1	5	0	0	0
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	557	0	0	411	0	0	691	974	206	765	984	279
Stage 1	-	-	-	-	-	-	397	397	-	573	573	-
Stage 2	-	-	-	-	-	-	294	577	-	192	411	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1010	-	-	1144	-	-	331	251	800	293	247	718
Stage 1	-	-	-	-	-	-	600	602	-	472	502	-
Stage 2	-	-	-	-	-	-	690	500	-	791	593	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1010	-	-	1144	-	-	329	249	800	288	245	718
Mov Capacity-2 Maneuver	-	-	-	-	-	-	329	249	-	288	245	-
Stage 1	-	-	-	-	-	-	600	602	-	472	498	-
Stage 2	-	-	-	-	-	-	684	496	-	784	593	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0	0.1	15.5	0
HCM LOS	A	A	C	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	368							0
HCM Control Delay (s)	15.5	0	-	-	8.175	0	-	0
HCM Lane VC Ratio	0.065	-	-	-	0.009	-	-	-
HCM Lane LOS	C	A	-	-	A	A	-	A
HCM 95th Percentile Queue (veh)	0.206	0	-	-	0.026	-	-	-

Intersection	
Intersection Delay (sec/veh):	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	58	71	182	127	87	123
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	400	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.78	0.78	0.88	0.88	0.80	0.80
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	74	91	207	144	109	154
Number of Lanes	1	1	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	651	279	0	0	351	0
Stage 1	279	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	433	760	-	-	1208	-
Stage 1	768	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	390	760	-	-	1208	-
Mov Capacity-2 Maneuver	390	-	-	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	13.1	0	3.4
HCM LOS	B	A	A

Lane	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (vph)			390	760		
HCM Control Delay (s)	-	-	16.4	10.4	8.275	-
HCM Lane VC Ratio	-	-	0.191	0.12	0.09	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th Percentile Queue (veh)	-	-	0.695	0.406	0.296	-

Intersection	
Intersection Delay (sec/veh):	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	49	28	37	76	17	51	72	205	164	81	60	22
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
Storage Length	0		50	200		50	200		0	200		0
Median Width		0			0			12			12	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.92	0.92	0.92	0.94	0.94	0.94	0.89	0.89	0.89
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	62	35	47	83	18	55	77	218	174	91	67	25
Number of Lanes	0	1	1	0	1	0	1	1	0	1	2	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	758	808	47	692	733	196	92	0	0	392	0	0
Stage 1	262	262	-	459	459	-	-	-	-	-	-	-
Stage 2	496	546	-	233	274	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	296	313	1012	330	346	812	1501	-	-	1163	-	-
Stage 1	720	691	-	551	565	-	-	-	-	-	-	-
Stage 2	524	516	-	749	682	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	238	274	1012	257	303	812	1501	-	-	1163	-	-
Mov Capacity-2 Maneuver	238	274	-	257	303	-	-	-	-	-	-	-
Stage 1	683	637	-	523	536	-	-	-	-	-	-	-
Stage 2	447	490	-	622	629	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	21.9	19.2	1.2	4.2
HCM LOS	C	C	A	A

Lane	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (vph)				250	1012	409			
HCM Control Delay (s)	7.527	0	-	28.3	8.7	19.2	8.358	0	-
HCM Lane VC Ratio	0.051	-	-	0.39	0.046	0.383	0.078	-	-
HCM Lane LOS	A	A	-	D	A	C	A	A	-
HCM 95th Percentile Queue (veh)	0.161	-	-	1.755	0.145	1.762	0.254	-	-

Intersection	
Intersection Delay (sec/veh):	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	47	149	4	399	0	0	0	0	65	0	43
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	Yield	Yield	Yield
Storage Length	0		300	0		0	0		0	0		50
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.92	0.92	0.92	0.81	0.81	0.81
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	56	177	4	429	0	0	0	0	80	0	53
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	-	0	0	233	0	-			582	670	215
Stage 1	-	-	-	-	-	-			437	437	-
Stage 2	-	-	-	-	-	-			145	233	-
Follow-up Headway	0	-	-	2.218	-	0			3.518	4.018	3.318
Pot Capacity-1 Maneuver	0	-	-	1335	-	0			424	378	825
Stage 1	0	-	-	-	-	0			598	579	-
Stage 2	0	-	-	-	-	0			858	712	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	-	-	-	1335	-	-			423	377	825
Mov Capacity-2 Maneuver	-	-	-	-	-	-			423	377	-
Stage 1	-	-	-	-	-	-			-	577	-
Stage 2	-	-	-	-	-	-			858	712	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	0.1	11.3
HCM LOS	A	A	B

Lane	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)					703
HCM Control Delay (s)	-	-	7.705	-	11.3
HCM Lane VC Ratio	-	-	0.003	-	0.19
HCM Lane LOS	-	-	A	-	B
HCM 95th Percentile Queue (veh)	-	-	0.01	-	0.695

Intersection	
Intersection Delay (sec/veh):	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	90	0	0	228	239	17
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	Free	Free
Storage Length		0	0		0	250
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.80	0.80	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	107	0	0	285	278	20
Number of Lanes	1	0	0	2	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	-	0	250	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	143	-
Follow-up Headway	-	0	0	-	3.52	3.32
Pot Capacity-1 Maneuver	-	0	0	-	717	926
Stage 1	-	0	0	-	906	-
Stage 2	-	0	0	-	869	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	717	926
Mov Capacity-2 Maneuver	-	-	-	-	717	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	12.9
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBT	WBT
Capacity (vph)	717	926		
HCM Control Delay (s)	13.2	9	-	-
HCM Lane VC Ratio	0.388	0.021	-	-
HCM Lane LOS	B	A	-	-
HCM 95th Percentile Queue (veh)	1.837	0.065	-	-

Intersection	
Intersection Delay (sec/veh):	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	26	154	179	180	105	15
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	160			90
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.93	0.93	0.96	0.96
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	31	186	192	194	109	16
Number of Lanes	1	0	1	1	1	1

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	695	63	125	0	0	0
Stage 1	117	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	408	1002	1462	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	354	1002	1462	-	-	-
Mov Capacity-2 Maneuver	354	-	-	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	11.3	3.9	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			792		
HCM Control Delay (s)	7.835	-	11.3	-	-
HCM Lane VC Ratio	0.132	-	0.274	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.454	-	1.114	-	-

Intersection	
Intersection Delay (sec/veh):	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	114	25	404	207	30	179
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		100	170	
Median Width	12		12			12
Grade (%)	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.89	0.89	0.90	0.90
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	139	30	454	233	33	199
Number of Lanes	1	0	1	1	1	1

Major/Minor			Major 1		Major 2	
Conflicting Flow Rate - All	836	344	0	0	687	0
Stage 1	571	-	-	-	-	-
Stage 2	265	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	337	699	-	-	907	-
Stage 1	565	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	325	699	-	-	907	-
Mov Capacity-2 Maneuver	325	-	-	-	-	-
Stage 1	565	-	-	-	-	-
Stage 2	751	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	23.6	0	1.3
HCM LOS	C	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			360		
HCM Control Delay (s)	-	-	23.6	9.121	-
HCM Lane VC Ratio	-	-	0.471	0.037	-
HCM Lane LOS	-	-	C	A	-
HCM 95th Percentile Queue (veh)	-	-	2.423	0.114	-

Intersection	
Intersection Delay (sec/veh):	22.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	772	323	199	331	0	0	0	0	42	1	179
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	Free	Free	Free	None	None	None	None	None	None	Free	Free	Free
Storage Length	0		0	200		0	0		0	0		25
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92	0.96	0.96	0.96
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	804	336	207	345	0	0	0	0	44	1	186
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	345	0	0	1140	0	-			1731	1899	173
Stage 1	-	-	-	-	-	-			759	759	-
Stage 2	-	-	-	-	-	-			972	1140	-
Follow-up Headway	2.22	-	-	2.22	-	0			3.52	4.02	3.32
Pot Capacity-1 Maneuver	1211	-	-	609	-	0			57	69	840
Stage 1	-	-	-	-	-	0			365	413	-
Stage 2	-	-	-	-	-	0			271	274	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	1211	-	-	609	-	-			# 42	46	840
Mov Capacity-2 Maneuver	-	-	-	-	-	-			# 42	46	-
Stage 1	-	-	-	-	-	-			365	273	-
Stage 2	-	-	-	-	-	-			271	274	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	5.2	173
HCM LOS	A	A	F

Lane	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)						195
HCM Control Delay (s)	0	-	-	13.931	-	173
HCM Lane VC Ratio	-	-	-	0.34	-	1.186
HCM Lane LOS	A	-	-	B	-	F
HCM 95th Percentile Queue (veh)	0	-	-	1.503	-	11.85

Intersection	
Intersection Delay (sec/veh):	$ 663.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	567	247	0	0	340	72	190	1	428	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	Free	Free	Free	None	None	None
Storage Length	220		0	0		0	0		25	0		32
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.94	0.94	0.94	0.95	0.94	0.95	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	579	252	0	0	362	77	200	1	451	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	0	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow Rate - All	439	0	-	252	0	0	1591	1849	126
Stage 1	-	-	-	-	-	-	1410	1410	-
Stage 2	-	-	-	-	-	-	181	439	-
Follow-up Headway	2.22	-	0	2.22	-	-	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1117	-	0	1310	-	-	# 72	74	901
Stage 1	-	-	0	-	-	-	# 145	203	-
Stage 2	-	-	0	-	-	-	803	576	-
Time blocked-Platoon(%)	0	-	0	0	-	-	0	0	0
Mov Capacity-1 Maneuver	1117	-	-	1310	-	-	# 43	36	901
Mov Capacity-2 Maneuver	-	-	-	-	-	-	# 43	36	-
Stage 1	-	-	-	-	-	-	# 70	98	-
Stage 2	-	-	-	-	-	-	803	576	-

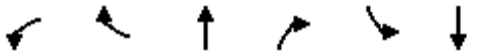
Approach	EB	WB	NB
HCM Control Delay (s)	8.1	0	$ 1945.5
HCM LOS	A	A	F

Lane	NBLn1	EBL	EBT	WBL	WBT	WBR
Capacity (vph)	126					
HCM Control Delay (s)	$ 1945.5	11.633	-	0	-	-
HCM Lane VC Ratio	5.171	0.518	-	-	-	-
HCM Lane LOS	F	B	-	A	-	-
HCM 95th Percentile Queue (veh)	69.228	3.082	-	0	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	411	264	217	200	98	195
Number	7	14	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	428	207	244	225	113	149
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.89	0.89	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	518	756	313	888	345	293
Arrive On Green	0.29	0.29	0.18	0.48	0.19	0.19
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583
Grp Volume(v), veh/h	428	207	244	225	113	149
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583
Q Serve(g_s), s	8.8	3.1	5.1	2.8	2.1	3.3
Cycle Q Clear(g_c), s	8.8	3.1	5.1	2.8	2.1	3.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	518	756	313	888	345	293
V/C Ratio(X)	0.83	0.27	0.78	0.25	0.33	0.51
Avail Cap(c_a), veh/h	605	834	533	1802	1028	874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	6.1	15.3	6.1	13.8	14.3
Incr Delay (d2), s/veh	8.1	0.2	4.2	0.1	0.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	1.8	2.9	1.5	1.1	1.5
LnGrp Delay(d),s/veh	20.9	6.3	19.6	6.2	14.3	15.6
LnGrp LOS	C	A	B	A	B	B
Approach Vol, veh/h	635			469	262	
Approach Delay, s/veh	16.2			13.2	15.1	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	11.4	11.7		15.9		23.1		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	11.7	21.5		13.3		37.7		
Max Q Clear Time (g_c+I1), s	7.1	5.3		10.8		4.8		
Green Ext Time (p_c), s	0.3	1.9		0.6		2.2		

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	41	220	197	92	268	94
Number	3	18	2	12	1	6
Initial Queue, veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863
Lanes	1	1	1	0	1	1
Capacity, veh/h	142	460	595	221	373	1402
Arriving On Green	0.08	0.08	0.46	0.46	0.21	0.75
Sat Flow, veh/h	1774.0	1583.3	1297.2	480.7	1774.0	1862.7
Grp Volume(v), veh/h	41.8	102.0	0.0	317.6	308.0	108.0
Grp Sat Flow(s),veh/h/ln	1774.0	1583.3	0.0	1777.9	1774.0	1862.7
Q Serve(g_s), s	1.2	2.6	0.0	6.3	8.9	0.8
Cycle Q Clear(g_c), s	1.2	2.6	0.0	6.3	8.9	0.8
Proportion In Lane	1.000	1.000		0.270	1.000	
Lane Grp Cap(c), veh/h	142.4	459.7	0.0	815.7	372.7	1401.8
V/C Ratio(X)	0.294	0.222	0.000	0.389	0.826	0.077
Avail Cap(c_a), veh/h	510.9	788.7	0.0	815.7	576.9	1401.8
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	0.000	1.000	1.000	1.000
Uniform Delay (d), s/veh	23.3	14.5	0.0	9.6	20.3	1.7
Incr Delay (d2), s/veh	1.1	0.2	0.0	1.4	5.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	24.4	14.7	0.0	11.0	26.1	1.9
Lane Group LOS	C	B		B	C	A
Approach Volume, veh/h	144		318			416
Approach Delay, s/veh	17.6		11.0			19.8
Approach LOS	B		B			B

Timer					
Assigned Phase		2		1	6
Phase Duration (G+Y+Rc), s		29.19		15.81	45.00
Change Period (Y+Rc), s		4.50		4.50	4.50
Max Green Setting (Gmax), s		18.50		17.50	40.50
Max Q Clear Time (g_c+I1), s		8.34		10.93	2.82
Green Extension Time (p_c)		1.58		0.49	2.36

Intersection Summary	
HCM 2010 Control Delay	16.2
HCM 2010 Level of Service	B

Intersection	
Intersection Delay (sec/veh):	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	2	2	9	0	2	1	8	40	1	1	21	7
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.46	0.46	0.46	0.75	0.75	0.75	0.75	0.75	0.75	0.79	0.79	0.79
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	4	4	20	0	3	1	11	53	1	1	27	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	112	110	32	122	114	54	36	0	0	54	0	0
Stage 1	34	34	-	76	76	-	-	-	-	-	-	-
Stage 2	78	76	-	46	38	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	866	781	1042	853	777	1013	1575	-	-	1551	-	-
Stage 1	982	867	-	933	832	-	-	-	-	-	-	-
Stage 2	931	832	-	968	863	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	857	775	1042	828	771	1013	1575	-	-	1551	-	-
Mov Capacity-2 Maneuver	857	775	-	828	771	-	-	-	-	-	-	-
Stage 1	975	866	-	926	826	-	-	-	-	-	-	-
Stage 2	920	826	-	944	862	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	8.9	9.3	1.2	0.3
HCM LOS	A	A	A	A

Lane	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (vph)				959	838			
HCM Control Delay (s)	7.301	0	-	8.9	9.3	7.323	0	-
HCM Lane VC Ratio	0.007	-	-	0.029	0.005	0.001	-	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th Percentile Queue (veh)	0.02	-	-	0.091	0.014	0.002	-	-

Intersection	
Intersection Delay (sec/veh):	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	4	86	1	0	50	2	1	0	0	2	0	3
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.72	0.72	0.72	0.25	0.25	0.25	0.63	0.63	0.63
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	4	95	1	0	69	3	4	0	0	3	0	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	72	0	0	96	0	0	177	176	96	175	175	71
Stage 1	-	-	-	-	-	-	104	104	-	71	71	-
Stage 2	-	-	-	-	-	-	73	72	-	104	104	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1528	-	-	1498	-	-	785	718	960	788	719	991
Stage 1	-	-	-	-	-	-	902	809	-	939	836	-
Stage 2	-	-	-	-	-	-	937	835	-	902	809	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1528	-	-	1498	-	-	779	716	960	786	717	991
Mov Capacity-2 Maneuver	-	-	-	-	-	-	779	716	-	786	717	-
Stage 1	-	-	-	-	-	-	899	807	-	936	836	-
Stage 2	-	-	-	-	-	-	932	835	-	899	807	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0.3	0	9.6	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	779							897
HCM Control Delay (s)	9.6	7.363	0	-	0	-	-	9
HCM Lane VC Ratio	0.005	0.003	-	-	-	-	-	0.009
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th Percentile Queue (veh)	0.015	0.009	-	-	0	-	-	0.027

Intersection	
Intersection Delay (sec/veh):	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	26	34	32	50	21	27
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.73	0.73	0.79	0.79	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	36	47	41	63	24	31
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	152	73	0	0	104	0
Stage 1	73	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	840	989	-	-	1488	-
Stage 1	950	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	827	989	-	-	1488	-
Mov Capacity-2 Maneuver	827	-	-	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	9.3	0	3.3
HCM LOS	A	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			912		
HCM Control Delay (s)	-	-	9.3	7.46	-
HCM Lane VC Ratio	-	-	0.09	0.016	-
HCM Lane LOS	-	-	A	A	-
HCM 95th Percentile Queue (veh)	-	-	0.296	0.05	-

Intersection	
Intersection Delay (sec/veh):	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	32	34	37	85	75	25
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.75	0.75	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	41	44	49	113	87	29
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	313	102	116	0	0	0
Stage 1	102	-	-	-	-	-
Stage 2	211	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	680	953	1473	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	656	953	1473	-	-	-
Mov Capacity-2 Maneuver	656	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	794	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	10.2	2.3	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			781		
HCM Control Delay (s)	7.529	-	10.2	-	-
HCM Lane VC Ratio	0.033	-	0.108	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.104	-	0.363	-	-

Intersection	
Intersection Delay (sec/veh):	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	46	273	204	126	111	33
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	170			80	0	0
Median Width		12	12		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.82	0.82
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	52	307	229	142	135	40
Number of Lanes	1	1	1	1	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	371	0	0	0	711	186
Stage 1	-	-	-	-	300	-
Stage 2	-	-	-	-	411	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1188	-	-	-	400	856
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	669	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1188	-	-	-	382	856
Mov Capacity-2 Maneuver	-	-	-	-	382	-
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	640	-

Approach	EB	WB	SB
HCM Control Delay (s)	1.2	0	18.6
HCM LOS	A	A	C

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					438
HCM Control Delay (s)	8.168	-	-	-	18.6
HCM Lane VC Ratio	0.044	-	-	-	0.401
HCM Lane LOS	A	-	-	-	C
HCM 95th Percentile Queue (veh)	0.136	-	-	-	1.898

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	265	1	191	0	1	0	249	754	2	0	633	302
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	0	1863	0	1863	1863	1863	0	1863	1863
Lanes	1	1	1	0	1	0	2	2	0	1	2	0
Capacity, veh/h	331	439	373	0	8	0	392	2031	5	0	937	349
Arriving On Green	0.24	0.24	0.24	0.00	0.00	0.00	0.11	0.55	0.55	0.00	0.36	0.36
Sat Flow, veh/h	1406.7	1862.7	1583.3	0.0	1862.7	0.0	3441.6	3713.9	9.9	0.0	2589.7	965.4
Grp Volume(v), veh/h	294.4	1.1	101.1	0.0	4.0	0.0	289.5	439.7	439.3	0.0	489.6	444.8
Grp Sat Flow(s),veh/h/ln	1406.7	1862.7	1583.3	0.0	1862.7	0.0	1720.8	1862.7	1861.0	0.0	1862.7	1692.4
Q Serve(g_s), s	12.8	0.0	3.3	0.0	0.1	0.0	5.2	8.9	8.9	0.1	14.4	14.4
Cycle Q Clear(g_c), s	12.8	0.0	3.3	0.0	0.1	0.0	5.2	8.9	8.9	0.1	14.4	14.4
Proportion In Lane	1.000		1.000	0.000		0.000	1.000		0.005	1.000		0.570
Lane Grp Cap(c), veh/h	331.2	438.5	372.7	0.0	8.0	0.0	392.0	1018.8	1017.8	0.0	674.2	612.5
V/C Ratio(X)	0.889	0.003	0.271	0.000	0.500	0.000	0.739	0.432	0.432	0.000	0.726	0.726
Avail Cap(c_a), veh/h	344.6	456.3	387.9	0.0	456.3	0.0	440.6	1018.8	1017.8	0.0	674.2	612.5
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	1.000	0.000	1.000	0.000	1.000	1.000	1.000	0.000	1.000	1.000
Uniform Delay (d), s/veh	23.4	18.5	19.8	0.0	31.4	0.0	27.1	8.5	8.5	0.0	17.5	17.5
Incr Delay (d2), s/veh	23.0	0.0	0.4	0.0	41.2	0.0	5.7	1.3	1.3	0.0	6.7	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	46.4	18.5	20.1	0.0	72.6	0.0	32.8	9.8	9.8	0.0	24.2	24.8
Lane Group LOS	D	B	C		E		C	A	A		C	C
Approach Volume, veh/h		397			4			1169			934	
Approach Delay, s/veh		39.6			72.6			15.5			24.5	
Approach LOS		D			E			B			C	

Timer												
Assigned Phase		4			8		5	2		1	6	
Phase Duration (G+Y+Rc), s		19.40			4.77		11.71	39.11		0.00	27.40	
Change Period (Y+Rc), s		4.50			4.50		4.50	4.50		4.50	4.50	
Max Green Setting (Gmax), s		15.50			15.50		8.10	27.00		4.00	22.90	
Max Q Clear Time (g_c+I1), s		14.81			2.14		7.15	10.86		0.00	16.40	
Green Extension Time (p_c)		0.10			0.00		0.10	9.58		0.00	4.79	

Intersection Summary		
HCM 2010 Control Delay	22.8	
HCM 2010 Level of Service	C	

Intersection	
Intersection Delay (sec/veh):	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	73	991	845	24	9	48
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	90			0	0	0
Median Width		24	24		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.80	0.80	0.84	0.84
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	78	1066	1056	30	11	57
Number of Lanes	1	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	1086	0	0	0	1760	543
Stage 1	-	-	-	-	1071	-
Stage 2	-	-	-	-	689	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	638	-	-	-	76	484
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	460	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	638	-	-	-	67	484
Mov Capacity-2 Maneuver	-	-	-	-	67	-
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	404	-

Approach	EB	WB	SB
HCM Control Delay (s)	0.8	0	25.3
HCM LOS	A	A	D

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					244
HCM Control Delay (s)	11.433	-	-	-	25.3
HCM Lane VC Ratio	0.123	-	-	-	0.278
HCM Lane LOS	B	-	-	-	D
HCM 95th Percentile Queue (veh)	0.418	-	-	-	1.101

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	504	404	50	19	417	99	42	31	33	154	24	402
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Lanes	2	1	1	1	2	0	0	1	0	0	1	2
Capacity, veh/h	637	696	591	25	626	109	153	113	62	346	54	624
Arriving On Green	0.19	0.37	0.37	0.01	0.20	0.20	0.19	0.19	0.19	0.22	0.22	0.22
Sat Flow, veh/h	3441.6	1583.3	1583.3	1774.0	3092.4	538.1	822.7	607.2	333.0	1544.8	240.7	2786.7
Grp Volume(v), veh/h	530.5	425.3	36.8	21.1	278.0	266.5	108.4	0.0	0.0	211.9	0.0	359.5
Grp Sat Flow(s),veh/h/ln	1720.8	1862.7	1583.3	1774.0	1862.7	1767.8	1762.9	0.0	0.0	1785.5	0.0	1393.3
Q Serve(g_s), s	13.2	16.5	1.3	1.1	12.4	12.6	4.7	0.0	0.0	9.3	0.0	10.2
Cycle Q Clear(g_c), s	13.2	16.5	1.3	1.1	12.4	12.6	4.7	0.0	0.0	9.3	0.0	10.2
Proportion In Lane	1.000		1.000	1.000		0.304	0.467		0.189	0.865		1.000
Lane Grp Cap(c), veh/h	637.0	695.7	591.4	24.8	377.0	357.8	327.5	0.0	0.0	400.1	0.0	624.4
V/C Ratio(X)	0.833	0.611	0.062	0.851	0.737	0.745	0.331	0.000	0.000	0.530	0.000	0.576
Avail Cap(c_a), veh/h	895.2	841.0	714.9	109.9	471.9	447.8	327.5	0.0	0.0	400.1	0.0	624.4
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	1.000	0.000	1.000
Uniform Delay (d), s/veh	34.9	22.6	17.8	43.7	33.2	33.3	31.4	0.0	0.0	30.3	0.0	30.7
Incr Delay (d2), s/veh	4.8	0.9	0.0	51.0	4.6	5.1	2.7	0.0	0.0	5.0	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	39.6	23.5	17.9	94.7	37.8	38.4	34.1	0.0	0.0	35.3	0.0	34.5
Lane Group LOS	D	C	B	F	D	D	C			D		C
Approach Volume, veh/h		993			566			108			571	
Approach Delay, s/veh		31.9			40.2			34.1			34.8	
Approach LOS		C			D			C			C	

Timer												
Assigned Phase	7	4		3	8			2			6	
Phase Duration (G+Y+Rc), s	20.94	37.67		5.74	22.47			21.00			24.40	
Change Period (Y+Rc), s	4.50	4.50		4.50	4.50			4.50			4.50	
Max Green Setting (Gmax), s	23.10	40.10		5.50	22.50			16.50			19.90	
Max Q Clear Time (g_c+I1), s	15.19	18.46		3.05	14.57			6.74			12.21	
Green Extension Time (p_c)	1.25	5.66		0.00	3.40			0.33			1.62	

Intersection Summary	
HCM 2010 Control Delay	34.9
HCM 2010 Level of Service	C

Intersection	
Intersection Delay (sec/veh)	5.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	303	80	30	81
Demand Flow Rate (pc/h)	310	81	30	82
Vehicles Circulating (pc/h)	18	118	225	98
Vehicles Exiting (pc/h)	162	137	102	101
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	20	20	20	20
Ped Capacity Adjustment	0.997	0.997	0.997	0.997
Approach Delay (sec/veh)	6.0	4.4	4.3	4.3
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	310	81	30	82
Capacity, Entry Lane (pc/h)	1110	1004	902	1024
Entry HV Adjustment Factor	0.979	0.983	0.998	0.986
Flow Rate, Entry (vph)	303	80	30	81
Capacity, Entry (vph)	1084	984	898	1007
Volume to Capacity Ratio	0.280	0.081	0.033	0.080
Control Delay (sec/veh)	6.0	4.4	4.3	4.3
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	1	0	0	0

Intersection	
Intersection Delay (sec/veh)	4.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	16	64	0	125
Demand Flow Rate (pc/h)	16	65	0	128
Vehicles Circulating (pc/h)	94	11	110	5
Vehicles Exiting (pc/h)	39	99	0	71
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	20	20	20	20
Ped Capacity Adjustment	0.997	0.997	0.997	0.997
Approach Delay (sec/veh)	3.7	3.8	0.0	4.3
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	16	65	0	128
Capacity, Entry Lane (pc/h)	1029	1118	1012	1124
Entry HV Adjustment Factor	0.994	0.983	1.000	0.977
Flow Rate, Entry (vph)	16	64	0	125
Capacity, Entry (vph)	1019	1096	1009	1095
Volume to Capacity Ratio	0.016	0.058	0.000	0.114
Control Delay (sec/veh)	3.7	3.8	3.6	4.3
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Intersection	
Intersection Delay (sec/veh)	4.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	16	64	0	125
Demand Flow Rate (pc/h)	16	65	0	128
Vehicles Circulating (pc/h)	94	11	110	5
Vehicles Exiting (pc/h)	39	99	0	71
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	3.7	3.8	0.0	4.3
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	16	65	0	128
Capacity, Entry Lane (pc/h)	1029	1118	1012	1124
Entry HV Adjustment Factor	0.994	0.983	1.000	0.977
Flow Rate, Entry (vph)	16	64	0	125
Capacity, Entry (vph)	1022	1099	1012	1098
Volume to Capacity Ratio	0.016	0.058	0.000	0.114
Control Delay (sec/veh)	3.7	3.8	3.6	4.3
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Intersection	
Intersection Delay (sec/veh):	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	0	0	0	15	6	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	120			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	0	0	0	16	7	0
Number of Lanes	0	1	1	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	-	0	0	0	8	-
Stage 1	-	-	-	-	8	-
Stage 2	-	-	-	-	0	-
Follow-up Headway	0	-	-	-	3.518	0
Pot Capacity-1 Maneuver	0	-	-	-	1013	0
Stage 1	0	-	-	-	1015	0
Stage 2	0	-	-	-	-	0
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	1013	-
Mov Capacity-2 Maneuver	-	-	-	-	1013	-
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	0	8.6
HCM LOS	A	A	A

Lane	EBT	WBT	WBR	SBLn1
Capacity (vph)				1013
HCM Control Delay (s)	-	-	-	8.6
HCM Lane VC Ratio	-	-	-	0.006
HCM Lane LOS	-	-	-	A
HCM 95th Percentile Queue (veh)	-	-	-	0.019

Intersection	
Intersection Delay (sec/veh)	3.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	7	46	0	24
Demand Flow Rate (pc/h)	7	47	0	24
Vehicles Circulating (pc/h)	24	0	31	16
Vehicles Exiting (pc/h)	16	31	0	31
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	20	20	20	20
Ped Capacity Adjustment	0.997	0.997	0.997	0.997
Approach Delay (sec/veh)	3.4	3.6	0.0	3.4
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	7	47	0	24
Capacity, Entry Lane (pc/h)	1103	1130	1095	1112
Entry HV Adjustment Factor	0.980	0.972	1.000	1.000
Flow Rate, Entry (vph)	7	46	0	24
Capacity, Entry (vph)	1079	1095	1092	1109
Volume to Capacity Ratio	0.006	0.042	0.000	0.022
Control Delay (sec/veh)	3.4	3.6	3.3	3.4
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

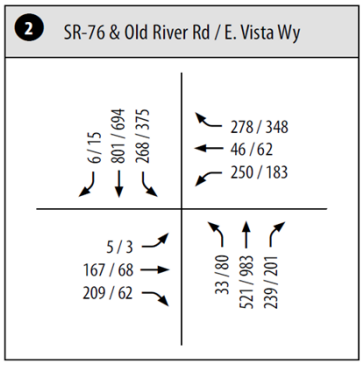
Appendix Q

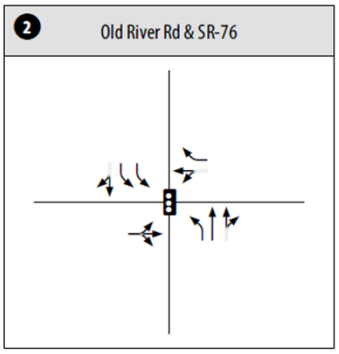
Ramp Intersection Capacity Analysis Worksheets – Existing Plus Project (Phase A) Conditions

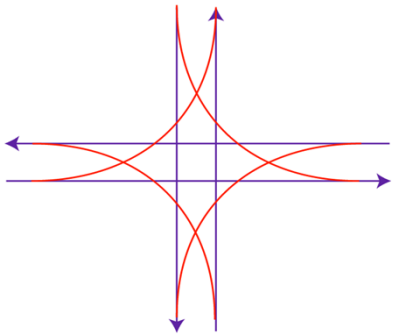
EXISTING + PHASE A

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
(BASED ON CALTRANS HIGHWAY DESIGN MANUAL)

N/S Street SR-76 E/W Street OLD RIVER ROAD / EAST VISTA WAY







PHASE 1:

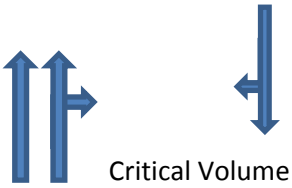
33 / 80
AM/PM

Critical Volume

268 / 375
AM/PM
134 / 188

PHASE 2:

760 / 1,184
AM/PM

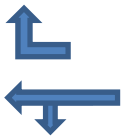


Critical Volume

807 / 709
AM/PM
706 / 601

PHASE 3

WBL	250 /	183
WBT	46 /	62
WBR	278 /	348
	AM /	PM



Critical Volume

296 / 348

PHASE 4

EBL	5 /	3
EBT	167 /	68
EBR	209 /	62
	AM /	PM

Critical Volume

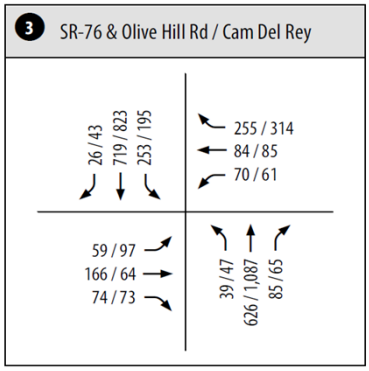
381 / 133

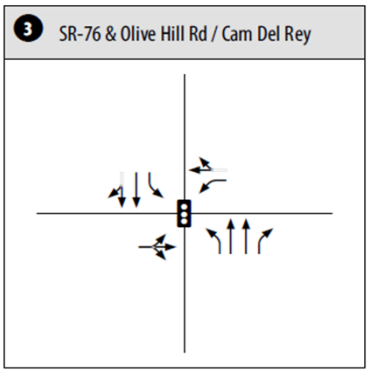
SUM	PHASE 1	134 / 188	AM	1,517 >1500: (Over Capacity)
	PHASE 2	706 / 601	PM	1,270 1200-1500: (At Capacity)
	PHASE 3	296 / 348		
	PHASE 4	381 / 133		
	TOTAL	1,517 / 1,270		

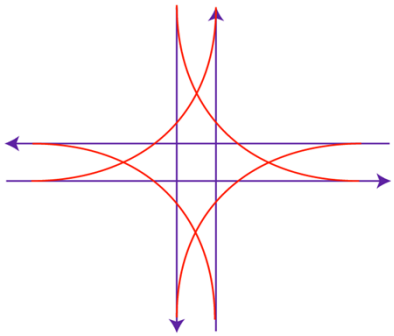
EXISTING + PHASE A

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
(BASED ON CALTRANS HIGHWAY DESIGN MANUAL)

N/S Street SR-76 E/W Street OLIVE HILL RD / CAM DEL REY







PHASE 1:

39 / 47	
AM/PM	

Critical Volume

253 / 195
AM/PM
253 / 195

PHASE 2:

NBT	626 / 1,087
NBR	85 / 65
	AM/PM

Critical Volume

745 / 866
AM/PM
313 / 544

PHASE 3

WBL	70 /	61
WBT	84 /	85
WBR	255 /	314
	AM /	PM

Critical Volume 339 / 399

PHASE 4

EBL	59 /	97
EBT	166 /	64
EBR	74 /	73
	AM /	PM

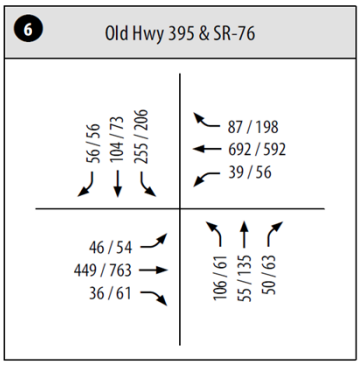
Critical Volume 299 / 234

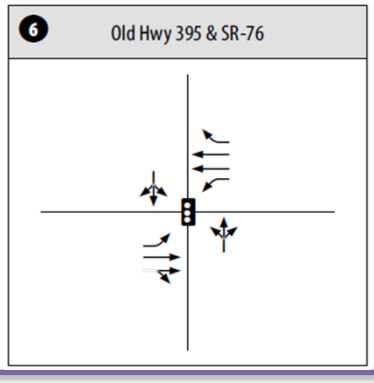
SUM	PHASE 1	253 / 195	AM	1,204 1200-1500: (At Capacity)
	PHASE 2	313 / 544	PM	1,372 1200-1500: (At Capacity)
	PHASE 3	339 / 399		
	PHASE 4	299 / 234		
	TOTAL	1,204 / 1,372		

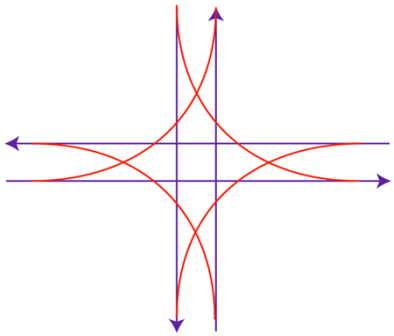
EXISTING + PHASE A

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
(BASED ON CALTRANS HIGHWAY DESIGN MANUAL)

N/S Street SR-76 E/W Street OLD HIGHWAY 395







PHASE 1:

46 / 54	
AM/PM	

Critical Volume

39 / 56	
AM/PM	
46 / 56	

PHASE 2:

NBT	449 / 763	
NBR	36 / 61	
	AM/PM	

Critical Volume

87 / 198	WBR
692 / 592	WBT
AM/PM	
346 / 412	

PHASE 3

NBL	106 /	61
NBT	55 /	135
NBR	50 /	63
	AM /	PM

Critical Volume 211 / 259

PHASE 4

SBL	255 /	206
SBT	104 /	73
SBR	56 /	56
	AM /	PM

Critical Volume 415 / 335

SUM	PHASE 1	46 / 56	AM	1,018 <1200: (Under Capacity)
	PHASE 2	346 / 412	PM	1,062 <1200: (Under Capacity)
	PHASE 3	211 / 259		
	PHASE 4	415 / 335		
	TOTAL	1,018 / 1,062		

Appendix R

Arterial Analysis - Existing Plus Project (Phase A) Conditions With and Without Mitigation

Arterial Analysis – Existing

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21020	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.615	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	1	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.700	

Results

Annual average daily traffic, AADT	21020	vpd
Two-way hourly volume	1891	vph
Hourly directional volume	1162	vph
Through-volume 15-min. flow rate	1250	v
Running time	78.0	sec
v/c ratio	1.05	
Through capacity	1196	vph
Progression factor, PF	1.000	
Uniform delay	22.5	sec
Filtering/metering factor, I	0.090	
Incremental delay	23.1	sec
Control delay	45.6	sec/v
Total travel speed, Sa	21.3	mph
Total urban street LOS	D	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21020	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.660	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	1	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	130.0	sec
Effective green ratio, g/C	0.760	

Results

Annual average daily traffic, AADT	21020	vpd
Two-way hourly volume	1471	vph
Hourly directional volume	970	vph
Through-volume 15-min. flow rate	1043	v
Running time	78.0	sec
v/c ratio	0.80	
Through capacity	1298	vph
Progression factor, PF	1.000	
Uniform delay	9.6	sec
Filtering/metering factor, I	0.494	
Incremental delay	2.7	sec
Control delay	12.3	sec/v
Total travel speed, Sa	35.1	mph
Total urban street LOS	B	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15320	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.668	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.500	

Results

Annual average daily traffic, AADT	15320	vpd
Two-way hourly volume	1378	vph
Hourly directional volume	920	vph
Through-volume 15-min. flow rate	499	v
Running time	504.0	sec
v/c ratio	0.69	
Through capacity	719	vph
Progression factor, PF	1.000	
Uniform delay	28.7	sec
Filtering/metering factor, I	0.658	
Incremental delay	3.6	sec
Control delay	32.4	sec/v
Total travel speed, Sa	44.3	mph
Total urban street LOS	A	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15320	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.685	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	0	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.440	

Results

Annual average daily traffic, AADT	15320	vpd
Two-way hourly volume	1072	vph
Hourly directional volume	734	vph
Through-volume 15-min. flow rate	797	v
Running time	504.0	sec
v/c ratio	1.26	
Through capacity	633	vph
Progression factor, PF	1.000	
Uniform delay	42.0	sec
Filtering/metering factor, I	0.090	
Incremental delay	117.8	sec
Control delay	159.8	sec/v
Total travel speed, Sa	30.6	mph
Total urban street LOS	C	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15120	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.550	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.611	

Results

Annual average daily traffic, AADT	15120	vpd
Two-way hourly volume	1360	vph
Hourly directional volume	748	vph
Through-volume 15-min. flow rate	406	v
Running time	78.0	sec
v/c ratio	0.39	
Through capacity	1044	vph
Progression factor, PF	1.000	
Uniform delay	14.9	sec
Filtering/metering factor, I	0.928	
Incremental delay	1.0	sec
Control delay	15.9	sec/v
Total travel speed, Sa	32.8	mph
Total urban street LOS	C	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15120	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.520	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	26	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.440	

Results

Annual average daily traffic, AADT	15120	vpd
Two-way hourly volume	1058	vph
Hourly directional volume	550	vph
Through-volume 15-min. flow rate	442	v
Running time	78.0	sec
v/c ratio	0.59	
Through capacity	751	vph
Progression factor, PF	1.000	
Uniform delay	31.7	sec
Filtering/metering factor, I	0.780	
Incremental delay	2.6	sec
Control delay	34.4	sec/v
Total travel speed, Sa	24.5	mph
Total urban street LOS	D	

Arterial Analysis – Existing + Phase A

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+A
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21090	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.615	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	1	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.700	

Results

Annual average daily traffic, AADT	21090	vpd
Two-way hourly volume	1898	vph
Hourly directional volume	1167	vph
Through-volume 15-min. flow rate	1255	v
Running time	78.0	sec
v/c ratio	1.05	
Through capacity	1196	vph
Progression factor, PF	1.000	
Uniform delay	22.5	sec
Filtering/metering factor, I	0.090	
Incremental delay	24.8	sec
Control delay	47.3	sec/v
Total travel speed, Sa	20.9	mph
Total urban street LOS	E	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+A
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21090	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.660	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	20	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	130.0	sec
Effective green ratio, g/C	0.760	

Results

Annual average daily traffic, AADT	21090	vpd
Two-way hourly volume	1476	vph
Hourly directional volume	974	vph
Through-volume 15-min. flow rate	846	v
Running time	78.0	sec
v/c ratio	0.65	
Through capacity	1298	vph
Progression factor, PF	1.000	
Uniform delay	7.4	sec
Filtering/metering factor, I	0.711	
Incremental delay	1.8	sec
Control delay	9.2	sec/v
Total travel speed, Sa	37.3	mph
Total urban street LOS	B	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing+A
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15450	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.668	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.500	

Results

Annual average daily traffic, AADT	15450	vpd
Two-way hourly volume	1390	vph
Hourly directional volume	928	vph
Through-volume 15-min. flow rate	504	v
Running time	504.0	sec
v/c ratio	0.70	
Through capacity	719	vph
Progression factor, PF	1.000	
Uniform delay	28.9	sec
Filtering/metering factor, I	0.649	
Incremental delay	3.7	sec
Control delay	32.6	sec/v
Total travel speed, Sa	44.3	mph
Total urban street LOS	A	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+A
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15450	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.685	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	0	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.440	

Results

Annual average daily traffic, AADT	15450	vpd
Two-way hourly volume	1081	vph
Hourly directional volume	740	vph
Through-volume 15-min. flow rate	804	v
Running time	504.0	sec
v/c ratio	1.27	
Through capacity	633	vph
Progression factor, PF	1.000	
Uniform delay	42.0	sec
Filtering/metering factor, I	0.090	
Incremental delay	122.8	sec
Control delay	164.8	sec/v
Total travel speed, Sa	30.2	mph
Total urban street LOS	C	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing + A
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15160	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.550	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.610	

Results

Annual average daily traffic, AADT	15160	vpd
Two-way hourly volume	1364	vph
Hourly directional volume	750	vph
Through-volume 15-min. flow rate	407	v
Running time	78.0	sec
v/c ratio	0.39	
Through capacity	1042	vph
Progression factor, PF	1.000	
Uniform delay	15.0	sec
Filtering/metering factor, I	0.927	
Incremental delay	1.0	sec
Control delay	16.0	sec/v
Total travel speed, Sa	32.7	mph
Total urban street LOS	C	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E + A
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15160	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.520	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	26	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.440	

Results

Annual average daily traffic, AADT	15160	vpd
Two-way hourly volume	1061	vph
Hourly directional volume	551	vph
Through-volume 15-min. flow rate	443	v
Running time	78.0	sec
v/c ratio	0.59	
Through capacity	751	vph
Progression factor, PF	1.000	
Uniform delay	31.8	sec
Filtering/metering factor, I	0.779	
Incremental delay	2.6	sec
Control delay	34.4	sec/v
Total travel speed, Sa	24.5	mph
Total urban street LOS	D	

Arterial Analysis – Existing + Phase A (Mitigated)

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+A Mit
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21090	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.615	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	1	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.750	

Results

Annual average daily traffic, AADT	21090	vpd
Two-way hourly volume	1898	vph
Hourly directional volume	1167	vph
Through-volume 15-min. flow rate	1255	v
Running time	78.0	sec
v/c ratio	0.98	
Through capacity	1281	vph
Progression factor, PF	1.000	
Uniform delay	17.7	sec
Filtering/metering factor, I	0.139	
Incremental delay	5.8	sec
Control delay	23.4	sec/v
Total travel speed, Sa	28.8	mph
Total urban street LOS	C	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	EA + MIT
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21090	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.660	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	1	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	130.0	sec
Effective green ratio, g/C	0.760	

Results

Annual average daily traffic, AADT	21090	vpd
Two-way hourly volume	1476	vph
Hourly directional volume	974	vph
Through-volume 15-min. flow rate	1048	v
Running time	78.0	sec
v/c ratio	0.81	
Through capacity	1298	vph
Progression factor, PF	1.000	
Uniform delay	9.7	sec
Filtering/metering factor, I	0.487	
Incremental delay	2.7	sec
Control delay	12.4	sec/v
Total travel speed, Sa	35.0	mph
Total urban street LOS	B	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing+A MIT
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15450	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.668	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.500	

Results

Annual average daily traffic, AADT	15450	vpd
Two-way hourly volume	1390	vph
Hourly directional volume	928	vph
Through-volume 15-min. flow rate	504	v
Running time	504.0	sec
v/c ratio	0.70	
Through capacity	719	vph
Progression factor, PF	1.000	
Uniform delay	28.9	sec
Filtering/metering factor, I	0.649	
Incremental delay	3.7	sec
Control delay	32.6	sec/v
Total travel speed, Sa	44.3	mph
Total urban street LOS	A	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+A Mit
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15450	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.685	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	20	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.440	

Results

Annual average daily traffic, AADT	15450	vpd
Two-way hourly volume	1081	vph
Hourly directional volume	740	vph
Through-volume 15-min. flow rate	643	v
Running time	504.0	sec
v/c ratio	1.02	
Through capacity	633	vph
Progression factor, PF	1.000	
Uniform delay	42.0	sec
Filtering/metering factor, I	0.090	
Incremental delay	14.9	sec
Control delay	56.9	sec/v
Total travel speed, Sa	40.8	mph
Total urban street LOS	B	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15160	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.550	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.660	

Results

Annual average daily traffic, AADT	15160	vpd
Two-way hourly volume	1364	vph
Hourly directional volume	750	vph
Through-volume 15-min. flow rate	407	v
Running time	78.0	sec
v/c ratio	0.36	
Through capacity	1127	vph
Progression factor, PF	1.000	
Uniform delay	11.4	sec
Filtering/metering factor, I	0.941	
Incremental delay	0.8	sec
Control delay	12.2	sec/v
Total travel speed, Sa	35.1	mph
Total urban street LOS	B	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+A Mit
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15160	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.520	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	26	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	145.0	sec
Effective green ratio, g/C	0.550	

Results

Annual average daily traffic, AADT	15160	vpd
Two-way hourly volume	1061	vph
Hourly directional volume	551	vph
Through-volume 15-min. flow rate	443	v
Running time	78.0	sec
v/c ratio	0.47	
Through capacity	939	vph
Progression factor, PF	1.000	
Uniform delay	19.8	sec
Filtering/metering factor, I	0.878	
Incremental delay	1.5	sec
Control delay	21.3	sec/v
Total travel speed, Sa	29.8	mph
Total urban street LOS	C	

Appendix S

Mitigated Peak Hour Intersection Capacity Worksheets – Existing Plus Project (Phase A) Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	0	804	1	275	1	291	343	152	460	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	4	4	0	903	1	230	1	331	390	179	541	0
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.25	0.25	0.25	0.89	0.89	0.89	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	7	0	759	1	678	48	268	316	199	798	0
Arrive On Green	0.01	0.01	0.00	0.43	0.43	0.43	0.03	0.34	0.34	0.11	0.43	0.00
Sat Flow, veh/h	909	909	0	1772	2	1583	1774	781	920	1774	1863	0
Grp Volume(v), veh/h	8	0	0	904	0	230	1	0	721	179	541	0
Grp Sat Flow(s),veh/h/ln	1817	0	0	1774	0	1583	1774	0	1700	1774	1863	0
Q Serve(g_s), s	0.6	0.0	0.0	63.0	0.0	14.3	0.1	0.0	50.5	14.7	34.4	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	63.0	0.0	14.3	0.1	0.0	50.5	14.7	34.4	0.0
Prop In Lane	0.50		0.00	1.00		1.00	1.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h	14	0	0	760	0	678	48	0	584	199	798	0
V/C Ratio(X)	0.58	0.00	0.00	1.19	0.00	0.34	0.02	0.00	1.24	0.90	0.68	0.00
Avail Cap(c_a), veh/h	49	0	0	760	0	678	199	0	584	199	798	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	72.8	0.0	0.0	42.1	0.0	28.1	69.7	0.0	48.3	64.5	33.9	0.0
Incr Delay (d2), s/veh	33.2	0.0	0.0	98.3	0.0	0.3	0.2	0.0	120.1	37.4	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	51.6	0.0	6.3	0.0	0.0	43.1	9.3	18.2	0.0
LnGrp Delay(d),s/veh	106.0	0.0	0.0	140.4	0.0	28.4	69.8	0.0	168.4	101.9	36.2	0.0
LnGrp LOS	F			F		C	E		F	F	D	
Approach Vol, veh/h		8			1134			722			720	
Approach Delay, s/veh		106.0			117.7			168.3			52.5	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.5	54.5		5.1	8.0	67.0		67.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	16.5	50.5		4.0	16.5	50.5		63.0
Max Q Clear Time (g_c+I1), s	16.7	52.5		2.6	2.1	36.4		65.0
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	6.8		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		113.6
HCM 2010 LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	402	1	185	6	379	872	313	380	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	0	0	428	1	144	7	412	839	340	413	5
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.25	0.25	0.25	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1	0	317	1	283	50	297	606	255	1177	14
Arrive On Green	0.00	0.00	0.00	0.18	0.18	0.18	0.03	0.54	0.54	0.14	0.64	0.64
Sat Flow, veh/h	0	1863	0	1770	4	1583	1774	549	1117	1774	1837	22
Grp Volume(v), veh/h	0	0	0	429	0	144	7	0	1251	340	0	418
Grp Sat Flow(s),veh/h/ln	0	1863	0	1774	0	1583	1774	0	1666	1774	0	1859
Q Serve(g_s), s	0.0	0.0	0.0	25.4	0.0	11.7	0.5	0.0	77.0	20.4	0.0	14.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	25.4	0.0	11.7	0.5	0.0	77.0	20.4	0.0	14.8
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.67	1.00		0.01
Lane Grp Cap(c), veh/h	0	1	0	317	0	283	50	0	903	255	0	1191
V/C Ratio(X)	0.00	0.00	0.00	1.35	0.00	0.51	0.14	0.00	1.39	1.33	0.00	0.35
Avail Cap(c_a), veh/h	0	52	0	317	0	283	50	0	903	255	0	1191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	58.3	0.0	52.7	67.3	0.0	32.5	60.8	0.0	11.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	177.7	0.0	1.5	1.3	0.0	180.2	174.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	28.1	0.0	5.2	0.3	0.0	80.3	22.3	0.0	7.6
LnGrp Delay(d),s/veh	0.0	0.0	0.0	236.0	0.0	54.2	68.6	0.0	212.7	235.4	0.0	12.0
LnGrp LOS				F		D	E		F	F		B
Approach Vol, veh/h		0			573			1258			758	
Approach Delay, s/veh		0.0			190.3			211.9			112.2	
Approach LOS					F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	26.0	85.0		0.0	12.0	99.0		31.0
Change Period (Y+Rc), s	5.6	8.0		4.0	8.0	* 8		5.6
Max Green Setting (Gmax), s	20.4	77.0		4.0	4.0	* 91		25.4
Max Q Clear Time (g_c+I1), s	22.4	79.0		0.0	2.5	16.8		27.4
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	27.1		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	177.9
HCM 2010 LOS	F

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Appendix T

Arterial Analysis - Existing Plus Project (Phases B) Conditions

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+B
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15180	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.520	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	26	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	145.0	sec
Effective green ratio, g/C	0.530	

Results

Annual average daily traffic, AADT	15180	vpd
Two-way hourly volume	1062	vph
Hourly directional volume	552	vph
Through-volume 15-min. flow rate	443	v
Running time	78.0	sec
v/c ratio	0.49	
Through capacity	905	vph
Progression factor, PF	1.000	
Uniform delay	21.6	sec
Filtering/metering factor, I	0.866	
Incremental delay	1.6	sec
Control delay	23.3	sec/v
Total travel speed, Sa	28.9	mph
Total urban street LOS	C	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing + B
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15180	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.660	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.660	

Results

Annual average daily traffic, AADT	15180	vpd
Two-way hourly volume	1366	vph
Hourly directional volume	901	vph
Through-volume 15-min. flow rate	489	v
Running time	78.0	sec
v/c ratio	0.43	
Through capacity	1127	vph
Progression factor, PF	1.000	
Uniform delay	12.1	sec
Filtering/metering factor, I	0.903	
Incremental delay	1.1	sec
Control delay	13.2	sec/v
Total travel speed, Sa	34.4	mph
Total urban street LOS	B	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+B
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21120	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.615	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	1	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.750	

Results

Annual average daily traffic, AADT	21120	vpd
Two-way hourly volume	1900	vph
Hourly directional volume	1168	vph
Through-volume 15-min. flow rate	1256	v
Running time	78.0	sec
v/c ratio	0.98	
Through capacity	1281	vph
Progression factor, PF	1.000	
Uniform delay	17.7	sec
Filtering/metering factor, I	0.137	
Incremental delay	5.8	sec
Control delay	23.5	sec/v
Total travel speed, Sa	28.8	mph
Total urban street LOS	C	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+B
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21120	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.660	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	1	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	130.0	sec
Effective green ratio, g/C	0.760	

Results

Annual average daily traffic, AADT	21120	vpd
Two-way hourly volume	1478	vph
Hourly directional volume	975	vph
Through-volume 15-min. flow rate	1049	v
Running time	78.0	sec
v/c ratio	0.81	
Through capacity	1298	vph
Progression factor, PF	1.000	
Uniform delay	9.7	sec
Filtering/metering factor, I	0.486	
Incremental delay	2.8	sec
Control delay	12.5	sec/v
Total travel speed, Sa	35.0	mph
Total urban street LOS	B	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing+B
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15490	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.668	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.500	

Results

Annual average daily traffic, AADT	15490	vpd
Two-way hourly volume	1394	vph
Hourly directional volume	931	vph
Through-volume 15-min. flow rate	505	v
Running time	504.0	sec
v/c ratio	0.70	
Through capacity	719	vph
Progression factor, PF	1.000	
Uniform delay	28.9	sec
Filtering/metering factor, I	0.647	
Incremental delay	3.7	sec
Control delay	32.6	sec/v
Total travel speed, Sa	44.3	mph
Total urban street LOS	A	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing+B
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15490	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.685	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	20	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.440	

Results

Annual average daily traffic, AADT	15490	vpd
Two-way hourly volume	1084	vph
Hourly directional volume	742	vph
Through-volume 15-min. flow rate	645	v
Running time	504.0	sec
v/c ratio	1.02	
Through capacity	633	vph
Progression factor, PF	1.000	
Uniform delay	42.0	sec
Filtering/metering factor, I	0.090	
Incremental delay	15.9	sec
Control delay	57.9	sec/v
Total travel speed, Sa	40.7	mph
Total urban street LOS	B	

Appendix U

Peak Hour Intersection Capacity Worksheets – Existing Plus Project (Phase B) Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	0	804	1	275	0	291	343	152	460	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	4	4	0	903	1	243	0	331	390	179	541	0
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.25	0.25	0.25	0.89	0.89	0.89	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	7	7	0	667	1	179	1	244	288	145	785	0
Arrive On Green	0.01	0.01	0.00	0.49	0.49	0.49	0.00	0.31	0.31	0.08	0.42	0.00
Sat Flow, veh/h	909	909	0	1362	2	367	1774	781	920	1774	1863	0
Grp Volume(v), veh/h	8	0	0	1147	0	0	0	0	721	179	541	0
Grp Sat Flow(s),veh/h/ln	1817	0	0	1730	0	0	1774	0	1700	1774	1863	0
Q Serve(g_s), s	0.6	0.0	0.0	72.0	0.0	0.0	0.0	0.0	46.0	12.0	34.8	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	72.0	0.0	0.0	0.0	0.0	46.0	12.0	34.8	0.0
Prop In Lane	0.50		0.00	0.79		0.21	1.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h	14	0	0	847	0	0	1	0	532	145	785	0
V/C Ratio(X)	0.58	0.00	0.00	1.35	0.00	0.00	0.00	0.00	1.36	1.24	0.69	0.00
Avail Cap(c_a), veh/h	49	0	0	847	0	0	48	0	532	145	785	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	72.8	0.0	0.0	37.6	0.0	0.0	0.0	0.0	50.6	67.6	34.7	0.0
Incr Delay (d2), s/veh	33.2	0.0	0.0	167.4	0.0	0.0	0.0	0.0	172.2	152.2	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	73.7	0.0	0.0	0.0	0.0	47.0	12.0	18.4	0.0
LnGrp Delay(d),s/veh	106.0	0.0	0.0	204.9	0.0	0.0	0.0	0.0	222.8	219.7	37.3	0.0
LnGrp LOS	F			F					F	F	D	
Approach Vol, veh/h		8			1147			721			720	
Approach Delay, s/veh		106.0			204.9			222.8			82.6	
Approach LOS		F			F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	50.0		5.1	0.0	66.0		76.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	12.0	46.0		4.0	4.0	54.0		72.0
Max Q Clear Time (g_c+I1), s	14.0	48.0		2.6	0.0	36.8		74.0
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	7.6		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		175.7
HCM 2010 LOS		F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	167	209	250	46	278	33	521	239	268	801	6
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	201	204	325	0	274	34	543	207	288	861	6
Adj No. of Lanes	0	2	0	2	0	1	1	3	1	2	3	0
Peak Hour Factor	0.83	0.83	0.83	0.87	0.87	0.87	0.96	0.96	0.96	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	315	276	773	0	345	49	1318	410	410	1828	13
Arrive On Green	0.17	0.17	0.17	0.22	0.00	0.22	0.03	0.26	0.26	0.12	0.35	0.35
Sat Flow, veh/h	54	1806	1583	3548	0	1583	1774	5085	1583	3442	5210	36
Grp Volume(v), veh/h	207	0	204	325	0	274	34	543	207	288	560	307
Grp Sat Flow(s),veh/h/ln	1860	0	1583	1774	0	1583	1774	1695	1583	1721	1695	1856
Q Serve(g_s), s	7.2	0.0	8.5	5.5	0.0	11.4	1.3	6.2	7.8	5.6	9.0	9.0
Cycle Q Clear(g_c), s	7.2	0.0	8.5	5.5	0.0	11.4	1.3	6.2	7.8	5.6	9.0	9.0
Prop In Lane	0.03		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	324	0	276	773	0	345	49	1318	410	410	1189	651
V/C Ratio(X)	0.64	0.00	0.74	0.42	0.00	0.79	0.69	0.41	0.50	0.70	0.47	0.47
Avail Cap(c_a), veh/h	561	0	477	1375	0	613	204	1970	613	938	1849	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	0.0	27.3	23.5	0.0	25.8	33.6	21.4	22.0	29.5	17.6	17.6
Incr Delay (d2), s/veh	2.1	0.0	3.9	0.4	0.0	4.2	16.0	0.2	1.0	2.2	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	4.0	2.7	0.0	5.4	0.9	2.9	3.5	2.8	4.2	4.7
LnGrp Delay(d),s/veh	28.8	0.0	31.2	23.8	0.0	30.0	49.6	21.6	23.0	31.7	17.9	18.1
LnGrp LOS	C		C	C		C	D	C	C	C	B	B
Approach Vol, veh/h		411			599			784			1155	
Approach Delay, s/veh		30.0			26.6			23.2			21.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.9	28.4		19.2	12.3	22.1		16.1
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	8.0	38.0		27.0	19.0	27.0		21.0
Max Q Clear Time (g_c+I1), s	3.3	11.0		13.4	7.6	9.8		10.5
Green Ext Time (p_c), s	0.0	10.2		1.8	0.7	8.3		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	24.1
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	59	166	74	70	84	255	39	626	85	253	719	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	69	193	74	91	109	279	43	688	71	288	817	24
Adj No. of Lanes	2	1	1	1	1	1	1	3	1	2	3	1
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	540	405	344	279	415	352	139	1326	413	449	1439	448
Arrive On Green	0.16	0.22	0.22	0.16	0.22	0.22	0.08	0.26	0.26	0.13	0.28	0.28
Sat Flow, veh/h	3442	1863	1583	1774	1863	1583	1774	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	69	193	74	91	109	279	43	688	71	288	817	24
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1774	1863	1583	1774	1695	1583	1721	1695	1583
Q Serve(g_s), s	1.3	6.9	2.9	3.5	3.7	12.7	1.7	8.8	2.7	6.1	10.5	0.8
Cycle Q Clear(g_c), s	1.3	6.9	2.9	3.5	3.7	12.7	1.7	8.8	2.7	6.1	10.5	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	540	405	344	279	415	352	139	1326	413	449	1439	448
V/C Ratio(X)	0.13	0.48	0.22	0.33	0.26	0.79	0.31	0.52	0.17	0.64	0.57	0.05
Avail Cap(c_a), veh/h	869	607	516	485	656	557	302	1863	580	824	2063	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	26.1	24.6	28.6	24.5	28.0	33.3	24.1	21.9	31.5	23.4	19.9
Incr Delay (d2), s/veh	0.1	0.9	0.3	0.7	0.3	4.0	1.2	0.3	0.2	1.5	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.6	1.3	1.7	1.9	5.9	0.9	4.2	1.2	3.0	5.0	0.4
LnGrp Delay(d),s/veh	27.8	27.0	24.9	29.3	24.9	32.1	34.5	24.5	22.1	33.0	23.8	20.0
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	B
Approach Vol, veh/h		336			479			802			1129	
Approach Delay, s/veh		26.7			29.9			24.8			26.0	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	25.9	16.1	20.7	12.0	27.6	15.7	21.1
Change Period (Y+Rc), s	3.7	6.0	4.1	* 4.1	6.0	* 6	3.7	4.1
Max Green Setting (Gmax), s	18.3	28.0	20.9	* 25	13.0	* 31	19.3	26.9
Max Q Clear Time (g_c+I1), s	8.1	10.8	5.5	8.9	3.7	12.5	3.3	14.7
Green Ext Time (p_c), s	0.7	8.8	0.2	2.5	0.0	9.1	0.1	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	7.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	447	0	0	222	218	77
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	Free	Free	Free	Free	None	None
Storage Length		0	0		0	0
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	486	0	0	241	237	84
Number of Lanes	1	0	0	1	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	-	0	727	486
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	241	-
Follow-up Headway	-	0	0	-	3.518	3.318
Pot Capacity-1 Maneuver	-	0	0	-	391	581
Stage 1	-	0	0	-	618	-
Stage 2	-	0	0	-	799	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	391	581
Mov Capacity-2 Maneuver	-	-	-	-	391	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	23.4
HCM LOS	A	A	C

Lane	NBLn1	NBLn2	EBT	WBT
Capacity (vph)	391	581		
HCM Control Delay (s)	27.4	12.2	-	-
HCM Lane VC Ratio	0.606	0.144	-	-
HCM Lane LOS	D	B	-	-
HCM 95th Percentile Queue (veh)	3.846	0.501	-	-

Intersection	
Intersection Delay (sec/veh):	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	223	257	290	10	4	251
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.78	0.78	0.73	0.73
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	293	338	372	13	5	344
Number of Lanes	0	1	1	0	1	1

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	385	0	0	0	1303	379
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	924	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1173	-	-	-	177	668
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	387	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1173	-	-	-	122	668
Mov Capacity-2 Maneuver	-	-	-	-	122	-
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	268	-

Approach	EB	WB	SB
HCM Control Delay (s)	4.2	0	16.3
HCM LOS	A	A	C

Lane	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (vph)					122	668
HCM Control Delay (s)	9.09	-	-	-	35.9	16
HCM Lane VC Ratio	0.25	-	-	-	0.045	0.515
HCM Lane LOS	A	-	-	-	E	C
HCM 95th Percentile Queue (veh)	0.992	-	-	-	0.14	2.965

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	46	449	37	40	692	87	107	56	51	255	105	56
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	50	488	35	43	752	84	127	67	55	263	108	53
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.84	0.84	0.84	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	903	404	150	959	873	161	85	216	308	126	62
Arrive On Green	0.06	0.26	0.26	0.08	0.27	0.27	0.14	0.14	0.14	0.28	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1181	623	1583	1097	451	221
Grp Volume(v), veh/h	50	488	35	43	752	84	194	0	55	424	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1804	0	1583	1769	0	0
Q Serve(g_s), s	2.2	9.5	1.3	1.8	15.7	2.0	8.3	0.0	2.5	18.1	0.0	0.0
Cycle Q Clear(g_c), s	2.2	9.5	1.3	1.8	15.7	2.0	8.3	0.0	2.5	18.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.65		1.00	0.62		0.12
Lane Grp Cap(c), veh/h	104	903	404	150	959	873	246	0	216	496	0	0
V/C Ratio(X)	0.48	0.54	0.09	0.29	0.78	0.10	0.79	0.00	0.26	0.85	0.00	0.00
Avail Cap(c_a), veh/h	178	1235	552	267	1377	1060	385	0	338	750	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.3	25.6	22.6	34.2	26.9	8.5	33.3	0.0	30.8	27.1	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.5	0.1	1.0	1.9	0.0	5.8	0.0	0.6	6.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.7	0.6	0.9	7.9	1.4	4.5	0.0	1.1	9.7	0.0	0.0
LnGrp Delay(d),s/veh	39.7	26.2	22.7	35.2	28.8	8.5	39.1	0.0	31.4	33.3	0.0	0.0
LnGrp LOS	D	C	C	D	C	A	D		C	C		
Approach Vol, veh/h		573			879			249			424	
Approach Delay, s/veh		27.1			27.2			37.4			33.3	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.0	26.3		26.6	10.7	26.6		15.9
Change Period (Y+Rc), s	* 4.2	6.0		* 4.2	6.0	5.0		5.0
Max Green Setting (Gmax), s	* 12	27.8		* 34	8.0	31.0		17.0
Max Q Clear Time (g_c+I1), s	3.8	11.5		20.1	4.2	17.7		10.3
Green Ext Time (p_c), s	0.0	2.7		2.3	1.1	3.9		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	29.6
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	1	324	9	4	285	3	14	1	12	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	550		0	530		0	0		0	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.65	0.65	0.65	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	1	463	13	6	407	4	22	2	18	0	0	0
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	411	0	0	476	0	0	688	895	239	656	899	206
Stage 1	-	-	-	-	-	-	472	472	-	421	421	-
Stage 2	-	-	-	-	-	-	216	423	-	235	478	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1144	-	-	1082	-	-	333	279	762	351	277	800
Stage 1	-	-	-	-	-	-	542	558	-	581	587	-
Stage 2	-	-	-	-	-	-	766	586	-	747	554	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1144	-	-	1082	-	-	331	277	762	339	275	800
Mov Capacity-2 Maneuver	-	-	-	-	-	-	331	277	-	339	275	-
Stage 1	-	-	-	-	-	-	542	558	-	580	584	-
Stage 2	-	-	-	-	-	-	762	583	-	726	554	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0	0.1	14.1	0
HCM LOS	A	A	B	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	438							0
HCM Control Delay (s)	14.1	8.151	0	-	8.345	0	-	0
HCM Lane VC Ratio	0.095	0.001	-	-	0.005	-	-	-
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th Percentile Queue (veh)	0.312	0.004	-	-	0.016	-	-	-

Intersection	
Intersection Delay (sec/veh):	7.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	228	116	93	50	21	184
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	400	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.78	0.78	0.81	0.81	0.85	0.85
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	292	149	115	62	25	216
Number of Lanes	1	1	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	412	146	0	0	177	0
Stage 1	146	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	596	901	-	-	1399	-
Stage 1	881	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	584	901	-	-	1399	-
Mov Capacity-2 Maneuver	584	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	763	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	14.7	0	0.8
HCM LOS	B	A	A

Lane	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (vph)			584	901		
HCM Control Delay (s)	-	-	17.2	9.8	7.62	-
HCM Lane VC Ratio	-	-	0.501	0.165	0.018	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th Percentile Queue (veh)	-	-	2.792	0.589	0.054	-

Intersection	
Intersection Delay (sec/veh):	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	59	14	57	146	37	80	32	31	59	31	205	145
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
Storage Length	0		50	200		50	200		0	200		0
Median Width		0			0			12			12	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.48	0.48	0.48	0.75	0.75	0.75	0.72	0.72	0.72	0.84	0.84	0.84
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	123	29	119	195	49	107	44	43	82	37	244	173
Number of Lanes	0	1	1	0	1	1	1	1	0	1	2	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	655	618	209	383	663	63	417	0	0	125	0	0
Stage 1	405	405	-	172	172	-	-	-	-	-	-	-
Stage 2	250	213	-	211	491	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	351	404	797	550	380	988	1138	-	-	1459	-	-
Stage 1	593	597	-	813	755	-	-	-	-	-	-	-
Stage 2	732	725	-	771	546	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	267	379	797	420	356	988	1138	-	-	1459	-	-
Mov Capacity-2 Maneuver	267	379	-	420	356	-	-	-	-	-	-	-
Stage 1	570	582	-	782	726	-	-	-	-	-	-	-
Stage 2	585	697	-	607	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	22.3	21.2	2.2	0.6
HCM LOS	C	C	A	A

Lane	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (vph)				283	797	405	988			
HCM Control Delay (s)	8.292	0	-	31.6	10.3	26.5	9.1	7.531	0	-
HCM Lane VC Ratio	0.039	-	-	0.537	0.149	0.602	0.108	0.025	-	-
HCM Lane LOS	A	A	-	D	B	D	A	A	A	-
HCM 95th Percentile Queue (veh)	0.122	-	-	2.952	0.522	3.821	0.362	0.078	-	-

Intersection	
Intersection Delay (sec/veh):	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	47	149	4	399	0	0	0	0	65	0	43
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	Yield	Yield	Yield
Storage Length	0		300	0		0	0		0	0		50
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.92	0.92	0.92	0.81	0.81	0.81
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	56	177	4	429	0	0	0	0	80	0	53
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	-	0	0	233	0	-			582	670	215
Stage 1	-	-	-	-	-	-			437	437	-
Stage 2	-	-	-	-	-	-			145	233	-
Follow-up Headway	0	-	-	2.218	-	0			3.518	4.018	3.318
Pot Capacity-1 Maneuver	0	-	-	1335	-	0			424	378	825
Stage 1	0	-	-	-	-	0			598	579	-
Stage 2	0	-	-	-	-	0			858	712	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	-	-	-	1335	-	-			423	377	825
Mov Capacity-2 Maneuver	-	-	-	-	-	-			423	377	-
Stage 1	-	-	-	-	-	-			-	577	-
Stage 2	-	-	-	-	-	-			858	712	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	0.1	11.3
HCM LOS	A	A	B

Lane	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)					703
HCM Control Delay (s)	-	-	7.705	-	11.3
HCM Lane VC Ratio	-	-	0.003	-	0.19
HCM Lane LOS	-	-	A	-	B
HCM 95th Percentile Queue (veh)	-	-	0.01	-	0.695

Intersection	
Intersection Delay (sec/veh):	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	90	0	0	228	239	17
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	Free	Free
Storage Length		0	0		0	250
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.80	0.80	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	107	0	0	285	278	20
Number of Lanes	1	0	0	2	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	-	0	250	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	143	-
Follow-up Headway	-	0	0	-	3.52	3.32
Pot Capacity-1 Maneuver	-	0	0	-	717	926
Stage 1	-	0	0	-	906	-
Stage 2	-	0	0	-	869	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	717	926
Mov Capacity-2 Maneuver	-	-	-	-	717	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	12.9
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBT	WBT
Capacity (vph)	717	926		
HCM Control Delay (s)	13.2	9	-	-
HCM Lane VC Ratio	0.388	0.021	-	-
HCM Lane LOS	B	A	-	-
HCM 95th Percentile Queue (veh)	1.837	0.065	-	-

Intersection	
Intersection Delay (sec/veh):	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	11	189	109	77	148	17
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	160			90
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.95	0.95
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	13	220	122	87	156	18
Number of Lanes	1	0	1	1	1	1

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	496	87	174	0	0	0
Stage 1	165	-	-	-	-	-
Stage 2	331	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	533	971	1403	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	728	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	487	971	1403	-	-	-
Mov Capacity-2 Maneuver	487	-	-	-	-	-
Stage 1	864	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	10.2	4.6	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			921		
HCM Control Delay (s)	7.811	-	10.2	-	-
HCM Lane VC Ratio	0.087	-	0.253	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.286	-	1.002	-	-

Intersection	
Intersection Delay (sec/veh):	7.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	229	42	149	69	22	350
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		100	170	
Median Width	12		12			12
Grade (%)	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.85	0.85	0.94	0.94
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	263	48	175	81	23	372
Number of Lanes	1	0	1	1	1	1

Major/Minor			Major 1		Major 2	
Conflicting Flow Rate - All	634	129	0	0	256	0
Stage 1	216	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	453	*1357	-	-	1323	-
Stage 1	852	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Time blocked-Platoon(%)	10	10	-	-	10	-
Mov Capacity-1 Maneuver	445	*1357	-	-	1323	-
Mov Capacity-2 Maneuver	445	-	-	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	23.6	0	0.5
HCM LOS	C	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			*497		
HCM Control Delay (s)	-	-	23.6	7.77	-
HCM Lane VC Ratio	-	-	0.627	0.018	-
HCM Lane LOS	-	-	C	A	-
HCM 95th Percentile Queue (veh)	-	-	4.256	0.054	-

Intersection	
Intersection Delay (sec/veh):	22.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	772	323	199	331	0	0	0	0	42	1	179
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	Free	Free	Free	None	None	None	None	None	None	Free	Free	Free
Storage Length	0		0	200		0	0		0	0		25
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92	0.96	0.96	0.96
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	804	336	207	345	0	0	0	0	44	1	186
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	345	0	0	1140	0	-			1731	1899	173
Stage 1	-	-	-	-	-	-			759	759	-
Stage 2	-	-	-	-	-	-			972	1140	-
Follow-up Headway	2.22	-	-	2.22	-	0			3.52	4.02	3.32
Pot Capacity-1 Maneuver	1211	-	-	609	-	0			57	69	840
Stage 1	-	-	-	-	-	0			365	413	-
Stage 2	-	-	-	-	-	0			271	274	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	1211	-	-	609	-	-			# 42	46	840
Mov Capacity-2 Maneuver	-	-	-	-	-	-			# 42	46	-
Stage 1	-	-	-	-	-	-			365	273	-
Stage 2	-	-	-	-	-	-			271	274	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	5.2	173
HCM LOS	A	A	F

Lane	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)						195
HCM Control Delay (s)	0	-	-	13.931	-	173
HCM Lane VC Ratio	-	-	-	0.34	-	1.186
HCM Lane LOS	A	-	-	B	-	F
HCM 95th Percentile Queue (veh)	0	-	-	1.503	-	11.85

Intersection	
Intersection Delay (sec/veh):	$ 663.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	567	247	0	0	340	72	190	1	428	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	Free	Free	Free	None	None	None
Storage Length	220		0	0		0	0		25	0		32
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.94	0.94	0.94	0.95	0.94	0.95	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	579	252	0	0	362	77	200	1	451	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	0	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow Rate - All	439	0	-	252	0	0	1591	1849	126
Stage 1	-	-	-	-	-	-	1410	1410	-
Stage 2	-	-	-	-	-	-	181	439	-
Follow-up Headway	2.22	-	0	2.22	-	-	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1117	-	0	1310	-	-	# 72	74	901
Stage 1	-	-	0	-	-	-	# 145	203	-
Stage 2	-	-	0	-	-	-	803	576	-
Time blocked-Platoon(%)	0	-	0	0	-	-	0	0	0
Mov Capacity-1 Maneuver	1117	-	-	1310	-	-	# 43	36	901
Mov Capacity-2 Maneuver	-	-	-	-	-	-	# 43	36	-
Stage 1	-	-	-	-	-	-	# 70	98	-
Stage 2	-	-	-	-	-	-	803	576	-

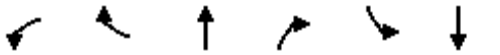
Approach	EB	WB	NB
HCM Control Delay (s)	8.1	0	$ 1945.5
HCM LOS	A	A	F

Lane	NBLn1	EBL	EBT	WBL	WBT	WBR
Capacity (vph)	126					
HCM Control Delay (s)	$ 1945.5	11.633	-	0	-	-
HCM Lane VC Ratio	5.171	0.518	-	-	-	-
HCM Lane LOS	F	B	-	A	-	-
HCM 95th Percentile Queue (veh)	69.228	3.082	-	0	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	138	145	247	80	209	371
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	157	91	274	89	230	337
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.88	0.88	0.90	0.90	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	253	544	357	1160	566	481
Arrive On Green	0.14	0.14	0.20	0.62	0.30	0.30
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583
Grp Volume(v), veh/h	157	91	274	89	230	337
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583
Q Serve(g_s), s	2.8	1.4	5.0	0.6	3.3	6.4
Cycle Q Clear(g_c), s	2.8	1.4	5.0	0.6	3.3	6.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	253	544	357	1160	566	481
V/C Ratio(X)	0.62	0.17	0.77	0.08	0.41	0.70
Avail Cap(c_a), veh/h	859	1085	729	1941	957	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.7	7.8	12.9	2.5	9.4	10.5
Incr Delay (d2), s/veh	2.5	0.1	3.5	0.0	0.5	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.4	2.8	0.3	1.8	3.0
LnGrp Delay(d),s/veh	16.2	7.9	16.3	2.6	9.9	12.3
LnGrp LOS	B	A	B	A	A	B
Approach Vol, veh/h	248			363	567	
Approach Delay, s/veh	13.2			13.0	11.3	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.2		8.9	10.9	14.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		35.5		16.5	14.0	17.5		
Max Q Clear Time (g_c+I1), s		2.6		4.8	7.0	8.4		
Green Ext Time (p_c), s		2.8		0.5	0.4	1.9		

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	88	269	58	29	161	194
Number	3	18	2	12	1	6
Initial Queue, veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863
Lanes	1	1	1	0	1	1
Capacity, veh/h	231	419	751	181	239	1350
Arriving On Green	0.13	0.13	0.52	0.52	0.27	1.00
Sat Flow, veh/h	1774.0	1583.3	1450.8	350.2	1774.0	1862.7
Grp Volume(v), veh/h	104.8	165.5	0.0	90.0	191.7	231.0
Grp Sat Flow(s),veh/h/ln	1774.0	1583.3	0.0	1800.9	1774.0	1862.7
Q Serve(g_s), s	3.0	4.7	0.0	1.4	5.6	0.0
Cycle Q Clear(g_c), s	3.0	4.7	0.0	1.4	5.6	0.0
Proportion In Lane	1.000	1.000		0.194	1.000	
Lane Grp Cap(c), veh/h	230.8	419.4	0.0	932.2	239.2	1350.3
V/C Ratio(X)	0.454	0.395	0.000	0.097	0.801	0.171
Avail Cap(c_a), veh/h	546.6	701.3	0.0	932.2	514.4	1350.3
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.000	1.000	0.000	1.000	0.978	0.978
Uniform Delay (d), s/veh	22.2	16.6	0.0	6.8	19.5	0.0
Incr Delay (d2), s/veh	1.4	0.6	0.0	0.2	6.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	23.6	17.3	0.0	7.0	25.5	0.3
Lane Group LOS	C	B		A	C	A
Approach Volume, veh/h	270		90			423
Approach Delay, s/veh	19.7		7.0			11.7
Approach LOS	B		A			B

Timer					
Assigned Phase		2		1	6
Phase Duration (G+Y+Rc), s		32.56		11.44	44.00
Change Period (Y+Rc), s		4.00		4.00	4.00
Max Green Setting (Gmax), s		20.00		16.00	40.00
Max Q Clear Time (g_c+I1), s		3.40		7.55	2.00
Green Extension Time (p_c)		1.39		0.30	1.67

Intersection Summary	
HCM 2010 Control Delay	13.9
HCM 2010 Level of Service	B

Intersection	
Intersection Delay (sec/veh):	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	19	0	24	3	0	2	24	26	1	0	24	14
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.42	0.42	0.42	0.75	0.75	0.75	0.55	0.55	0.55
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	27	0	34	7	0	5	32	35	1	0	44	25
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	159	157	57	174	169	36	69	0	0	36	0	0
Stage 1	57	57	-	100	100	-	-	-	-	-	-	-
Stage 2	102	100	-	74	69	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	807	735	1009	789	724	1037	1532	-	-	1575	-	-
Stage 1	955	848	-	906	813	-	-	-	-	-	-	-
Stage 2	904	812	-	935	837	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	790	720	1009	750	709	1037	1532	-	-	1575	-	-
Mov Capacity-2 Maneuver	790	720	-	750	709	-	-	-	-	-	-	-
Stage 1	935	848	-	887	796	-	-	-	-	-	-	-
Stage 2	881	795	-	903	837	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	9.3	9.3	3.5	0
HCM LOS	A	A	A	A

Lane	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (vph)				899	843			
HCM Control Delay (s)	7.4	0	-	9.3	9.3	0	-	-
HCM Lane VC Ratio	0.021	-	-	0.068	0.014	-	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th Percentile Queue (veh)	0.064	-	-	0.22	0.043	0	-	-

Intersection	
Intersection Delay (sec/veh):	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	2	37	0	0	126	6	0	0	0	5	0	7
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.83	0.83	0.83	0.92	0.92	0.92	0.75	0.75	0.75
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	3	47	0	0	152	7	0	0	0	7	0	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	159	0	0	47	0	0	213	212	47	209	209	156
Stage 1	-	-	-	-	-	-	53	53	-	156	156	-
Stage 2	-	-	-	-	-	-	160	159	-	53	53	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1420	-	-	1560	-	-	744	685	1022	748	688	890
Stage 1	-	-	-	-	-	-	960	851	-	846	769	-
Stage 2	-	-	-	-	-	-	842	766	-	960	851	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1420	-	-	1560	-	-	735	684	1022	747	687	890
Mov Capacity-2 Maneuver	-	-	-	-	-	-	735	684	-	747	687	-
Stage 1	-	-	-	-	-	-	958	849	-	844	769	-
Stage 2	-	-	-	-	-	-	833	766	-	958	849	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0.4	0	0	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	0							824
HCM Control Delay (s)	0	7.54	0	-	0	-	-	9.5
HCM Lane VC Ratio	-	0.002	-	-	-	-	-	0.019
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th Percentile Queue (veh)	-	0.005	-	-	0	-	-	0.059

Intersection	
Intersection Delay (sec/veh):	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	66	22	27	20	29	41
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.83	0.83	0.69	0.69
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	74	25	33	24	42	59
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1		Major 2	
Conflicting Flow Rate - All	188	45	0	0	57	0
Stage 1	45	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	801	1025	-	-	1547	-
Stage 1	977	-	-	-	-	-
Stage 2	884	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	779	1025	-	-	1547	-
Mov Capacity-2 Maneuver	779	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	9.9	0	3.1
HCM LOS	A	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			829		
HCM Control Delay (s)	-	-	9.9	7.392	-
HCM Lane VC Ratio	-	-	0.119	0.027	-
HCM Lane LOS	-	-	A	A	-
HCM 95th Percentile Queue (veh)	-	-	0.404	0.084	-

Intersection	
Intersection Delay (sec/veh):	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	9	58	30	63	100	30
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.82	0.82	0.75	0.75
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	13	87	37	77	133	40
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	304	153	173	0	0	0
Stage 1	153	-	-	-	-	-
Stage 2	151	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	688	893	1404	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	877	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	669	893	1404	-	-	-
Mov Capacity-2 Maneuver	669	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	9.8	2.5	0
HCM LOS	A	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			855		
HCM Control Delay (s)	7.633	-	9.8	-	-
HCM Lane VC Ratio	0.026	-	0.117	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th Percentile Queue (veh)	0.08	-	0.396	-	-

Intersection	
Intersection Delay (sec/veh):	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	11	111	227	55	95	54
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	170			80	0	0
Median Width		12	12		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.94	0.94	0.90	0.90
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	13	135	241	59	106	60
Number of Lanes	1	1	1	1	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	300	0	0	0	432	151
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	161	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1261	-	-	-	581	895
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	868	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1261	-	-	-	575	895
Mov Capacity-2 Maneuver	-	-	-	-	575	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SB
HCM Control Delay (s)	0.7	0	12.3
HCM LOS	A	A	B

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					661
HCM Control Delay (s)	7.886	-	-	-	12.3
HCM Lane VC Ratio	0.011	-	-	-	0.25
HCM Lane LOS	A	-	-	-	B
HCM 95th Percentile Queue (veh)	0.032	-	-	-	0.987

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	0	200	0	0	0	111	284	0	3	662	149
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	0	1863	0	0	0	1863	1863	0	1863	1863	1863
Lanes	1	1	1	0	1	0	2	2	0	1	2	0
Capacity, veh/h	231	0	206	0	0	0	223	2152	0	4	1560	304
Arriving On Green	0.13	0.00	0.13	0.00	0.00	0.00	0.06	0.58	0.00	0.00	0.51	0.51
Sat Flow, veh/h	1774.0	0.0	1583.3	0.0	0.0	0.0	3441.6	3725.5	0.0	1774.0	3030.8	590.5
Grp Volume(v), veh/h	137.1	0.0	125.8	0.0	0.0	0.0	126.1	322.7	0.0	3.4	462.3	436.6
Grp Sat Flow(s),veh/h/ln	1774.0	0.0	1583.3	0.0	0.0	0.0	1720.8	1862.7	0.0	1774.0	1862.7	1758.5
Q Serve(g_s), s	3.0	5.4	3.1	0.0	0.0	0.0	1.5	1.7	0.0	0.1	6.6	6.6
Cycle Q Clear(g_c), s	3.0	5.4	3.1	0.0	0.0	0.0	1.5	1.7	0.0	0.1	6.6	6.6
Proportion In Lane	1.000		1.000	0.000		0.000	1.000		0.000	1.000		0.336
Lane Grp Cap(c), veh/h	231.2	0.0	206.4	0.0	0.0	0.0	223.3	2152.3	0.0	4.3	958.9	905.3
V/C Ratio(X)	0.593	0.000	0.610	0.000	0.000	0.000	0.565	0.150	0.000	0.795	0.482	0.482
Avail Cap(c_a), veh/h	711.7	0.0	635.2	0.0	0.0	0.0	382.6	2152.3	0.0	192.9	958.9	905.3
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	0.000	1.000	0.000	0.000	0.000	1.000	1.000	0.000	1.000	1.000	1.000
Uniform Delay (d), s/veh	17.0	0.0	17.0	0.0	0.0	0.0	18.8	4.0	0.0	20.6	6.5	6.5
Incr Delay (d2), s/veh	2.4	0.0	2.9	0.0	0.0	0.0	2.2	0.1	0.0	139.9	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	19.4	0.0	19.9	0.0	0.0	0.0	21.0	4.2	0.0	160.5	8.2	8.3
Lane Group LOS	B		B				C	A		F	A	A
Approach Volume, veh/h		263			0			449			902	
Approach Delay, s/veh		19.6			0.0			8.9			8.8	
Approach LOS		B						A			A	

Timer												
Assigned Phase		4			8		5	2		1	6	
Phase Duration (G+Y+Rc), s		9.39			0.00		6.68	27.90		4.08	25.30	
Change Period (Y+Rc), s		4.00			4.00		4.00	4.00		4.00	4.00	
Max Green Setting (Gmax), s		16.60			16.50		4.60	21.40		4.50	21.30	
Max Q Clear Time (g_c+I1), s		5.11			0.00		3.47	3.66		2.08	8.63	
Green Extension Time (p_c)		0.56			0.00		0.03	6.91		0.00	5.77	

Intersection Summary		
HCM 2010 Control Delay	10.6	
HCM 2010 Level of Service	B	

Intersection	
Intersection Delay (sec/veh):	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	26	683	804	4	9	64
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	90			0	0	0
Median Width		24	24		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.91	0.91	0.70	0.70
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	31	823	884	4	13	91
Number of Lanes	1	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	888	0	0	0	1360	444
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	474	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	758	-	-	-	140	561
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	592	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	758	-	-	-	134	561
Mov Capacity-2 Maneuver	-	-	-	-	134	-
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	568	-

Approach	EB	WB	SB
HCM Control Delay (s)	0.4	0	17
HCM LOS	A	A	C

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					403
HCM Control Delay (s)	9.954	-	-	-	17
HCM Lane VC Ratio	0.041	-	-	-	0.259
HCM Lane LOS	A	-	-	-	C
HCM 95th Percentile Queue (veh)	0.129	-	-	-	1.02

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	341	314	36	16	329	143	24	13	17	195	25	465
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Lanes	2	1	1	1	2	0	0	1	0	0	1	2
Capacity, veh/h	453	597	508	25	591	141	229	124	76	300	38	529
Arriving On Green	0.13	0.32	0.32	0.01	0.20	0.20	0.24	0.24	0.24	0.19	0.19	0.19
Sat Flow, veh/h	3441.6	1583.3	1583.3	1774.0	2909.9	693.2	939.0	508.6	313.0	1581.0	202.7	2786.7
Grp Volume(v), veh/h	370.7	341.3	9.8	21.6	283.3	268.0	60.0	0.0	0.0	268.3	0.0	323.2
Grp Sat Flow(s),veh/h/ln	1720.8	1862.7	1583.3	1774.0	1862.7	1740.4	1760.6	0.0	0.0	1783.7	0.0	1393.3
Q Serve(g_s), s	7.3	10.5	0.3	0.8	9.9	10.0	1.8	0.0	0.0	9.9	0.0	7.4
Cycle Q Clear(g_c), s	7.3	10.5	0.3	0.8	9.9	10.0	1.8	0.0	0.0	9.9	0.0	7.4
Proportion In Lane	1.000		1.000	1.000		0.398	0.533		0.178	0.886		1.000
Lane Grp Cap(c), veh/h	452.7	597.4	507.8	24.8	378.4	353.5	430.1	0.0	0.0	338.5	0.0	528.8
V/C Ratio(X)	0.819	0.571	0.019	0.872	0.749	0.758	0.140	0.000	0.000	0.793	0.000	0.611
Avail Cap(c_a), veh/h	452.7	597.4	507.8	115.4	444.3	415.1	430.1	0.0	0.0	425.4	0.0	664.7
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	1.000	0.000	1.000
Uniform Delay (d), s/veh	29.2	19.5	16.1	34.0	25.9	26.0	20.5	0.0	0.0	26.7	0.0	25.7
Incr Delay (d2), s/veh	11.3	1.3	0.0	54.8	5.8	6.7	0.7	0.0	0.0	7.9	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	40.5	20.9	16.1	88.8	31.7	32.6	21.1	0.0	0.0	34.6	0.0	26.8
Lane Group LOS	D	C	B	F	C	C	C			C		C
Approach Volume, veh/h		722			573			60			591	
Approach Delay, s/veh		30.9			34.3			21.1			30.4	
Approach LOS		C			C			C			C	

Timer												
Assigned Phase	7	4		3	8			2			6	
Phase Duration (G+Y+Rc), s	13.10	26.19		4.97	18.05			20.90			17.13	
Change Period (Y+Rc), s	4.00	4.00		4.00	4.00			4.00			4.00	
Max Green Setting (Gmax), s	9.10	21.10		4.50	16.50			16.90			16.50	
Max Q Clear Time (g_c+I1), s	9.25	12.54		2.84	12.03			3.84			11.92	
Green Extension Time (p_c)	0.00	3.24		0.00	2.02			0.17			1.20	

Intersection Summary	
HCM 2010 Control Delay	31.4
HCM 2010 Level of Service	C

Intersection	
Intersection Delay (sec/veh)	4.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	117	124	72	126
Demand Flow Rate (pc/h)	119	126	73	128
Vehicles Circulating (pc/h)	13	109	102	182
Vehicles Exiting (pc/h)	297	66	30	53
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	20	20	20	20
Ped Capacity Adjustment	0.997	0.997	0.997	0.997
Approach Delay (sec/veh)	4.2	4.8	4.2	5.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	119	126	73	128
Capacity, Entry Lane (pc/h)	1115	1013	1020	942
Entry HV Adjustment Factor	0.982	0.982	0.984	0.984
Flow Rate, Entry (vph)	117	124	72	126
Capacity, Entry (vph)	1093	992	1002	924
Volume to Capacity Ratio	0.107	0.125	0.072	0.136
Control Delay (sec/veh)	4.2	4.8	4.2	5.2
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Intersection	
Intersection Delay (sec/veh)	3.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	27	103	0	56
Demand Flow Rate (pc/h)	27	105	0	57
Vehicles Circulating (pc/h)	46	22	73	5
Vehicles Exiting (pc/h)	16	51	0	122
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	20	20	20	20
Ped Capacity Adjustment	0.997	0.997	0.997	0.997
Approach Delay (sec/veh)	3.6	4.2	0.0	3.7
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	27	105	0	57
Capacity, Entry Lane (pc/h)	1079	1105	1050	1124
Entry HV Adjustment Factor	0.996	0.980	1.000	0.982
Flow Rate, Entry (vph)	27	103	0	56
Capacity, Entry (vph)	1072	1080	1048	1102
Volume to Capacity Ratio	0.025	0.095	0.000	0.051
Control Delay (sec/veh)	3.6	4.2	3.4	3.7
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Intersection	
Intersection Delay (sec/veh):	5.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	0	0	0	10	17	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	0	0	0	11	18	0
Number of Lanes	0	1	1	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	-	0	0	0	6	-
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	0	-
Follow-up Headway	0	-	-	-	3.518	0
Pot Capacity-1 Maneuver	0	-	-	-	1015	0
Stage 1	0	-	-	-	1017	0
Stage 2	0	-	-	-	-	0
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	1015	-
Mov Capacity-2 Maneuver	-	-	-	-	1015	-
Stage 1	-	-	-	-	1017	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	0	8.6
HCM LOS	A	A	A

Lane	EBT	WBT	WBR	SBLn1
Capacity (vph)				1015
HCM Control Delay (s)	-	-	-	8.6
HCM Lane VC Ratio	-	-	-	0.018
HCM Lane LOS	-	-	-	A
HCM 95th Percentile Queue (veh)	-	-	-	0.056

Intersection	
Intersection Delay (sec/veh)	3.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	18	51	0	23
Demand Flow Rate (pc/h)	18	52	0	23
Vehicles Circulating (pc/h)	23	0	41	11
Vehicles Exiting (pc/h)	11	41	0	41
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	20	20	20	20
Ped Capacity Adjustment	0.997	0.997	0.997	0.997
Approach Delay (sec/veh)	3.5	3.7	0.0	3.4
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	18	52	0	23
Capacity, Entry Lane (pc/h)	1104	1130	1085	1118
Entry HV Adjustment Factor	0.980	0.977	1.000	1.000
Flow Rate, Entry (vph)	18	51	0	23
Capacity, Entry (vph)	1080	1101	1082	1115
Volume to Capacity Ratio	0.016	0.046	0.000	0.021
Control Delay (sec/veh)	3.5	3.7	3.3	3.4
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	403	1	186	6	379	873	314	380	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	0	0	429	1	145	7	412	840	341	413	5
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.25	0.25	0.25	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1	0	317	1	283	50	297	606	255	1177	14
Arrive On Green	0.00	0.00	0.00	0.18	0.18	0.18	0.03	0.54	0.54	0.14	0.64	0.64
Sat Flow, veh/h	0	1863	0	1770	4	1583	1774	548	1117	1774	1837	22
Grp Volume(v), veh/h	0	0	0	430	0	145	7	0	1252	341	0	418
Grp Sat Flow(s),veh/h/ln	0	1863	0	1774	0	1583	1774	0	1666	1774	0	1859
Q Serve(g_s), s	0.0	0.0	0.0	25.4	0.0	11.8	0.5	0.0	77.0	20.4	0.0	14.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	25.4	0.0	11.8	0.5	0.0	77.0	20.4	0.0	14.8
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.67	1.00		0.01
Lane Grp Cap(c), veh/h	0	1	0	317	0	283	50	0	903	255	0	1191
V/C Ratio(X)	0.00	0.00	0.00	1.35	0.00	0.51	0.14	0.00	1.39	1.34	0.00	0.35
Avail Cap(c_a), veh/h	0	52	0	317	0	283	50	0	903	255	0	1191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	58.3	0.0	52.7	67.3	0.0	32.5	60.8	0.0	11.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	179.0	0.0	1.6	1.3	0.0	180.7	176.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	28.2	0.0	5.3	0.3	0.0	80.5	22.5	0.0	7.6
LnGrp Delay(d),s/veh	0.0	0.0	0.0	237.3	0.0	54.3	68.6	0.0	213.2	237.0	0.0	12.0
LnGrp LOS				F		D	E		F	F		B
Approach Vol, veh/h		0			575			1259			759	
Approach Delay, s/veh		0.0			191.2			212.4			113.1	
Approach LOS					F			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	26.0	85.0		0.0	12.0	99.0		31.0
Change Period (Y+Rc), s	5.6	8.0		4.0	8.0	* 8		5.6
Max Green Setting (Gmax), s	20.4	77.0		4.0	4.0	* 91		25.4
Max Q Clear Time (g_c+I1), s	22.4	79.0		0.0	2.5	16.8		27.4
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	27.1		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		178.6
HCM 2010 LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	68	64	183	62	348	82	983	201	375	694	15
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	3	78	63	126	151	297	86	1035	170	383	708	10
Adj No. of Lanes	0	2	0	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.87	0.87	0.87	0.97	0.97	0.97	0.95	0.95	0.95	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	243	194	381	400	340	196	1512	471	477	1682	24
Arrive On Green	0.13	0.13	0.13	0.21	0.21	0.21	0.11	0.30	0.30	0.14	0.33	0.33
Sat Flow, veh/h	72	1883	1502	1774	1863	1583	1774	5085	1583	3442	5167	73
Grp Volume(v), veh/h	77	0	67	126	151	297	86	1035	170	383	464	254
Grp Sat Flow(s),veh/h/ln	1859	0	1598	1774	1863	1583	1774	1695	1583	1721	1695	1850
Q Serve(g_s), s	3.4	0.0	3.4	5.4	6.3	16.4	4.1	16.2	7.6	9.7	9.7	9.7
Cycle Q Clear(g_c), s	3.4	0.0	3.4	5.4	6.3	16.4	4.1	16.2	7.6	9.7	9.7	9.7
Prop In Lane	0.04		0.94	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	240	0	206	381	400	340	196	1512	471	477	1103	602
V/C Ratio(X)	0.32	0.00	0.32	0.33	0.38	0.87	0.44	0.68	0.36	0.80	0.42	0.42
Avail Cap(c_a), veh/h	329	0	283	453	476	405	314	1789	557	731	1313	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	0.0	35.8	30.0	30.3	34.3	37.6	28.0	25.0	37.7	23.8	23.8
Incr Delay (d2), s/veh	0.8	0.0	0.9	0.5	0.6	16.6	1.5	0.9	0.5	3.7	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.6	2.7	3.3	8.7	2.1	7.7	3.4	4.9	4.6	5.0
LnGrp Delay(d),s/veh	36.5	0.0	36.7	30.5	30.9	50.9	39.1	28.9	25.5	41.4	24.1	24.3
LnGrp LOS	D		D	C	C	D	D	C	C	D	C	C
Approach Vol, veh/h		144			574			1291			1101	
Approach Delay, s/veh		36.6			41.2			29.1			30.2	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.2	35.9		24.0	16.7	33.4		16.3
Change Period (Y+Rc), s	* 4.2	6.5		4.6	* 4.2	6.5		4.6
Max Green Setting (Gmax), s	* 16	35.0		23.1	* 19	31.8		16.0
Max Q Clear Time (g_c+I1), s	6.1	11.7		18.4	11.7	18.2		5.4
Green Ext Time (p_c), s	0.1	12.1		1.0	0.8	8.7		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	32.1
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	97	64	73	62	85	314	47	1087	66	195	823	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	101	67	66	77	105	314	49	1144	27	199	840	39
Adj No. of Lanes	2	1	1	1	1	1	1	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.81	0.81	0.81	0.95	0.95	0.95	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	404	344	215	412	350	133	1596	497	347	1584	493
Arrive On Green	0.12	0.22	0.22	0.12	0.22	0.22	0.07	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	3442	1863	1583	1774	1863	1583	1774	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	101	67	66	77	105	314	49	1144	27	199	840	39
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1774	1863	1583	1774	1695	1583	1721	1695	1583
Q Serve(g_s), s	2.6	2.9	3.4	3.9	4.6	19.0	2.6	19.7	1.2	5.5	13.5	1.7
Cycle Q Clear(g_c), s	2.6	2.9	3.4	3.9	4.6	19.0	2.6	19.7	1.2	5.5	13.5	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	418	404	344	215	412	350	133	1596	497	347	1584	493
V/C Ratio(X)	0.24	0.17	0.19	0.36	0.26	0.90	0.37	0.72	0.05	0.57	0.53	0.08
Avail Cap(c_a), veh/h	515	460	391	259	460	391	180	1801	561	411	1750	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	31.4	31.6	39.9	31.8	37.4	43.5	30.0	23.7	42.4	28.1	24.0
Incr Delay (d2), s/veh	0.3	0.2	0.3	1.0	0.3	21.3	1.7	1.2	0.0	1.5	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.5	1.5	2.0	2.4	10.4	1.3	9.4	0.5	2.7	6.3	0.8
LnGrp Delay(d),s/veh	39.6	31.6	31.9	40.9	32.1	58.7	45.2	31.2	23.7	43.9	28.3	24.1
LnGrp LOS	D	C	C	D	C	E	D	C	C	D	C	C
Approach Vol, veh/h		234			496			1220			1078	
Approach Delay, s/veh		35.1			50.3			31.6			31.1	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	39.0	17.6	27.0	15.4	38.8	17.2	27.4
Change Period (Y+Rc), s	* 5.2	8.0	5.6	* 5.6	8.0	* 8	* 5.2	5.6
Max Green Setting (Gmax), s	* 12	35.0	14.4	* 24	10.0	* 34	* 15	24.4
Max Q Clear Time (g_c+I1), s	7.5	21.7	5.9	5.4	4.6	15.5	4.6	21.0
Green Ext Time (p_c), s	0.2	9.3	0.1	2.1	0.0	11.9	0.2	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	225	0	0	265	105	109
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	Free	Free	Free	Free	None	None
Storage Length		0	0		0	0
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	245	0	0	288	114	118
Number of Lanes	1	0	1	1	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	245	0	533	245
Stage 1	-	-	-	-	245	-
Stage 2	-	-	-	-	288	-
Follow-up Headway	-	0	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	0	1321	-	507	794
Stage 1	-	0	-	-	796	-
Stage 2	-	0	-	-	761	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1321	-	507	794
Mov Capacity-2 Maneuver	-	-	-	-	507	-
Stage 1	-	-	-	-	796	-
Stage 2	-	-	-	-	761	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	12.2
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (vph)	507	794			
HCM Control Delay (s)	14.2	10.3	-	0	-
HCM Lane VC Ratio	0.225	0.149	-	-	-
HCM Lane LOS	B	B	-	A	-
HCM 95th Percentile Queue (veh)	0.857	0.523	-	0	-

Intersection	
Intersection Delay (sec/veh):	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	106	285	243	5	3	111
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.83	0.83	0.83	0.83
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	115	310	293	6	4	134
Number of Lanes	0	1	1	0	1	1

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	299	0	0	0	836	296
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	540	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1262	-	-	-	337	743
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	584	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1262	-	-	-	300	743
Mov Capacity-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	520	-

Approach	EB	WB	SB
HCM Control Delay (s)	2.2	0	11.1
HCM LOS	A	A	B

Lane	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (vph)					300	743
HCM Control Delay (s)	8.139	-	-	-	17.1	10.9
HCM Lane VC Ratio	0.091	-	-	-	0.012	0.18
HCM Lane LOS	A	-	-	-	C	B
HCM 95th Percentile Queue (veh)	0.301	-	-	-	0.037	0.653

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	54	763	63	58	592	198	62	136	65	206	74	56
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	59	838	58	62	630	168	76	166	73	242	87	60
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	1054	472	171	1106	880	87	190	239	266	96	66
Arrive On Green	0.08	0.30	0.30	0.10	0.31	0.31	0.15	0.15	0.15	0.24	0.24	0.24
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	576	1258	1583	1095	394	271
Grp Volume(v), veh/h	59	838	58	62	630	168	242	0	73	389	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1834	0	1583	1760	0	0
Q Serve(g_s), s	3.6	24.9	3.1	3.7	17.0	6.0	14.8	0.0	4.7	24.6	0.0	0.0
Cycle Q Clear(g_c), s	3.6	24.9	3.1	3.7	17.0	6.0	14.8	0.0	4.7	24.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.31		1.00	0.62		0.15
Lane Grp Cap(c), veh/h	144	1054	472	171	1106	880	277	0	239	428	0	0
V/C Ratio(X)	0.41	0.79	0.12	0.36	0.57	0.19	0.87	0.00	0.31	0.91	0.00	0.00
Avail Cap(c_a), veh/h	183	1206	540	198	1237	939	337	0	291	508	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	49.9	37.0	29.3	48.4	32.9	12.6	47.5	0.0	43.2	42.0	0.0	0.0
Incr Delay (d2), s/veh	1.8	3.3	0.1	1.3	0.5	0.1	18.8	0.0	0.7	18.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	12.7	1.4	1.9	8.4	4.1	8.9	0.0	2.1	14.1	0.0	0.0
LnGrp Delay(d),s/veh	51.8	40.3	29.4	49.7	33.4	12.7	66.3	0.0	43.9	60.3	0.0	0.0
LnGrp LOS	D	D	C	D	C	B	E		D	E		
Approach Vol, veh/h		955			860			315			389	
Approach Delay, s/veh		40.3			30.5			61.1			60.3	
Approach LOS		D			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.5	42.8		23.3	16.2	41.1		33.8
Change Period (Y+Rc), s	* 5.2	7.0		6.0	* 5.2	7.0		6.0
Max Green Setting (Gmax), s	* 12	40.0		21.0	* 13	39.0		33.0
Max Q Clear Time (g_c+I1), s	5.6	19.0		16.8	5.7	26.9		26.6
Green Ext Time (p_c), s	0.0	10.0		0.5	0.0	7.2		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	42.7
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	352	27	9	439	7	14	1	5	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	550		0	530		0	0		0	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	503	39	13	627	10	20	1	7	0	0	0
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	637	0	0	542	0	0	863	1186	272	910	1200	319
Stage 1	-	-	-	-	-	-	523	523	-	658	658	-
Stage 2	-	-	-	-	-	-	340	663	-	252	542	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	943	-	-	1023	-	-	248	187	726	230	184	677
Stage 1	-	-	-	-	-	-	505	529	-	420	459	-
Stage 2	-	-	-	-	-	-	648	457	-	730	518	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	943	-	-	1023	-	-	246	185	726	224	182	677
Mov Capacity-2 Maneuver	-	-	-	-	-	-	246	185	-	224	182	-
Stage 1	-	-	-	-	-	-	505	529	-	420	453	-
Stage 2	-	-	-	-	-	-	640	451	-	721	518	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0	0.2	18.8	0
HCM LOS	A	A	C	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	289							0
HCM Control Delay (s)	18.8	0	-	-	8.564	0	-	0
HCM Lane VC Ratio	0.099	-	-	-	0.013	-	-	-
HCM Lane LOS	C	A	-	-	A	A	-	A
HCM 95th Percentile Queue (veh)	0.326	0	-	-	0.038	-	-	-

Intersection	
Intersection Delay (sec/veh):	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	65	71	186	133	87	128
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	400	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.78	0.78	0.88	0.88	0.80	0.80
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	83	91	211	151	109	160
Number of Lanes	1	1	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	665	287	0	0	362	0
Stage 1	287	-	-	-	-	-
Stage 2	378	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	425	752	-	-	1197	-
Stage 1	762	-	-	-	-	-
Stage 2	693	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	383	752	-	-	1197	-
Mov Capacity-2 Maneuver	383	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	624	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	13.6	0	3.4
HCM LOS	B	A	A

Lane	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (vph)			383	752		
HCM Control Delay (s)	-	-	17	10.4	8.308	-
HCM Lane VC Ratio	-	-	0.218	0.121	0.091	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th Percentile Queue (veh)	-	-	0.816	0.411	0.299	-

Intersection	
Intersection Delay (sec/veh):	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	49	32	37	76	20	51	72	205	164	93	60	22
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
Storage Length	0		50	200		50	200		0	200		0
Median Width		0			0			12			12	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.79	0.79	0.79	0.92	0.92	0.92	0.94	0.94	0.94	0.89	0.89	0.89
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	62	41	47	83	22	55	77	218	174	104	67	25
Number of Lanes	0	1	1	0	1	1	1	1	0	1	2	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	786	834	47	721	759	196	92	0	0	392	0	0
Stage 1	288	288	-	459	459	-	-	-	-	-	-	-
Stage 2	498	546	-	262	300	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	283	303	1012	315	334	812	1501	-	-	1163	-	-
Stage 1	695	673	-	551	565	-	-	-	-	-	-	-
Stage 2	523	516	-	720	664	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	223	262	1012	238	289	812	1501	-	-	1163	-	-
Mov Capacity-2 Maneuver	223	262	-	238	289	-	-	-	-	-	-	-
Stage 1	659	613	-	523	536	-	-	-	-	-	-	-
Stage 2	444	490	-	584	605	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	24.2	22.9	1.2	4.5
HCM LOS	C	C	A	A

Lane	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (vph)				237	1012	247	812			
HCM Control Delay (s)	7.527	0	-	31.3	8.7	29.8	9.8	8.401	0	-
HCM Lane VC Ratio	0.051	-	-	0.433	0.046	0.422	0.068	0.09	-	-
HCM Lane LOS	A	A	-	D	A	D	A	A	A	-
HCM 95th Percentile Queue (veh)	0.161	-	-	2.04	0.145	1.976	0.219	0.295	-	-

Intersection	
Intersection Delay (sec/veh):	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	47	149	4	399	0	0	0	0	65	0	43
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	Yield	Yield	Yield
Storage Length	0		300	0		0	0		0	0		50
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.92	0.92	0.92	0.81	0.81	0.81
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	56	177	4	429	0	0	0	0	80	0	53
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	-	0	0	233	0	-			582	670	215
Stage 1	-	-	-	-	-	-			437	437	-
Stage 2	-	-	-	-	-	-			145	233	-
Follow-up Headway	0	-	-	2.218	-	0			3.518	4.018	3.318
Pot Capacity-1 Maneuver	0	-	-	1335	-	0			424	378	825
Stage 1	0	-	-	-	-	0			598	579	-
Stage 2	0	-	-	-	-	0			858	712	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	-	-	-	1335	-	-			423	377	825
Mov Capacity-2 Maneuver	-	-	-	-	-	-			423	377	-
Stage 1	-	-	-	-	-	-			-	577	-
Stage 2	-	-	-	-	-	-			858	712	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	0.1	11.3
HCM LOS	A	A	B

Lane	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)					703
HCM Control Delay (s)	-	-	7.705	-	11.3
HCM Lane VC Ratio	-	-	0.003	-	0.19
HCM Lane LOS	-	-	A	-	B
HCM 95th Percentile Queue (veh)	-	-	0.01	-	0.695

Intersection	
Intersection Delay (sec/veh):	5.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	90	0	0	228	239	17
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	Free	Free
Storage Length		0	0		0	250
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.80	0.80	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	107	0	0	285	278	20
Number of Lanes	1	0	0	2	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	-	0	250	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	143	-
Follow-up Headway	-	0	0	-	3.52	3.32
Pot Capacity-1 Maneuver	-	0	0	-	717	926
Stage 1	-	0	0	-	906	-
Stage 2	-	0	0	-	869	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	717	926
Mov Capacity-2 Maneuver	-	-	-	-	717	-
Stage 1	-	-	-	-	906	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	12.9
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBT	WBT
Capacity (vph)	717	926		
HCM Control Delay (s)	13.2	9	-	-
HCM Lane VC Ratio	0.388	0.021	-	-
HCM Lane LOS	B	A	-	-
HCM 95th Percentile Queue (veh)	1.837	0.065	-	-

Intersection	
Intersection Delay (sec/veh):	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	26	154	179	186	113	15
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	160			90
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.93	0.93	0.96	0.96
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	31	186	192	200	118	16
Number of Lanes	1	0	1	1	1	1

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	710	67	134	0	0	0
Stage 1	126	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	400	997	1451	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	347	997	1451	-	-	-
Mov Capacity-2 Maneuver	347	-	-	-	-	-
Stage 1	900	-	-	-	-	-
Stage 2	483	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	11.3	3.9	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			785		
HCM Control Delay (s)	7.86	-	11.3	-	-
HCM Lane VC Ratio	0.133	-	0.276	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.457	-	1.127	-	-

Intersection	
Intersection Delay (sec/veh):	5.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	130	29	404	226	38	179
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		100	170	
Median Width	12		12			12
Grade (%)	0%		0%			0%
Peak Hour Factor	0.82	0.82	0.89	0.89	0.90	0.90
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	159	35	454	254	42	199
Number of Lanes	1	0	1	1	1	1

Major/Minor			Major 1		Major 2	
Conflicting Flow Rate - All	864	354	0	0	708	0
Stage 1	581	-	-	-	-	-
Stage 2	283	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	325	690	-	-	891	-
Stage 1	559	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	310	690	-	-	891	-
Mov Capacity-2 Maneuver	310	-	-	-	-	-
Stage 1	559	-	-	-	-	-
Stage 2	729	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	28	0	1.6
HCM LOS	D	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			345		
HCM Control Delay (s)	-	-	28	9.241	-
HCM Lane VC Ratio	-	-	0.562	0.047	-
HCM Lane LOS	-	-	D	A	-
HCM 95th Percentile Queue (veh)	-	-	3.28	0.149	-

Intersection	
Intersection Delay (sec/veh):	22.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	772	323	199	331	0	0	0	0	42	1	179
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	Free	Free	Free	None	None	None	None	None	None	Free	Free	Free
Storage Length	0		0	200		0	0		0	0		25
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92	0.96	0.96	0.96
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	804	336	207	345	0	0	0	0	44	1	186
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	345	0	0	1140	0	-			1731	1899	173
Stage 1	-	-	-	-	-	-			759	759	-
Stage 2	-	-	-	-	-	-			972	1140	-
Follow-up Headway	2.22	-	-	2.22	-	0			3.52	4.02	3.32
Pot Capacity-1 Maneuver	1211	-	-	609	-	0			57	69	840
Stage 1	-	-	-	-	-	0			365	413	-
Stage 2	-	-	-	-	-	0			271	274	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	1211	-	-	609	-	-			# 42	46	840
Mov Capacity-2 Maneuver	-	-	-	-	-	-			# 42	46	-
Stage 1	-	-	-	-	-	-			365	273	-
Stage 2	-	-	-	-	-	-			271	274	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	5.2	173
HCM LOS	A	A	F

Lane	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)						195
HCM Control Delay (s)	0	-	-	13.931	-	173
HCM Lane VC Ratio	-	-	-	0.34	-	1.186
HCM Lane LOS	A	-	-	B	-	F
HCM 95th Percentile Queue (veh)	0	-	-	1.503	-	11.85

Intersection	
Intersection Delay (sec/veh):	$ 663.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	567	247	0	0	340	72	190	1	428	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	Free	Free	Free	None	None	None
Storage Length	220		0	0		0	0		25	0		32
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.94	0.94	0.94	0.95	0.94	0.95	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	579	252	0	0	362	77	200	1	451	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	0	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow Rate - All	439	0	-	252	0	0	1591	1849	126
Stage 1	-	-	-	-	-	-	1410	1410	-
Stage 2	-	-	-	-	-	-	181	439	-
Follow-up Headway	2.22	-	0	2.22	-	-	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1117	-	0	1310	-	-	# 72	74	901
Stage 1	-	-	0	-	-	-	# 145	203	-
Stage 2	-	-	0	-	-	-	803	576	-
Time blocked-Platoon(%)	0	-	0	0	-	-	0	0	0
Mov Capacity-1 Maneuver	1117	-	-	1310	-	-	# 43	36	901
Mov Capacity-2 Maneuver	-	-	-	-	-	-	# 43	36	-
Stage 1	-	-	-	-	-	-	# 70	98	-
Stage 2	-	-	-	-	-	-	803	576	-

Approach	EB	WB	NB
HCM Control Delay (s)	8.1	0	$ 1945.5
HCM LOS	A	A	F

Lane	NBLn1	EBL	EBT	WBL	WBT	WBR
Capacity (vph)	126					
HCM Control Delay (s)	$ 1945.5	11.633	-	0	-	-
HCM Lane VC Ratio	5.171	0.518	-	-	-	-
HCM Lane LOS	F	B	-	A	-	-
HCM 95th Percentile Queue (veh)	69.228	3.082	-	0	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	429	264	217	201	99	210
Number	7	14	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	447	207	244	226	114	166
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.89	0.89	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	540	783	311	885	353	300
Arrive On Green	0.30	0.30	0.18	0.47	0.19	0.19
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583
Grp Volume(v), veh/h	447	207	244	226	114	166
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583
Q Serve(g_s), s	9.6	3.1	5.4	3.0	2.2	3.9
Cycle Q Clear(g_c), s	9.6	3.1	5.4	3.0	2.2	3.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	540	783	311	885	353	300
V/C Ratio(X)	0.83	0.26	0.79	0.26	0.32	0.55
Avail Cap(c_a), veh/h	665	893	508	1628	890	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.2	6.0	16.1	6.4	14.3	15.0
Incr Delay (d2), s/veh	7.1	0.2	4.4	0.2	0.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	1.9	3.0	1.5	1.2	1.8
LnGrp Delay(d),s/veh	20.3	6.2	20.5	6.6	14.8	16.6
LnGrp LOS	C	A	C	A	B	B
Approach Vol, veh/h	654			470	280	
Approach Delay, s/veh	15.8			13.8	15.9	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	11.7	12.2		16.9		23.9		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	11.7	19.5		15.3		35.7		
Max Q Clear Time (g_c+I1), s	7.4	5.9		11.6		5.0		
Green Ext Time (p_c), s	0.3	1.9		0.9		2.3		

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	41	220	198	92	268	95
Number	3	18	2	12	1	6
Initial Queue, veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863
Lanes	1	1	1	0	1	1
Capacity, veh/h	142	460	596	220	373	1402
Arriving On Green	0.08	0.08	0.46	0.46	0.21	0.75
Sat Flow, veh/h	1774.0	1583.3	1299.2	479.0	1774.0	1862.7
Grp Volume(v), veh/h	41.8	102.0	0.0	318.8	308.0	109.2
Grp Sat Flow(s),veh/h/ln	1774.0	1583.3	0.0	1778.2	1774.0	1862.7
Q Serve(g_s), s	1.2	2.6	0.0	6.4	8.9	0.8
Cycle Q Clear(g_c), s	1.2	2.6	0.0	6.4	8.9	0.8
Proportion In Lane	1.000	1.000		0.269	1.000	
Lane Grp Cap(c), veh/h	142.4	459.7	0.0	815.9	372.7	1401.8
V/C Ratio(X)	0.294	0.222	0.000	0.391	0.826	0.078
Avail Cap(c_a), veh/h	510.9	788.7	0.0	815.9	576.9	1401.8
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	0.000	1.000	1.000	1.000
Uniform Delay (d), s/veh	23.3	14.5	0.0	9.6	20.3	1.8
Incr Delay (d2), s/veh	1.1	0.2	0.0	1.4	5.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	24.4	14.7	0.0	11.0	26.1	1.9
Lane Group LOS	C	B		B	C	A
Approach Volume, veh/h	144		319			417
Approach Delay, s/veh	17.6		11.0			19.7
Approach LOS	B		B			B

Timer					
Assigned Phase		2		1	6
Phase Duration (G+Y+Rc), s		29.19		15.81	45.00
Change Period (Y+Rc), s		4.50		4.50	4.50
Max Green Setting (Gmax), s		18.50		17.50	40.50
Max Q Clear Time (g_c+I1), s		8.36		10.93	2.83
Green Extension Time (p_c)		1.59		0.49	2.37

Intersection Summary	
HCM 2010 Control Delay	16.2
HCM 2010 Level of Service	B

Intersection	
Intersection Delay (sec/veh):	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	16	2	35	0	2	1	40	40	1	1	21	24
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.46	0.46	0.46	0.75	0.75	0.75	0.75	0.75	0.75	0.79	0.79	0.79
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	35	4	76	0	3	1	53	53	1	1	27	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	206	204	42	244	219	54	57	0	0	54	0	0
Stage 1	44	44	-	160	160	-	-	-	-	-	-	-
Stage 2	162	160	-	84	59	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	752	692	1029	710	680	1013	1547	-	-	1551	-	-
Stage 1	970	858	-	842	766	-	-	-	-	-	-	-
Stage 2	840	766	-	924	846	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	728	667	1029	636	656	1013	1547	-	-	1551	-	-
Mov Capacity-2 Maneuver	728	667	-	636	656	-	-	-	-	-	-	-
Stage 1	936	857	-	813	739	-	-	-	-	-	-	-
Stage 2	807	739	-	850	845	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	9.6	9.9	3.7	0.2
HCM LOS	A	A	A	A

Lane	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (vph)				898	743			
HCM Control Delay (s)	7.41	0	-	9.6	9.9	7.323	0	-
HCM Lane VC Ratio	0.034	-	-	0.128	0.005	0.001	-	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th Percentile Queue (veh)	0.107	-	-	0.44	0.016	0.002	-	-

Intersection	
Intersection Delay (sec/veh):	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	4	113	1	0	72	2	1	0	0	2	0	3
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.72	0.72	0.72	0.25	0.25	0.25	0.63	0.63	0.63
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	4	124	1	0	100	3	4	0	0	3	0	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	103	0	0	125	0	0	237	236	125	235	235	102
Stage 1	-	-	-	-	-	-	133	133	-	102	102	-
Stage 2	-	-	-	-	-	-	104	103	-	133	133	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1489	-	-	1462	-	-	717	665	926	720	666	953
Stage 1	-	-	-	-	-	-	870	787	-	904	811	-
Stage 2	-	-	-	-	-	-	902	810	-	870	786	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1489	-	-	1462	-	-	712	663	926	718	664	953
Mov Capacity-2 Maneuver	-	-	-	-	-	-	712	663	-	718	664	-
Stage 1	-	-	-	-	-	-	867	785	-	901	811	-
Stage 2	-	-	-	-	-	-	897	810	-	867	784	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0.3	0	10.1	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	712							843
HCM Control Delay (s)	10.1	7.425	0	-	0	-	-	9.3
HCM Lane VC Ratio	0.006	0.003	-	-	-	-	-	0.009
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th Percentile Queue (veh)	0.017	0.009	-	-	0	-	-	0.029

Intersection	
Intersection Delay (sec/veh):	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	26	34	59	50	25	49
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.73	0.73	0.79	0.79	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	36	47	75	63	29	57
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	222	107	0	0	138	0
Stage 1	107	-	-	-	-	-
Stage 2	115	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	766	947	-	-	1446	-
Stage 1	917	-	-	-	-	-
Stage 2	910	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	750	947	-	-	1446	-
Mov Capacity-2 Maneuver	750	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	891	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	9.7	0	2.5
HCM LOS	A	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			850		
HCM Control Delay (s)	-	-	9.7	7.541	-
HCM Lane VC Ratio	-	-	0.097	0.02	-
HCM Lane LOS	-	-	A	A	-
HCM 95th Percentile Queue (veh)	-	-	0.32	0.062	-

Intersection	
Intersection Delay (sec/veh):	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	33	37	40	85	75	26
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.75	0.75	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	42	47	53	113	87	30
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	321	102	117	0	0	0
Stage 1	102	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	673	953	1471	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	647	953	1471	-	-	-
Mov Capacity-2 Maneuver	647	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	10.2	2.4	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			779		
HCM Control Delay (s)	7.539	-	10.2	-	-
HCM Lane VC Ratio	0.036	-	0.115	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.113	-	0.389	-	-

Intersection	
Intersection Delay (sec/veh):	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	46	273	204	129	124	33
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	170			80	0	0
Median Width		12	12		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.82	0.82
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	52	307	229	145	151	40
Number of Lanes	1	1	1	1	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	374	0	0	0	713	188
Stage 1	-	-	-	-	302	-
Stage 2	-	-	-	-	411	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1184	-	-	-	398	854
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	669	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1184	-	-	-	381	854
Mov Capacity-2 Maneuver	-	-	-	-	381	-
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	640	-

Approach	EB	WB	SB
HCM Control Delay (s)	1.2	0	19.9
HCM LOS	A	A	C

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					431
HCM Control Delay (s)	8.179	-	-	-	19.9
HCM Lane VC Ratio	0.044	-	-	-	0.444
HCM Lane LOS	A	-	-	-	C
HCM 95th Percentile Queue (veh)	0.137	-	-	-	2.232

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	266	1	191	0	1	10	249	754	2	0	633	303
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	0	1863	1863	1863	1863	1863	0	1863	1863
Lanes	1	1	1	0	1	0	2	2	0	1	2	0
Capacity, veh/h	318	437	372	0	5	49	387	1958	5	0	897	336
Arriving On Green	0.23	0.23	0.23	0.00	0.03	0.03	0.11	0.53	0.53	0.00	0.35	0.35
Sat Flow, veh/h	1356.7	1862.7	1583.3	0.0	145.9	1459.3	3441.6	3713.9	9.9	0.0	2586.4	968.3
Grp Volume(v), veh/h	295.6	1.1	101.1	0.0	0.0	44.0	289.5	439.7	439.3	0.0	490.2	445.3
Grp Sat Flow(s),veh/h/ln	1356.7	1862.7	1583.3	0.0	0.0	1605.2	1720.8	1862.7	1861.0	0.0	1862.7	1691.9
Q Serve(g_s), s	14.1	0.0	3.4	0.0	0.0	1.8	5.4	9.6	9.6	0.1	15.4	15.4
Cycle Q Clear(g_c), s	14.1	0.0	3.4	0.0	0.0	1.8	5.4	9.6	9.6	0.1	15.4	15.4
Proportion In Lane	1.000		1.000	0.000		0.909	1.000		0.005	1.000		0.572
Lane Grp Cap(c), veh/h	318.4	437.2	371.6	0.0	0.0	53.9	386.9	982.3	981.4	0.0	645.9	586.7
V/C Ratio(X)	0.928	0.003	0.272	0.000	0.000	0.817	0.748	0.448	0.448	0.000	0.759	0.759
Avail Cap(c_a), veh/h	318.4	437.2	371.6	0.0	0.0	376.8	422.1	982.3	981.4	0.0	645.9	586.7
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	1.000	0.000	0.000	1.000	1.000	1.000	1.000	0.000	1.000	1.000
Uniform Delay (d), s/veh	24.7	19.4	20.7	0.0	0.0	31.7	28.4	9.7	9.7	0.0	19.1	19.1
Incr Delay (d2), s/veh	32.4	0.0	0.4	0.0	0.0	24.8	6.6	1.5	1.5	0.0	8.2	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	57.1	19.4	21.0	0.0	0.0	56.5	35.0	11.1	11.1	0.0	27.3	28.1
Lane Group LOS	E	B	C			E	D	B	B		C	C
Approach Volume, veh/h		398			44			1169			935	
Approach Delay, s/veh		47.8			56.5			17.1			27.6	
Approach LOS		D			E			B			C	

Timer												
Assigned Phase		4			8		5	2		1	6	
Phase Duration (G+Y+Rc), s		20.00			6.72		11.92	39.32		0.00	27.40	
Change Period (Y+Rc), s		4.50			4.50		4.50	4.50		4.50	4.50	
Max Green Setting (Gmax), s		15.50			15.50		8.10	27.00		4.00	22.90	
Max Q Clear Time (g_c+I1), s		16.08			3.80		7.38	11.65		0.00	17.41	
Green Extension Time (p_c)		0.00			0.11		0.08	9.27		0.00	4.15	

Intersection Summary		
HCM 2010 Control Delay	26.4	
HCM 2010 Level of Service	C	

Intersection	
Intersection Delay (sec/veh):	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	73	992	846	24	9	48
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	90			0	0	0
Median Width		24	24		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.80	0.80	0.84	0.84
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	78	1067	1057	30	11	57
Number of Lanes	1	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	1088	0	0	0	1763	544
Stage 1	-	-	-	-	1073	-
Stage 2	-	-	-	-	690	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	637	-	-	-	75	483
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	459	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	637	-	-	-	66	483
Mov Capacity-2 Maneuver	-	-	-	-	66	-
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	403	-

Approach	EB	WB	SB
HCM Control Delay (s)	0.8	0	25.6
HCM LOS	A	A	D

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					242
HCM Control Delay (s)	11.444	-	-	-	25.6
HCM Lane VC Ratio	0.123	-	-	-	0.28
HCM Lane LOS	B	-	-	-	D
HCM 95th Percentile Queue (veh)	0.419	-	-	-	1.112

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	504	405	50	19	418	105	42	31	33	154	24	402
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Lanes	2	1	1	1	2	0	0	1	0	0	1	2
Capacity, veh/h	636	704	598	25	616	132	146	108	59	354	55	639
Arriving On Green	0.18	0.38	0.38	0.01	0.21	0.21	0.18	0.18	0.18	0.23	0.23	0.23
Sat Flow, veh/h	3441.6	1583.3	1583.3	1774.0	2976.5	636.6	822.7	607.2	333.0	1544.8	240.7	2786.7
Grp Volume(v), veh/h	530.5	426.3	42.1	21.1	289.5	275.0	108.4	0.0	0.0	211.9	0.0	359.5
Grp Sat Flow(s),veh/h/ln	1720.8	1862.7	1583.3	1774.0	1862.7	1750.4	1762.9	0.0	0.0	1785.5	0.0	1393.3
Q Serve(g_s), s	13.3	16.5	1.5	1.1	13.1	13.2	4.8	0.0	0.0	9.3	0.0	10.2
Cycle Q Clear(g_c), s	13.3	16.5	1.5	1.1	13.1	13.2	4.8	0.0	0.0	9.3	0.0	10.2
Proportion In Lane	1.000		1.000	1.000		0.364	0.467		0.189	0.865		1.000
Lane Grp Cap(c), veh/h	636.0	703.6	598.1	24.8	385.5	362.2	313.4	0.0	0.0	409.3	0.0	638.8
V/C Ratio(X)	0.834	0.606	0.070	0.851	0.751	0.759	0.346	0.000	0.000	0.518	0.000	0.563
Avail Cap(c_a), veh/h	889.0	835.2	709.9	109.1	468.6	440.4	313.4	0.0	0.0	409.3	0.0	638.8
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	1.000	0.000	1.000
Uniform Delay (d), s/veh	35.1	22.5	17.8	44.0	33.3	33.4	32.2	0.0	0.0	30.1	0.0	30.5
Incr Delay (d2), s/veh	4.9	0.9	0.0	50.8	5.4	6.1	3.0	0.0	0.0	4.6	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	40.0	23.4	17.8	94.8	38.7	39.5	35.2	0.0	0.0	34.8	0.0	34.1
Lane Group LOS	D	C	B	F	D	D	D			C		C
Approach Volume, veh/h		999			586			108			571	
Approach Delay, s/veh		32.0			41.1			35.2			34.3	
Approach LOS		C			D			D			C	

Timer												
Assigned Phase	7	4		3	8			2			6	
Phase Duration (G+Y+Rc), s	21.03	38.28		5.75	23.01			20.40			25.00	
Change Period (Y+Rc), s	4.50	4.50		4.50	4.50			4.50			4.50	
Max Green Setting (Gmax), s	23.10	40.10		5.50	22.50			15.90			20.50	
Max Q Clear Time (g_c+I1), s	15.29	18.52		3.06	15.22			6.82			12.21	
Green Extension Time (p_c)	1.24	5.83		0.00	3.29			0.31			1.69	

Intersection Summary	
HCM 2010 Control Delay	35.1
HCM 2010 Level of Service	D

Intersection	
Intersection Delay (sec/veh)	5.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	322	87	30	89
Demand Flow Rate (pc/h)	329	89	30	91
Vehicles Circulating (pc/h)	18	127	245	106
Vehicles Exiting (pc/h)	179	148	102	110
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	20	20	20	20
Ped Capacity Adjustment	0.997	0.997	0.997	0.997
Approach Delay (sec/veh)	6.2	4.5	4.4	4.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	329	89	30	91
Capacity, Entry Lane (pc/h)	1110	995	884	1016
Entry HV Adjustment Factor	0.980	0.983	0.998	0.976
Flow Rate, Entry (vph)	322	87	30	89
Capacity, Entry (vph)	1084	975	880	989
Volume to Capacity Ratio	0.297	0.090	0.034	0.090
Control Delay (sec/veh)	6.2	4.5	4.4	4.4
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	1	0	0	0

Intersection	
Intersection Delay (sec/veh)	4.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	16	71	0	135
Demand Flow Rate (pc/h)	16	72	0	138
Vehicles Circulating (pc/h)	104	11	120	5
Vehicles Exiting (pc/h)	39	109	0	78
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	20	20	20	20
Ped Capacity Adjustment	0.997	0.997	0.997	0.997
Approach Delay (sec/veh)	3.7	3.8	0.0	4.4
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	16	72	0	138
Capacity, Entry Lane (pc/h)	1018	1118	1002	1124
Entry HV Adjustment Factor	0.994	0.985	1.000	0.978
Flow Rate, Entry (vph)	16	71	0	135
Capacity, Entry (vph)	1009	1098	999	1097
Volume to Capacity Ratio	0.016	0.065	0.000	0.123
Control Delay (sec/veh)	3.7	3.8	3.6	4.4
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Intersection	
Intersection Delay (sec/veh):	3.5

Movement	EBL	EBT	WBT	WBR	SEL	SER
Volume (vph)	0	0	0	22	15	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	120			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	0	0	0	24	16	0
Number of Lanes	0	1	1	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	-	0	0	0	12	-
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	0	-
Follow-up Headway	0	-	-	-	3.518	0
Pot Capacity-1 Maneuver	0	-	-	-	1008	0
Stage 1	0	-	-	-	1011	0
Stage 2	0	-	-	-	-	0
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	1008	-
Mov Capacity-2 Maneuver	-	-	-	-	1008	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SE
HCM Control Delay (s)	0	0	8.6
HCM LOS	A	A	A

Lane	EBT	WBT	WBR	SELn1
Capacity (vph)				1008
HCM Control Delay (s)	-	-	-	8.6
HCM Lane VC Ratio	-	-	-	0.016
HCM Lane LOS	-	-	-	A
HCM 95th Percentile Queue (veh)	-	-	-	0.049

Intersection	
Intersection Delay (sec/veh)	3.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	16	62	0	33
Demand Flow Rate (pc/h)	16	63	0	34
Vehicles Circulating (pc/h)	34	0	50	24
Vehicles Exiting (pc/h)	24	50	0	39
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	20	20	20	20
Ped Capacity Adjustment	0.997	0.997	0.997	0.997
Approach Delay (sec/veh)	3.5	3.7	0.0	3.6
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	16	63	0	34
Capacity, Entry Lane (pc/h)	1092	1130	1075	1103
Entry HV Adjustment Factor	0.980	0.977	1.000	0.971
Flow Rate, Entry (vph)	16	62	0	33
Capacity, Entry (vph)	1068	1101	1072	1068
Volume to Capacity Ratio	0.015	0.056	0.000	0.031
Control Delay (sec/veh)	3.5	3.7	3.4	3.6
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

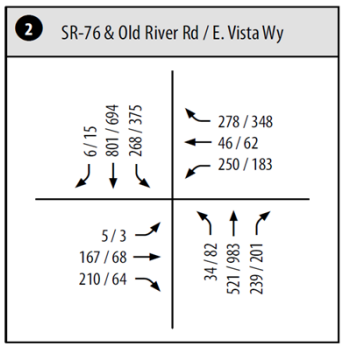
Appendix V

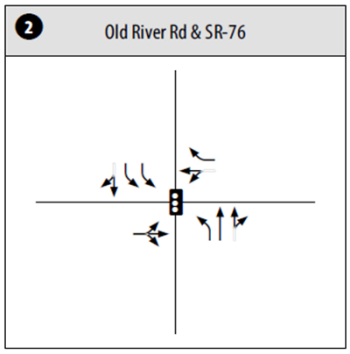
Ramp Intersection Capacity Analysis Worksheets – Existing Plus Project (Phase B) Conditions

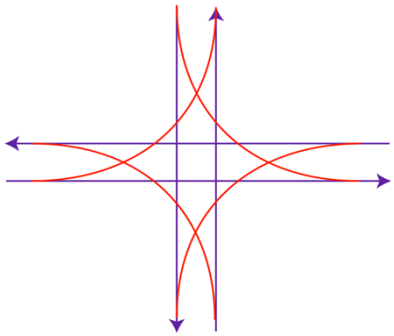
EXISTING + PROJECT PHASE B

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
(BASED ON CALTRANS HIGHWAY DESIGN MANUAL)

N/S Street SR-76 E/W Street OLD RIVER ROAD / EAST VISTA WAY







PHASE 1:

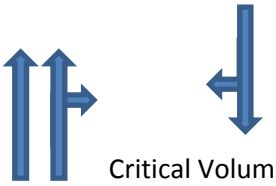
34 / 82
AM/PM

Critical Volume

268 / 375
AM/PM
134 / 188

PHASE 2:

760 / 1,184
AM/PM

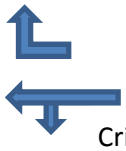


Critical Volume

807 / 709
AM/PM
707 / 603

PHASE 3

WBL	250 /	183
WBT	46 /	62
WBR	278 /	348
	AM /	PM

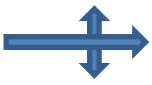


Critical Volume

296 / 348

PHASE 4

EBL	5 /	3
EBT	167 /	68
EBR	210 /	64
	AM /	PM



Critical Volume

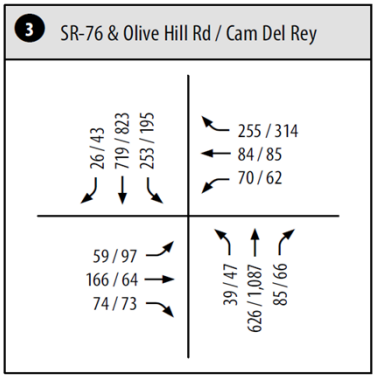
382 / 135

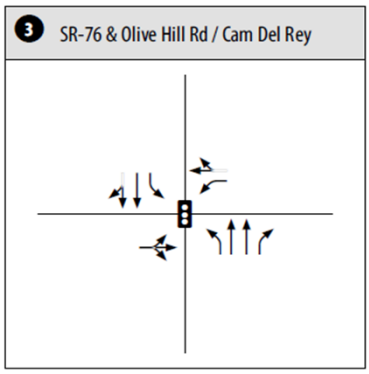
SUM	PHASE 1	134 / 188	AM	1,519 >1500: (Over Capacity)
	PHASE 2	707 / 603	PM	1,274 1200-1500: (At Capacity)
	PHASE 3	296 / 348		
	PHASE 4	382 / 135		
	TOTAL	1,519 / 1,274		

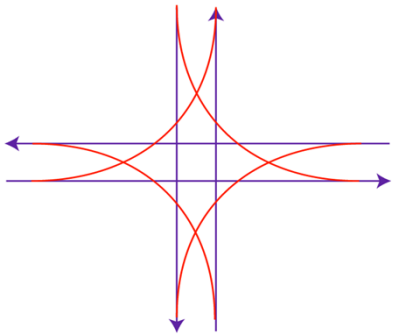
EXISTING + PROJECT PHASE B

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
(BASED ON CALTRANS HIGHWAY DESIGN MANUAL)

N/S Street SR-76 E/W Street OLIVE HILL RD / CAM DEL REY







PHASE 1:

39 / 47	
AM/PM	

Critical Volume

253 / 195
AM/PM
253 / 195

PHASE 2:

NBT	626 / 1,087
NBR	85 / 66
	AM/PM

Critical Volume

745 / 866
AM/PM
313 / 544

PHASE 3

WBL	70 /	62
WBT	84 /	85
WBR	255 /	314
	AM /	PM

Critical Volume 339 / 399

PHASE 4

EBL	59 /	97
EBT	166 /	64
EBR	74 /	73
	AM /	PM

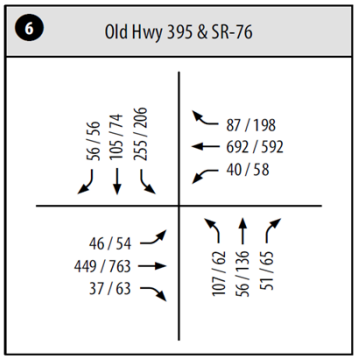
Critical Volume 299 / 234

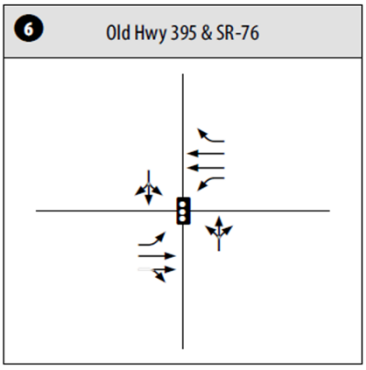
SUM	PHASE 1	253 / 195	AM	1,204 1200-1500: (At Capacity)
	PHASE 2	313 / 544	PM	1,372 1200-1500: (At Capacity)
	PHASE 3	339 / 399		
	PHASE 4	299 / 234		
	TOTAL	1,204 / 1,372		

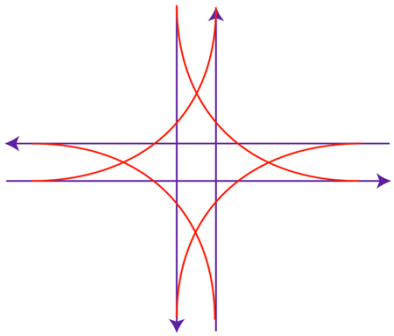
EXISTING + PROJECT PHASE B

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
(BASED ON CALTRANS HIGHWAY DESIGN MANUAL)

N/S Street SR-76 E/W Street OLD HIGHWAY 395







PHASE 1:

46 / 54	
AM/PM	

Critical Volume

40 / 58	
AM/PM	
46 / 58	

PHASE 2:

NBT	449 / 763	
NBR	37 / 63	
	AM/PM	

Critical Volume

87 / 198	WBR
692 / 592	WBT
AM/PM	
346 / 413	

PHASE 3

NBL	107 /	62
NBT	56 /	136
NBR	51 /	65
	AM /	PM

Critical Volume 214 / 263

PHASE 4

SBL	255 /	206
SBT	105 /	74
SBR	56 /	56
	AM /	PM

Critical Volume 416 / 336

SUM	PHASE 1	46 / 58	AM	1,022 <1200: (Under Capacity)
	PHASE 2	346 / 413	PM	1,070 <1200: (Under Capacity)
	PHASE 3	214 / 263		
	PHASE 4	416 / 336		
	TOTAL	1,022 / 1,070		

Appendix W

Traffic Signal Warrants –

Existing Plus Project (Phase B) Conditions

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE Existing + Phase B

DIST ____ CO ____ RTE ____ PM ____

CALC ____ DATE ____

CHK ____ DATE ____

Major St: Gopher Canyon Rd — Critical Approach Speed ____ mph

Minor St: I-15 SB Ramps — Critical Approach Speed ____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....X.....

CONDITION A - Minimum Vehicular Volume

Satisfied X Not Satisfied ____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More.....12,770.....	1.....3,950.....
2 or More.....	2 or More.....
1.....	2 or More.....

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied X Not Satisfied ____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More.....12,770.....	1.....3,950.....
2 or More.....	2 or More.....
1.....	2 or More.....

Vehicles Per Day on Major Street (Total of Both Approaches) / Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)

Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied X Not Satisfied ____

No one condition satisfied, but following conditions fulfilled 80% or more..... ____ (A) ____ (B)

2 CONDITIONS 80% | 2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

INTERSECTION #15 : I-15 NB RAMPS / GOPHER CANYON ROAD - EXISTING + PHASE B

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour			
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

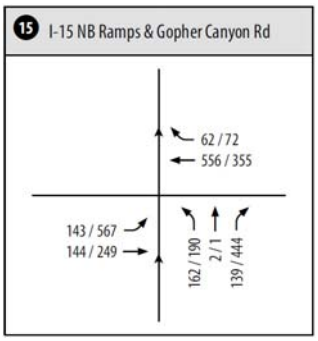
1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐ 303 / 635
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐ 1,208 / 1878

PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	Hour	
Both Approaches - Major Street		X		905 / 1,243
Higher Approach - Minor Street	X			303 / 635

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



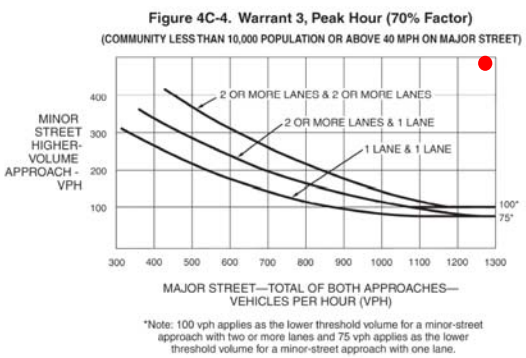


Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE Existing + Phase B

DIST ____ CO ____ RTE ____ PM ____

CALC ____ DATE ____

CHK ____ DATE ____

Major St: Gopher Canyon Rd

Minor St: I-15 NB Ramps

Critical Approach Speed ____ mph

Critical Approach Speed ____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or
In built up area of isolated community of < 10,000 population..... ☐
} RURAL (R)

☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....X.....

CONDITION A - Minimum Vehicular Volume

Satisfied X Not Satisfied ____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More 12,770	1 7,200
2 or More	2 or More
1	2 or More

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied X Not Satisfied ____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or More 12,770	1 7,200
2 or More	2 or More
1	2 or More

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied X Not Satisfied ____

No one condition satisfied, but following conditions fulfilled 80% or more..... ____ (A) ____ (B)

2 CONDITIONS 80%	2 CONDITIONS 80%

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

INTERSECTION #14 : I-15 SB RAMPS / GOPHER CANYON ROAD - EXISTING + PHASE B

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More	Hour			
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

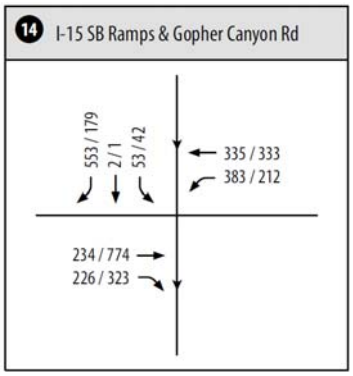
1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐ 608 / 222
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐ 1,786 / 1,864

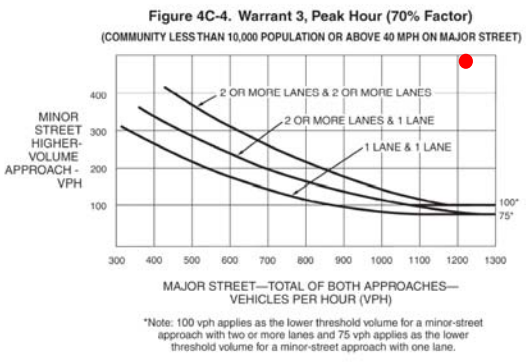
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	Hour	
Both Approaches - Major Street		X		1,178 / 1,642
Higher Approach - Minor Street	X			608 / 222

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.





Appendix X

Mitigated Peak Hour Intersection Capacity Worksheets – Existing Plus Project (Phase B) Conditions

EXISTING + PHASE B – PFFP REPORT

Phase B Mitigation Implementation Triggers by Building Permit

Existing Plus Project (Phases B) Conditions

Intersection #13: I-15 SB Ramps / Gopher Canyon Road

Mitigation Measure = Signalization

Worst Case = AM Peak Hour

Construction of Phase B of the project would increase the traffic volumes at the I-15 SB Ramps / Gopher Canyon Road interchange and cause the intersection delay to increase by more than 2 seconds during the PM Peak Hour, thus would result in a significant impact at this location based upon the CMP threshold. *Signalization would be required* by the 15th EDU of Phase B or 367th total EDU.

Existing Plus Project (Phases B) Conditions

Intersection: I-15 NB Ramps / Gopher Canyon Road

Mitigation Measure = Signalization

Worst Case = PM Peak Hour

Construction of Phase B of the project would increase the traffic volumes at the I-15 NB Ramps / Gopher Canyon Road interchange and would cause the intersection delay to increase by more than 2 seconds during the PM Peak Hour, thus would result in a significant impact at this location based upon the CMP threshold. *Signalization would be required* by the 15th EDU of Phase B or 367th total EDU.

EXISTING + PHASE B – MITIGATION SYNCHRO REPORTS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	234	226	383	335	0	0	0	0	53	2	553
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	304	0	445	390	0				56	2	350
Adj No. of Lanes	0	1	0	1	2	0				0	1	0
Peak Hour Factor	0.87	0.77	0.77	0.86	0.86	0.85				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	417	0	511	2058	0				62	2	386
Arrive On Green	0.00	0.22	0.00	0.29	0.58	0.00				0.28	0.28	0.28
Sat Flow, veh/h	0	1863	0	1774	3632	0				221	8	1380
Grp Volume(v), veh/h	0	304	0	445	390	0				408	0	0
Grp Sat Flow(s),veh/h/ln	0	1863	0	1774	1770	0				1608	0	0
Q Serve(g_s), s	0.0	8.7	0.0	13.7	3.0	0.0				14.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	8.7	0.0	13.7	3.0	0.0				14.1	0.0	0.0
Prop In Lane	0.00		0.00	1.00		0.00				0.14		0.86
Lane Grp Cap(c), veh/h	0	417	0	511	2058	0				450	0	0
V/C Ratio(X)	0.00	0.73	0.00	0.87	0.19	0.00				0.91	0.00	0.00
Avail Cap(c_a), veh/h	0	550	0	709	2706	0				782	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	20.7	0.0	19.5	5.7	0.0				20.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.4	0.0	8.6	0.0	0.0				8.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.9	0.0	7.9	1.4	0.0				7.3	0.0	0.0
LnGrp Delay(d),s/veh	0.0	24.1	0.0	28.1	5.7	0.0				28.2	0.0	0.0
LnGrp LOS		C		C	A					C		
Approach Vol, veh/h		304			835						408	
Approach Delay, s/veh		24.1			17.6						28.2	
Approach LOS		C			B						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	20.6	16.9		20.1		37.5		
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		
Max Green Setting (Gmax), s	23.0	17.0		28.0		44.0		
Max Q Clear Time (g_c+I1), s	15.7	10.7		16.1		5.0		
Green Ext Time (p_c), s	0.9	2.2		0.0		4.6		

Intersection Summary	
HCM 2010 Ctrl Delay	21.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	143	144	0	0	556	62	162	2	139	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	146	147	0	0	604	0	182	2	134			
Adj No. of Lanes	1	2	0	0	2	0	0	1	0			
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.89	0.89	0.89			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	195	1938	0	0	1162	0	225	2	166			
Arrive On Green	0.11	0.55	0.00	0.00	0.33	0.00	0.23	0.23	0.23			
Sat Flow, veh/h	1774	3632	0	0	3725	0	967	11	712			
Grp Volume(v), veh/h	146	147	0	0	604	0	318	0	0			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	0	1689	0	0			
Q Serve(g_s), s	2.9	0.7	0.0	0.0	5.0	0.0	6.5	0.0	0.0			
Cycle Q Clear(g_c), s	2.9	0.7	0.0	0.0	5.0	0.0	6.5	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.00	0.57		0.42			
Lane Grp Cap(c), veh/h	195	1938	0	0	1162	0	393	0	0			
V/C Ratio(X)	0.75	0.08	0.00	0.00	0.52	0.00	0.81	0.00	0.00			
Avail Cap(c_a), veh/h	828	5050	0	0	3011	0	1390	0	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	15.7	3.9	0.0	0.0	9.9	0.0	13.2	0.0	0.0			
Incr Delay (d2), s/veh	5.7	0.0	0.0	0.0	0.4	0.0	4.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.7	0.4	0.0	0.0	2.5	0.0	3.4	0.0	0.0			
LnGrp Delay(d),s/veh	21.5	3.9	0.0	0.0	10.3	0.0	17.2	0.0	0.0			
LnGrp LOS	C	A			B		B					
Approach Vol, veh/h		293			604			318				
Approach Delay, s/veh		12.7			10.3			17.2				
Approach LOS		B			B			B				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		24.0			8.0	16.0		12.5
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0
Max Green Setting (Gmax), s		52.0			17.0	31.0		30.0
Max Q Clear Time (g_c+I1), s		2.7			4.9	7.0		8.5
Green Ext Time (p_c), s		5.5			0.3	4.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	774	323	212	333	0	0	0	0	42	1	179
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	823	0	219	343	0				44	1	165
Adj No. of Lanes	0	1	0	1	2	0				0	1	0
Peak Hour Factor	0.98	0.94	0.94	0.97	0.97	0.98				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	989	0	261	2599	0				52	1	196
Arrive On Green	0.00	0.53	0.00	0.15	0.73	0.00				0.15	0.15	0.15
Sat Flow, veh/h	0	1863	0	1774	3632	0				340	8	1274
Grp Volume(v), veh/h	0	823	0	219	343	0				210	0	0
Grp Sat Flow(s),veh/h/ln	0	1863	0	1774	1770	0				1621	0	0
Q Serve(g_s), s	0.0	26.6	0.0	8.6	2.0	0.0				9.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	26.6	0.0	8.6	2.0	0.0				9.0	0.0	0.0
Prop In Lane	0.00		0.00	1.00		0.00				0.21		0.79
Lane Grp Cap(c), veh/h	0	989	0	261	2599	0				249	0	0
V/C Ratio(X)	0.00	0.83	0.00	0.84	0.13	0.00				0.84	0.00	0.00
Avail Cap(c_a), veh/h	0	1563	0	298	3761	0				363	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	14.1	0.0	29.7	2.8	0.0				29.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	0.0	16.9	0.0	0.0				11.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.1	0.0	5.4	1.0	0.0				4.8	0.0	0.0
LnGrp Delay(d),s/veh	0.0	16.4	0.0	46.6	2.8	0.0				40.7	0.0	0.0
LnGrp LOS		B		D	A					D		
Approach Vol, veh/h		823			562						210	
Approach Delay, s/veh		16.4			19.9						40.7	
Approach LOS		B			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	14.5	42.0		15.0		56.5		
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		
Max Green Setting (Gmax), s	12.0	60.0		16.0		76.0		
Max Q Clear Time (g_c+I1), s	10.6	28.6		11.0		4.0		
Green Ext Time (p_c), s	0.1	9.4		0.0		10.6		

Intersection Summary	
HCM 2010 Ctrl Delay	20.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	567	249	0	0	355	72	190	2	444	0	0	0
Number	5	2	12	1	6	16	3	8	18			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1863	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	585	257	0	0	366	0	200	2	309			
Adj No. of Lanes	1	2	0	0	2	0	0	1	0			
Peak Hour Factor	0.97	0.97	0.98	0.95	0.97	0.97	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	641	1964	0	0	479	0	213	2	329			
Arrive On Green	0.36	0.55	0.00	0.00	0.14	0.00	0.33	0.33	0.33			
Sat Flow, veh/h	1774	3632	0	0	3725	0	647	6	1000			
Grp Volume(v), veh/h	585	257	0	0	366	0	511	0	0			
Grp Sat Flow(s),veh/h/ln	1774	1770	0	0	1770	0	1654	0	0			
Q Serve(g_s), s	21.6	2.4	0.0	0.0	6.9	0.0	20.7	0.0	0.0			
Cycle Q Clear(g_c), s	21.6	2.4	0.0	0.0	6.9	0.0	20.7	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.00	0.39		0.60			
Lane Grp Cap(c), veh/h	641	1964	0	0	479	0	544	0	0			
V/C Ratio(X)	0.91	0.13	0.00	0.00	0.76	0.00	0.94	0.00	0.00			
Avail Cap(c_a), veh/h	798	2311	0	0	514	0	888	0	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	21.0	7.4	0.0	0.0	28.7	0.0	22.4	0.0	0.0			
Incr Delay (d2), s/veh	12.8	0.0	0.0	0.0	6.3	0.0	11.9	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	12.8	1.2	0.0	0.0	3.8	0.0	11.2	0.0	0.0			
LnGrp Delay(d),s/veh	33.8	7.4	0.0	0.0	35.0	0.0	34.3	0.0	0.0			
LnGrp LOS	C	A			D		C					
Approach Vol, veh/h		842			366			511				
Approach Delay, s/veh		25.7			35.0			34.3				
Approach LOS		C			D			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		8
Phs Duration (G+Y+Rc), s		42.2			28.9	13.3		26.7
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0
Max Green Setting (Gmax), s		45.0			31.0	10.0		37.0
Max Q Clear Time (g_c+I1), s		4.4			23.6	8.9		22.7
Green Ext Time (p_c), s		4.3			1.3	0.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.3
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

EXISTING + PHASE B – MITIGATION ALTERNATIVES - SYNCHRO REPORTS

Intersection	
Intersection Delay (sec/veh)	58.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	234	226	383	335	0	0	0	0	53	2	553
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.92	0.92	0.92	0.93	0.93	0.93
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	269	260	451	394	0	0	0	0	57	2	595
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	72.6	44.5	65.2
HCM LOS	F	E	F

Lane	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Volume Left (%)	0%	100%	0%	0%	96%	0%
Volume Thru (%)	51%	0%	100%	100%	4%	0%
Volume Right (%)	49%	0%	0%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume by Lane	460	383	168	168	55	553
Left Turning Volume	234	0	168	168	2	0
Through Volume	226	0	0	0	0	553
Right Turning Volume	0	383	0	0	53	0
Lane Flow Rate	529	451	197	197	59	595
Geometry Group	8	7	7	7	8	8
Degree of Utilization, X	1	1	0.424	0.326	0.149	1
Departure Headway, Hd	8.402	8.254	7.737	5.947	9.092	7.912
Convergence(Y/N)	Yes	Yes	Yes	Yes	Yes	Yes
Capacity	434	446	473	611	397	464
Service Time	6.106	5.857	5.357	3.625	6.792	5.612
HCM Lane V/C Ratio	1.219	1.011	0.416	0.322	0.149	1.282
HCM Control Delay	72.6	71.4	15.9	11.5	13.4	70.3
HCM Lane LOS	F	F	C	B	B	F
HCM 95th Percentile Queue	98.2	99.6	2.2	1.5	0.5	101.2

Intersection	
Intersection Delay (sec/veh)	17.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	143	144	0	0	556	62	162	2	139	0	0	0
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	146	147	0	0	604	67	182	2	156	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	1	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	12.3	21.8	14.2
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2
Volume Left (%)	99%	0%	100%	0%	0%	0%	0%
Volume Thru (%)	1%	0%	0%	100%	100%	100%	75%
Volume Right (%)	0%	100%	0%	0%	0%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume by Lane	164	139	143	72	72	371	247
Left Turning Volume	2	0	0	72	72	371	185
Through Volume	0	139	0	0	0	0	62
Right Turning Volume	162	0	143	0	0	0	0
Lane Flow Rate	184	156	146	73	73	403	269
Geometry Group	8	8	8	8	8	8	8
Degree of Utilization, X	0.402	0.288	0.323	0.152	0.116	0.741	0.481
Departure Headway, Hd	7.953	6.746	7.975	7.464	5.692	6.621	6.442
Convergence(Y/N)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Capacity	455	536	454	483	633	544	554
Service Time	5.653	4.446	5.675	5.164	3.392	4.413	4.234
HCM Lane V/C Ratio	0.404	0.291	0.322	0.151	0.115	0.741	0.486
HCM Control Delay	15.9	12.2	14.4	11.5	9.1	26.2	15.1
HCM Lane LOS	C	B	B	B	A	D	C
HCM 95th Percentile Queue	2	1.2	1.4	0.5	0.4	8.5	2.8

Intersection	
Intersection Delay (sec/veh)	40.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	774	323	212	333	0	0	0	0	42	1	179
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.92	0.92	0.92	0.96	0.96	0.96
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	790	330	216	340	0	0	0	0	44	1	186
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	60.3	11.3	14.6
HCM LOS	F	B	B

Lane	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Volume Left (%)	0%	100%	0%	0%	19%
Volume Thru (%)	71%	0%	100%	100%	0%
Volume Right (%)	29%	0%	0%	0%	81%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Volume by Lane	1097	212	167	167	222
Left Turning Volume	774	0	167	167	1
Through Volume	323	0	0	0	179
Right Turning Volume	0	212	0	0	42
Lane Flow Rate	1119	216	170	170	231
Geometry Group	7	7	7	7	7
Degree of Utilization, X	1	0.398	0.289	0.207	0.434
Departure Headway, Hd	5.84	6.624	6.124	4.39	6.752
Convergence(Y/N)	Yes	Yes	Yes	Yes	Yes
Capacity	627	543	586	816	532
Service Time	3.635	4.363	3.863	2.129	4.512
HCM Lane V/C Ratio	1.785	0.398	0.29	0.208	0.434
HCM Control Delay	60.3	13.7	11.3	8.3	14.6
HCM Lane LOS	F	B	B	A	B
HCM 95th Percentile Queue	116.8	2	1.2	0.8	2.3

Intersection	
Intersection Delay (sec/veh)	50
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	567	249	0	0	355	72	190	2	444	0	0	0
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	0.95	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	579	254	0	0	366	74	200	2	467	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	3	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	3
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	52.2	19.5	67.3
HCM LOS	F	C	F

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2
Volume Left (%)	30%	100%	0%	0%	0%	0%
Volume Thru (%)	0%	0%	100%	100%	100%	62%
Volume Right (%)	70%	0%	0%	0%	0%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Volume by Lane	636	567	125	125	237	190
Left Turning Volume	2	0	125	125	237	118
Through Volume	444	0	0	0	0	72
Right Turning Volume	190	567	0	0	0	0
Lane Flow Rate	669	579	127	127	244	196
Geometry Group	7	7	7	7	8	8
Degree of Utilization, X	1	1	0.261	0.199	0.566	0.441
Departure Headway, Hd	7.294	7.885	7.386	5.653	8.35	8.086
Convergence(Y/N)	Yes	Yes	Yes	Yes	Yes	Yes
Capacity	502	463	489	639	432	445
Service Time	4.999	5.585	5.086	3.353	6.111	5.847
HCM Lane V/C Ratio	1.333	1.251	0.26	0.199	0.565	0.44
HCM Control Delay	67.3	70.2	12.7	9.8	21.5	17.1
HCM Lane LOS	F	F	B	A	C	C
HCM 95th Percentile Queue	105.3	101.4	1.1	0.7	3.9	2.4

Intersection	
Intersection Delay (sec/veh):	22.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	234	226	383	335	0	0	0	0	53	2	553
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	Free	Free	Free	None	None	None	None	None	None	Free	Free	Free
Storage Length	0		0	200		0	0		0	0		250
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.85	0.85	0.85	0.92	0.92	0.92	0.93	0.93	0.93
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	269	260	451	394	0	0	0	0	57	2	595
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	1

Major/Minor	Major 1			Major 2						Minor 2		
Conflicting Flow Rate - All	394	0	0	529	0	-				1695	1825	197
Stage 1	-	-	-	-	-	-				1296	1296	-
Stage 2	-	-	-	-	-	-				399	529	-
Follow-up Headway	2.22	-	-	2.22	-	0				3.52	4.02	3.32
Pot Capacity-1 Maneuver	1161	-	-	1034	-	0				60	76	811
Stage 1	-	-	-	-	-	0				171	231	-
Stage 2	-	-	-	-	-	0				598	525	-
Time blocked-Platoon(%)	0	-	-	0	-	0				0	0	0
Mov Capacity-1 Maneuver	1161	-	-	1034	-	-				# 40	43	811
Mov Capacity-2 Maneuver	-	-	-	-	-	-				# 40	43	-
Stage 1	-	-	-	-	-	-				171	130	-
Stage 2	-	-	-	-	-	-				598	525	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	5.9	61.3
HCM LOS	A	A	F

Lane	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (vph)						40	811
HCM Control Delay (s)	0	-	-	11.143	-	$ -1	20.6
HCM Lane VC Ratio	-	-	-	0.436	-	1.478	0.733
HCM Lane LOS	A	-	-	B	-	F	C
HCM 95th Percentile Queue (veh)	0	-	-	2.248	-	6.055	6.623

Intersection	
Intersection Delay (sec/veh):	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	143	144	0	0	556	62	162	2	139	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	Free	Free	Free	Free	Free	Free	None	None	None
Storage Length	220		0	0		0	0		250	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	146	147	0	0	604	67	182	2	156	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	1	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow Rate - All	671	0	-	147	0	0	741	1110	74
Stage 1	-	-	-	-	-	-	439	439	-
Stage 2	-	-	-	-	-	-	302	671	-
Follow-up Headway	2.22	-	0	2.22	-	-	3.52	4.02	3.32
Pot Capacity-1 Maneuver	915	-	0	1432	-	-	305	208	973
Stage 1	-	-	0	-	-	-	567	576	-
Stage 2	-	-	0	-	-	-	682	453	-
Time blocked-Platoon(%)	0	-	0	0	-	-	0	0	0
Mov Capacity-1 Maneuver	915	-	-	1432	-	-	268	175	973
Mov Capacity-2 Maneuver	-	-	-	-	-	-	268	175	-
Stage 1	-	-	-	-	-	-	477	484	-
Stage 2	-	-	-	-	-	-	682	453	-

Approach	EB	WB	NB
HCM Control Delay (s)	4.8	0	28.3
HCM LOS	A	A	D

Lane	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR
Capacity (vph)	266	973					
HCM Control Delay (s)	44.3	9.4	9.679	-	0	-	-
HCM Lane VC Ratio	0.693	0.161	0.159	-	-	-	-
HCM Lane LOS	E	A	A	-	A	-	-
HCM 95th Percentile Queue (veh)	4.649	0.57	0.566	-	0	-	-

Intersection	
Intersection Delay (sec/veh):	9.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	774	323	212	333	0	0	0	0	42	1	179
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	Free	Free	Free	None	None	None	None	None	None	Free	Free	Free
Storage Length	0		0	200		0	0		0	0		250
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.92	0.92	0.92	0.96	0.96	0.96
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	790	330	216	340	0	0	0	0	44	1	186
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	1

Major/Minor	Major 1			Major 2						Minor 2		
Conflicting Flow Rate - All	340	0	0	1120	0	-				1727	1892	170
Stage 1	-	-	-	-	-	-				772	772	-
Stage 2	-	-	-	-	-	-				955	1120	-
Follow-up Headway	2.22	-	-	2.22	-	0				3.52	4.02	3.32
Pot Capacity-1 Maneuver	1216	-	-	619	-	0				57	69	844
Stage 1	-	-	-	-	-	0				358	407	-
Stage 2	-	-	-	-	-	0				278	280	-
Time blocked-Platoon(%)	0	-	-	0	-	0				0	0	0
Mov Capacity-1 Maneuver	1216	-	-	619	-	-				# 42	45	844
Mov Capacity-2 Maneuver	-	-	-	-	-	-				# 42	45	-
Stage 1	-	-	-	-	-	-				358	265	-
Stage 2	-	-	-	-	-	-				278	280	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	5.4	68.3
HCM LOS	A	A	F

Lane	EBL	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (vph)						42	844
HCM Control Delay (s)	0	-	-	13.908	-	$ -1	10.5
HCM Lane VC Ratio	-	-	-	0.349	-	1.066	0.221
HCM Lane LOS	A	-	-	B	-	F	B
HCM 95th Percentile Queue (veh)	0	-	-	1.563	-	4.277	0.842

Intersection	
Intersection Delay (sec/veh):	199.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	567	249	0	0	355	72	190	2	444	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	Free	Free	Free	Free	Free	Free	None	None	None
Storage Length	220		0	0		0	0		250	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.97	0.97	0.97	0.95	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	579	254	0	0	366	74	200	2	467	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	1	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow Rate - All	440	0	-	254	0	0	1595	1852	127
Stage 1	-	-	-	-	-	-	1412	1412	-
Stage 2	-	-	-	-	-	-	183	440	-
Follow-up Headway	2.22	-	0	2.22	-	-	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1116	-	0	1308	-	-	# 72	73	900
Stage 1	-	-	0	-	-	-	# 145	203	-
Stage 2	-	-	0	-	-	-	801	576	-
Time blocked-Platoon(%)	0	-	0	0	-	-	0	0	0
Mov Capacity-1 Maneuver	1116	-	-	1308	-	-	# 43	35	900
Mov Capacity-2 Maneuver	-	-	-	-	-	-	# 43	35	-
Stage 1	-	-	-	-	-	-	# 70	98	-
Stage 2	-	-	-	-	-	-	801	576	-

Approach	EB	WB	NB
HCM Control Delay (s)	8.1	0	$ 568.9
HCM LOS	A	A	F

Lane	NBLn1	NBLn2	EBL	EBT	WBL	WBT	WBR
Capacity (vph)	43	900					
HCM Control Delay (s)	$ 1854.1	13.2	11.645	-	0	-	-
HCM Lane VC Ratio	4.7	0.519	0.518	-	-	-	-
HCM Lane LOS	F	B	B	-	A	-	-
HCM 95th Percentile Queue (veh)	23.161	3.067	3.088	-	0	-	-

Intersection	
Intersection Delay (sec/veh)	8.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	529	845	0	654
Demand Flow Rate (pc/h)	539	862	0	667
Vehicles Circulating (pc/h)	520	0	332	862
Vehicles Exiting (pc/h)	402	332	462	0
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	5.7	16.7	0.0	0.8
Approach LOS	A	C	-	A

Lane	Left	Bypass	Left		Left	Bypass
Designated moves	T	R	LT		LT	R
Assumed Moves	T	R	LT		LT	R
Right Turn Channelized		Free				Free
Lane Utilization	1.000		1.000		1.000	
Critical Headway (s)	5.193		5.193		5.193	
Entry Flow Rate (pc/h)	274	265	862		60	607
Capacity, Entry Lane (pc/h)	672	1938	1130		477	1938
Entry HV Adjustment Factor	0.980	0.980	0.980		0.983	0.980
Flow Rate, Entry (vph)	269	260	845		59	595
Capacity, Entry (vph)	659	1900	1108		469	1900
Volume to Capacity Ratio	0.408	0.137	0.763		0.126	0.313
Control Delay (sec/veh)	11.2	0.0	16.7		9.4	0.0
Level of Service	B	A	C		A	A
95th-Percentile Queue (veh)	2	0	8		0	1

Intersection	
Intersection Delay (sec/veh)	12.2
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	293	671	340	0
Demand Flow Rate (pc/h)	299	684	347	0
Vehicles Circulating (pc/h)	0	337	299	802
Vehicles Exiting (pc/h)	802	150	0	151
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	5.7	19.3	3.7	0.0
Approach LOS	A	C	A	-

Lane	Left	Left	Bypass	Left	Bypass
Designated moves	LT	T	R	LT	R
Assumed Moves	LT	T	R	LT	R
Right Turn Channelized			Free		Free
Lane Utilization	1.000	1.000		1.000	
Critical Headway (s)	5.193	5.193		5.193	
Entry Flow Rate (pc/h)	299	616	68	188	159
Capacity, Entry Lane (pc/h)	1130	807	1938	838	1938
Entry HV Adjustment Factor	0.980	0.980	0.980	0.979	0.980
Flow Rate, Entry (vph)	293	604	67	184	156
Capacity, Entry (vph)	1107	791	1900	820	1900
Volume to Capacity Ratio	0.265	0.764	0.035	0.224	0.082
Control Delay (sec/veh)	5.7	21.5	0.0	6.8	0.0
Level of Service	A	C	A	A	A
95th-Percentile Queue (veh)	1	7	0	1	0

Intersection	
Intersection Delay (sec/veh)	18.6
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	1120	556	0	231
Demand Flow Rate (pc/h)	1143	567	0	236
Vehicles Circulating (pc/h)	266	0	851	567
Vehicles Exiting (pc/h)	347	851	221	0
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	27.0	9.0	0.0	1.3
Approach LOS	D	A	-	A

Lane	Left	Bypass	Left		Left	Bypass
Designated moves	T	R	LT		LT	R
Assumed Moves	T	R	LT		LT	R
Right Turn Channelized		Free				Free
Lane Utilization	1.000		1.000		1.000	
Critical Headway (s)	5.193		5.193		5.193	
Entry Flow Rate (pc/h)	806	337	567		46	190
Capacity, Entry Lane (pc/h)	866	1938	1130		641	1938
Entry HV Adjustment Factor	0.980	0.980	0.981		0.978	0.980
Flow Rate, Entry (vph)	790	330	556		45	186
Capacity, Entry (vph)	849	1900	1108		627	1900
Volume to Capacity Ratio	0.931	0.174	0.502		0.072	0.098
Control Delay (sec/veh)	38.2	0.0	9.0		6.5	0.0
Level of Service	E	A	A		A	A
95th-Percentile Queue (veh)	14	1	3		0	0

Intersection	
Intersection Delay (sec/veh)	13.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	833	440	669	0
Demand Flow Rate (pc/h)	850	448	682	0
Vehicles Circulating (pc/h)	0	797	850	577
Vehicles Exiting (pc/h)	577	259	0	593
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	16.1	23.4	4.6	0.0
Approach LOS	C	C	A	-

Lane	Left	Left	Bypass	Left	Bypass
Designated moves	LT	T	R	LT	R
Assumed Moves	LT	T	R	LT	R
Right Turn Channelized			Free		Free
Lane Utilization	1.000	1.000		1.000	
Critical Headway (s)	5.193	5.193		5.193	
Entry Flow Rate (pc/h)	850	373	75	206	476
Capacity, Entry Lane (pc/h)	1130	509	1938	483	1938
Entry HV Adjustment Factor	0.980	0.980	0.980	0.980	0.980
Flow Rate, Entry (vph)	833	366	74	202	467
Capacity, Entry (vph)	1107	499	1900	473	1900
Volume to Capacity Ratio	0.752	0.732	0.039	0.427	0.246
Control Delay (sec/veh)	16.1	28.1	0.0	15.3	0.0
Level of Service	C	D	A	C	A
95th-Percentile Queue (veh)	7	6	0	2	1

Appendix Y

Arterial Analysis - Existing Plus Project (Phases C) Conditions

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing + C
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21260	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.615	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	60	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.750	

Results

Annual average daily traffic, AADT	21260	vpd
Two-way hourly volume	1913	vph
Hourly directional volume	1176	vph
Through-volume 15-min. flow rate	511	v
Running time	78.0	sec
v/c ratio	0.40	
Through capacity	1281	vph
Progression factor, PF	1.000	
Uniform delay	6.7	sec
Filtering/metering factor, I	0.922	
Incremental delay	0.9	sec
Control delay	7.5	sec/v
Total travel speed, Sa	38.7	mph
Total urban street LOS	B	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way - South
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+C
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	21260	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.660	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	1	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	120.0	sec
Effective green ratio, g/C	0.760	

Results

Annual average daily traffic, AADT	21260	vpd
Two-way hourly volume	1488	vph
Hourly directional volume	982	vph
Through-volume 15-min. flow rate	1056	v
Running time	78.0	sec
v/c ratio	0.81	
Through capacity	1298	vph
Progression factor, PF	1.000	
Uniform delay	9.1	sec
Filtering/metering factor, I	0.477	
Incremental delay	2.8	sec
Control delay	11.8	sec/v
Total travel speed, Sa	35.4	mph
Total urban street LOS	B	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	PM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing+C
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15750	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.668	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.500	

Results

Annual average daily traffic, AADT	15750	vpd
Two-way hourly volume	1417	vph
Hourly directional volume	946	vph
Through-volume 15-min. flow rate	514	v
Running time	504.0	sec
v/c ratio	0.71	
Through capacity	719	vph
Progression factor, PF	1.000	
Uniform delay	29.2	sec
Filtering/metering factor, I	0.630	
Incremental delay	3.8	sec
Control delay	33.0	sec/v
Total travel speed, Sa	44.2	mph
Total urban street LOS	A	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan
Date Performed:	4/1/2014
Analysis Time Period:	AM
Urban Street:	Gopher Canyon Road
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing+C
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15750	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.685	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	20	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	7.00	miles
Median	No	
Left-turn bays	No	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.440	

Results

Annual average daily traffic, AADT	15750	vpd
Two-way hourly volume	1102	vph
Hourly directional volume	754	vph
Through-volume 15-min. flow rate	655	v
Running time	504.0	sec
v/c ratio	1.03	
Through capacity	633	vph
Progression factor, PF	1.000	
Uniform delay	42.0	sec
Filtering/metering factor, I	0.090	
Incremental delay	21.2	sec
Control delay	63.2	sec/v
Total travel speed, Sa	40.0	mph
Total urban street LOS	B	

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	PM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	Existing + C
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15270	vpd
Planning analysis hour factor, K	0.090	
Directional distribution factor, D	0.660	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	50	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	150.0	sec
Effective green ratio, g/C	0.660	

Results

Annual average daily traffic, AADT	15270	vpd
Two-way hourly volume	1374	vph
Hourly directional volume	906	vph
Through-volume 15-min. flow rate	492	v
Running time	78.0	sec
v/c ratio	0.44	
Through capacity	1127	vph
Progression factor, PF	1.000	
Uniform delay	12.2	sec
Filtering/metering factor, I	0.901	
Incremental delay	1.1	sec
Control delay	13.3	sec/v
Total travel speed, Sa	34.4	mph
Total urban street LOS	B	

HCS+: Urban Streets Release 5.3

Phone: Fax:
E-Mail:

PLANNING ANALYSIS

Analyst:	PHN
Agency/Co.:	Chen Ryan Associates
Date Performed:	3/31/2014
Analysis Time Period:	AM
Urban Street:	East Vista Way
Direction of Travel:	
Jurisdiction:	San Diego County
Analysis Year:	E+C
Project ID:	LHR

Traffic Characteristics

Annual average daily traffic, AADT	15270	vpd
Planning analysis hour factor, K	0.070	
Directional distribution factor, D	0.520	
Peak-hour factor, PHF	0.920	
Adjusted saturation flow rate	1800	pcphgpl
Percent turns from exclusive lanes	26	%

Roadway Characteristics

Number of through lanes one direction, N	1	
Free flow speed, FFS	50	mph
Urban class	1	
Section length	1.00	miles
Median	No	
Left-turn bays	Yes	

Signal Characteristics

Signalized intersections	2	
Arrival type, AT	3	
Signal type (k = 0.5 for planning)	Actuated	
Cycle length, C	145.0	sec
Effective green ratio, g/C	0.520	

Results

Annual average daily traffic, AADT	15270	vpd
Two-way hourly volume	1068	vph
Hourly directional volume	555	vph
Through-volume 15-min. flow rate	446	v
Running time	78.0	sec
v/c ratio	0.50	
Through capacity	888	vph
Progression factor, PF	1.000	
Uniform delay	22.6	sec
Filtering/metering factor, I	0.856	
Incremental delay	1.7	sec
Control delay	24.3	sec/v
Total travel speed, Sa	28.4	mph
Total urban street LOS	C	

AASHTO's functional classes are based on travel volume, mileage, and the characteristic of service the urban street is intended to provide. The analysis method in this manual makes use of the AASHTO distinction between principal arterial and minor arterial. But a second classification step is used herein to determine the appropriate design category for the arterial. The design category depends on the posted speed limit, signal density, driveway/access-point density, and other design features. The third step is to determine the appropriate urban street class on the basis of a combination of functional category and design category. Exhibits 10-3 and 10-4 are useful for establishing urban street class.

Four urban street classes are defined in this manual. The classes are designated by number (i.e., I, II, III, and IV) and reflect unique combinations of street function and design, as shown in Exhibit 10-3. The functional component is separated into two categories: principal arterial and minor arterial. The design component is separated into four categories: high-speed, suburban, intermediate, and urban. The characteristics associated with each category are described in the remainder of this section. Exhibit 10-4 summarizes these characteristics.

EXHIBIT 10-3. URBAN STREET CLASS BASED ON FUNCTIONAL AND DESIGN CATEGORIES

	Functional Category	
Design Category	Principal Arterial	Minor Arterial
High-Speed	I	N/A
Suburban	II	II
Intermediate	II	III or IV
Urban	III or IV	IV

EXHIBIT 10-4. FUNCTIONAL AND DESIGN CATEGORIES

	Functional Category			
Criterion	Principal Arterial		Minor Arterial	
Mobility function	Very important		Important	
Access function	Very minor		Substantial	
Points connected	Freeways, important activity centers, major traffic generators		Principal arterials	
Predominant trips served	Relatively long trips between major points and through-trips entering, leaving, and passing through the city		Trips of moderate length within relatively small geographical areas	
	Design Category			
Criterion	High-Speed	Suburban	Intermediate	Urban
Driveway/access density	Very low density	Low density	Moderate density	High density
Arterial type	Multilane divided; undivided or two-lane with shoulders	Multilane divided; undivided or two-lane with shoulders	Multilane divided or undivided; one-way, two-lane	Undivided one-way, two-way, two or more lanes
Parking	No	No	Some	Significant
Separate left-turn lanes	Yes	Yes	Usually	Some
Signals/mi	0.5–2	1–5	4–10	6–12
Speed limit	45–55 mi/h	40–45 mi/h	30–40 mi/h	25–35 mi/h
Pedestrian activity	Very little	Little	Some	Usually
Roadside development	Low density	Low to medium density	Medium to moderate density	High density

A principal arterial serves major through movements between important centers of activity in a metropolitan area and a substantial portion of trips entering and leaving the area. It also connects freeways with major traffic generators. In smaller cities

other hand, longer urban street segments comprising heavily loaded intersections can provide reasonably good LOS, although an individual signalized intersection might be operating at a lower level. The term through vehicle refers to all vehicles passing directly through a street segment and not turning.

Exhibit 15-2 lists urban street LOS criteria based on average travel speed and urban street class. It should be noted that if demand volume exceeds capacity at any point on the facility, the average travel speed might not be a good measure of the LOS. The street classifications identified in Exhibit 15-2 are defined in the next section.

EXHIBIT 15-2. URBAN STREET LOS BY CLASS

Urban Street Class	I	II	III	IV
Range of free-flow speeds (FFS)	55 to 45 mi/h	45 to 35 mi/h	35 to 30 mi/h	35 to 25 mi/h
Typical FFS	50 mi/h	40 mi/h	35 mi/h	30 mi/h
LOS	Average Travel Speed (mi/h)			
A	> 42	> 35	> 30	> 25
B	> 34–42	> 28–35	> 24–30	> 19–25
C	> 27–34	> 22–28	> 18–24	> 13–19
D	> 21–27	> 17–22	> 14–18	> 9–13
E	> 16–21	> 13–17	> 10–14	> 7–9
F	≤ 16	≤ 13	≤ 10	≤ 7

Travel speed defines LOS on urban streets

DETERMINING URBAN STREET CLASS

The first step in the analysis is to determine the urban street's class. This can be based on direct field measurement of the FFS or on an assessment of the subject street's functional and design categories. A procedure for measuring the FFS is described in Appendix B.

If the FFS measurements are not available, the street's functional and design categories must be used to identify its class. The functional category is identified first, followed by the design category. This identification uses the definitions provided in Chapter 10 and Exhibit 10-4. After determining the functional and design categories, the urban street class can be established using Exhibit 10-3.

DETERMINING RUNNING TIME

Running time is estimated using FFS, urban street classification, and arterial segment length

There are two principal components of the total time that a vehicle spends on a segment of an urban street: running time and control delay at signalized intersections. To compute the running time for a segment, the analyst must know the street's classification, its segment length, and its FFS. The segment running time then can be found by using Exhibit 15-3.

Within each urban street class there are several influences on actual running time. Exhibit 15-3 shows the effect of street length. In addition, the presence of parking, side friction, local development, and street use can affect running time. In this chapter, these also are assumed to influence the FFS. Direct observation of the FFS, therefore, includes the effect of these factors and, by implication, their effect on the running speed.

If it is not possible to observe the FFS on the actual or a comparable facility, default values are given in a note to Exhibit 15-3.

DETERMINING DELAY

Computing the urban street or section speed requires the intersection control delays. Because the function of an urban street is to serve through traffic, the lane group for through traffic is used to characterize the urban street.

CAPACITY

Capacity = 1,700 pc/h for each direction, and 3,200 for both directions combined

The capacity of a two-lane highway is 1,700 pc/h for each direction of travel. The capacity is nearly independent of the directional distribution of traffic on the facility, except that for extended lengths of two-lane highway, the capacity will not exceed 3,200 pc/h for both directions of travel combined. For short lengths of two-lane highway—such as tunnels or bridges—a capacity of 3,200 to 3,400 pc/h for both directions of travel combined may be attained but cannot be expected for an extended length.

LEVELS OF SERVICE

For definitions of the service measures for two-lane highways, percent time-spent-following, and average travel speed, see Chapter 12, "Highway Concepts"

The service measures for a two-lane highway are defined in Chapter 12, "Highway Concepts." On Class I highways, efficient mobility is paramount, and LOS is defined in terms of both percent time-spent-following and average travel speed. On Class II highways, mobility is less critical, and LOS is defined only in terms of percent time-spent-following, without consideration of average travel speed. Drivers will tolerate higher levels of percent time-spent-following on a Class II facility than on a Class I facility, because Class II facilities usually serve shorter trips and different trip purposes.

For definitions of Class I and II highways, also see Chapter 12

LOS criteria for two-lane highways in Classes I and II are presented in Exhibits 20-2, 20-3, and 20-4. Exhibit 20-2 reflects the maximum values of percent time-spent-following and average travel speed for each LOS for Class I highways. A segment of a Class I highway must meet the criteria for both the percent time-spent-following and the average travel speed shown in Exhibit 20-2 to be classified in any particular LOS. Exhibit 20-3 illustrates the LOS criteria for Class I highways. For example, a Class I two-lane highway with percent time-spent-following equal to 45 percent and an average travel speed of 40 mi/h would be classified as LOS D based on Exhibit 20-2. However, a Class II highway with the same conditions would be classified as LOS B based on Exhibit 20-4. The difference between these LOS assessments represents the difference in motorist expectations for Class I and II facilities.

The LOS criteria in Exhibits 20-2 through 20-4 apply to all types of two-lane highways, including extended two-way segments, extended directional segments, specific upgrades, and specific downgrades.

TWO-WAY SEGMENTS

The two-way segment methodology estimates measures of traffic operation along a section of highway, based on terrain, geometric design, and traffic conditions. Terrain is classified as level or rolling, as described below. Mountainous terrain is addressed in the operational analysis of specific upgrades and downgrades, presented below. This methodology typically is applied to highway sections of at least 2.0 mi.

Traffic data needed to apply the two-way segment methodology include the two-way hourly volume, a peak-hour factor (PHF), and the directional distribution of traffic flow. The PHF may be computed from field data, or appropriate default values may be selected from the tabulated values presented in Chapter 12. Traffic data also include the proportion of trucks and recreational vehicles (RVs) in the traffic stream. The operational analysis of extended two-way segments for a two-lane highway involves several steps, described in the following sections.

EXHIBIT 20-2. LOS CRITERIA FOR TWO-LANE HIGHWAYS IN CLASS I

LOS	Percent Time-Spent-Following	Average Travel Speed (mi/h)
A	≤ 35	> 55
B	> 35–50	> 50–55
C	> 50–65	> 45–50
D	> 65–80	> 40–45
E	> 80	≤ 40

Note:
LOS F applies whenever the flow rate exceeds the segment capacity.

EXHIBIT 20-3. LOS CRITERIA (GRAPHICAL) FOR TWO-LANE HIGHWAYS IN CLASS I

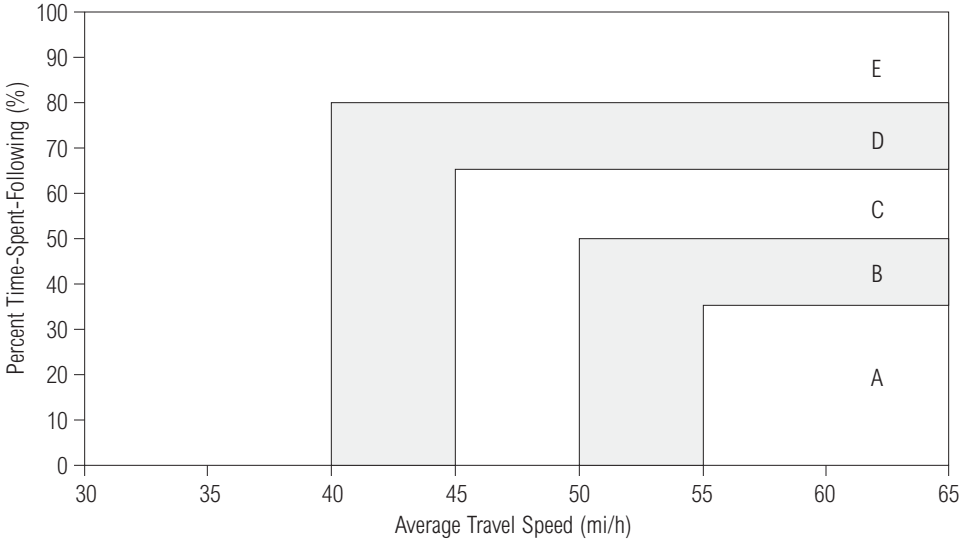


EXHIBIT 20-4. LOS CRITERIA FOR TWO-LANE HIGHWAYS IN CLASS II

LOS	Percent Time-Spent-Following
A	≤ 40
B	> 40–55
C	> 55–70
D	> 70–85
E	> 85

Note:
LOS F applies whenever the flow rate exceeds the segment capacity.

Determining Free-Flow Speed

Free-flow speed occurs at two-way flows of 200 pc/h or less

A key step in the assessment of the LOS of a two-lane highway is to determine the free-flow speed (FFS). The FFS is measured using the mean speed of traffic under low flow conditions (up to two-way flows of 200 pc/h). If field measurements must be made with two-way flow rates of more than 200 pc/h, a volume adjustment must be made in determining FFS. This volume adjustment is discussed below.

Two general methods can be used to determine the FFS for a two-lane highway: field measurement and estimation with the guidelines provided in this chapter. The field-measurement procedure assists in gathering these data directly or incorporating the measurements into a speed monitoring program. However, field measurements are not necessary for an operational analysis—the FFS can be estimated from field data and user knowledge of conditions on the highway.

Field Measurement

The FFS of a highway can be determined directly from a speed study conducted in the field. No adjustments are made to the field-measured data. The speed study should be conducted at a representative location within the highway segment being evaluated; for example, a site on a short upgrade should not be selected within a segment that is generally level. Any speed measurement technique acceptable for other types of traffic engineering speed studies may be used. The field study should be conducted in periods of low traffic flow (up to a two-way flow of 200 pc/h) and should measure the speeds of all vehicles or of a systematic sampling (e.g., of every 10th vehicle). A representative sample of the speeds of at least 100 vehicles, impeded or unimpeded, should be obtained.

Appendix Z

Peak Hour Intersection Capacity Worksheets – Existing Plus Project (Phases C) Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	1	1	0	811	1	279	0	291	348	154	460	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	4	4	0	911	1	247	0	331	395	181	541	0
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.25	0.25	0.25	0.89	0.89	0.89	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	9	0	702	1	627	1	301	360	156	943	0
Arrive On Green	0.01	0.01	0.00	0.40	0.40	0.40	0.00	0.39	0.39	0.09	0.51	0.00
Sat Flow, veh/h	909	909	0	1772	2	1583	1774	775	925	1774	1863	0
Grp Volume(v), veh/h	8	0	0	912	0	247	0	0	726	181	541	0
Grp Sat Flow(s),veh/h/ln	1817	0	0	1774	0	1583	1774	0	1700	1774	1863	0
Q Serve(g_s), s	0.6	0.0	0.0	54.0	0.0	15.2	0.0	0.0	53.0	12.0	27.5	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	54.0	0.0	15.2	0.0	0.0	53.0	12.0	27.5	0.0
Prop In Lane	0.50		0.00	1.00		1.00	1.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h	17	0	0	703	0	627	1	0	661	156	943	0
V/C Ratio(X)	0.46	0.00	0.00	1.30	0.00	0.39	0.00	0.00	1.10	1.16	0.57	0.00
Avail Cap(c_a), veh/h	200	0	0	703	0	627	52	0	661	156	943	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	67.1	0.0	0.0	41.2	0.0	29.4	0.0	0.0	41.7	62.2	23.4	0.0
Incr Delay (d2), s/veh	17.7	0.0	0.0	144.3	0.0	0.4	0.0	0.0	65.1	121.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	54.5	0.0	6.7	0.0	0.0	36.7	11.1	14.3	0.0
LnGrp Delay(d),s/veh	84.8	0.0	0.0	185.4	0.0	29.8	0.0	0.0	106.7	183.3	24.3	0.0
LnGrp LOS	F			F		C			F	F	C	
Approach Vol, veh/h		8			1159			726			722	
Approach Delay, s/veh		84.8			152.3			106.7			64.1	
Approach LOS		F			F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	57.0		5.3	0.0	73.0		58.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	12.0	53.0		15.0	4.0	61.0		54.0
Max Q Clear Time (g_c+I1), s	14.0	55.0		2.6	0.0	29.5		56.0
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	9.9		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		115.1
HCM 2010 LOS		F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	167	221	252	46	278	41	523	240	268	803	6
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	201	218	328	0	274	43	545	208	288	863	6
Adj No. of Lanes	0	2	0	2	0	1	1	3	1	2	3	0
Peak Hour Factor	0.83	0.83	0.83	0.87	0.87	0.87	0.96	0.96	0.96	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	10	328	288	770	0	344	57	1308	407	408	1790	12
Arrive On Green	0.18	0.18	0.18	0.22	0.00	0.22	0.03	0.26	0.26	0.12	0.34	0.34
Sat Flow, veh/h	54	1806	1583	3548	0	1583	1774	5085	1583	3442	5210	36
Grp Volume(v), veh/h	207	0	218	328	0	274	43	545	208	288	561	308
Grp Sat Flow(s),veh/h/ln	1860	0	1583	1774	0	1583	1774	1695	1583	1721	1695	1856
Q Serve(g_s), s	7.3	0.0	9.3	5.7	0.0	11.6	1.7	6.3	8.0	5.7	9.2	9.2
Cycle Q Clear(g_c), s	7.3	0.0	9.3	5.7	0.0	11.6	1.7	6.3	8.0	5.7	9.2	9.2
Prop In Lane	0.03		1.00	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	338	0	288	770	0	344	57	1308	407	408	1164	638
V/C Ratio(X)	0.61	0.00	0.76	0.43	0.00	0.80	0.75	0.42	0.51	0.71	0.48	0.48
Avail Cap(c_a), veh/h	551	0	469	1350	0	603	200	1936	603	922	1816	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	0.0	27.5	24.0	0.0	26.3	34.0	21.9	22.5	30.1	18.3	18.3
Incr Delay (d2), s/veh	1.8	0.0	4.1	0.4	0.0	4.3	17.8	0.2	1.0	2.3	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	4.4	2.8	0.0	5.5	1.1	3.0	3.6	2.8	4.3	4.8
LnGrp Delay(d),s/veh	28.5	0.0	31.6	24.3	0.0	30.6	51.9	22.1	23.5	32.3	18.6	18.9
LnGrp LOS	C		C	C		C	D	C	C	C	B	B
Approach Vol, veh/h		425			602			796			1157	
Approach Delay, s/veh		30.1			27.2			24.1			22.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	28.4		19.4	12.4	22.2		16.9
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	8.0	38.0		27.0	19.0	27.0		21.0
Max Q Clear Time (g_c+I1), s	3.7	11.2		13.6	7.7	10.0		11.3
Green Ext Time (p_c), s	0.0	10.2		1.8	0.7	8.3		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	24.8
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	59	167	74	74	86	255	39	626	87	253	719	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	69	194	74	96	112	279	43	688	74	288	817	24
Adj No. of Lanes	2	1	1	1	1	1	1	3	1	2	3	1
Peak Hour Factor	0.86	0.86	0.86	0.77	0.77	0.77	0.91	0.91	0.91	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	540	405	344	278	415	353	139	1327	413	449	1439	448
Arrive On Green	0.16	0.22	0.22	0.16	0.22	0.22	0.08	0.26	0.26	0.13	0.28	0.28
Sat Flow, veh/h	3442	1863	1583	1774	1863	1583	1774	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	69	194	74	96	112	279	43	688	74	288	817	24
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1774	1863	1583	1774	1695	1583	1721	1695	1583
Q Serve(g_s), s	1.3	7.0	2.9	3.7	3.8	12.7	1.8	8.8	2.8	6.1	10.5	0.8
Cycle Q Clear(g_c), s	1.3	7.0	2.9	3.7	3.8	12.7	1.8	8.8	2.8	6.1	10.5	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	540	405	344	278	415	353	139	1327	413	449	1439	448
V/C Ratio(X)	0.13	0.48	0.21	0.34	0.27	0.79	0.31	0.52	0.18	0.64	0.57	0.05
Avail Cap(c_a), veh/h	869	607	516	485	655	557	302	1863	580	824	2062	642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	26.1	24.6	28.7	24.6	28.0	33.3	24.1	21.9	31.5	23.4	20.0
Incr Delay (d2), s/veh	0.1	0.9	0.3	0.7	0.3	4.0	1.2	0.3	0.2	1.5	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.7	1.3	1.9	2.0	5.9	0.9	4.2	1.2	3.0	5.0	0.4
LnGrp Delay(d),s/veh	27.8	27.0	24.9	29.5	24.9	32.1	34.5	24.5	22.1	33.1	23.8	20.0
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		337			487			805			1129	
Approach Delay, s/veh		26.7			29.9			24.8			26.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	25.9	16.1	20.7	12.0	27.6	15.7	21.1
Change Period (Y+Rc), s	3.7	6.0	4.1	* 4.1	6.0	* 6	3.7	4.1
Max Green Setting (Gmax), s	18.3	28.0	20.9	* 25	13.0	* 31	19.3	26.9
Max Q Clear Time (g_c+I1), s	8.1	10.8	5.7	9.0	3.8	12.5	3.3	14.7
Green Ext Time (p_c), s	0.7	8.8	0.2	2.6	0.0	9.1	0.1	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.4
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	7.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	451	0	0	227	218	73
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	Free	Free	Free	Free	Free	Free
Storage Length		0	0		0	0
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	490	0	0	247	237	79
Number of Lanes	1	0	1	1	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	490	0	737	490
Stage 1	-	-	-	-	490	-
Stage 2	-	-	-	-	247	-
Follow-up Headway	-	0	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	0	1073	-	386	578
Stage 1	-	0	-	-	616	-
Stage 2	-	0	-	-	794	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1073	-	386	578
Mov Capacity-2 Maneuver	-	-	-	-	386	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	794	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	24.1
HCM LOS	A	A	C

Lane	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (vph)	386	578			
HCM Control Delay (s)	28.1	12.2	-	0	-
HCM Lane VC Ratio	0.614	0.137	-	-	-
HCM Lane LOS	D	B	-	A	-
HCM 95th Percentile Queue (veh)	3.937	0.474	-	0	-

Intersection	
Intersection Delay (sec/veh):	6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	234	257	290	10	4	267
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.78	0.78	0.73	0.73
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	308	338	372	13	5	366
Number of Lanes	0	1	1	0	1	1

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	385	0	0	0	1333	379
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	954	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1173	-	-	-	170	668
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	374	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1173	-	-	-	115	668
Mov Capacity-2 Maneuver	-	-	-	-	115	-
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	253	-

Approach	EB	WB	SB
HCM Control Delay (s)	4.4	0	17
HCM LOS	A	A	C

Lane	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (vph)					115	668
HCM Control Delay (s)	9.158	-	-	-	37.9	16.7
HCM Lane VC Ratio	0.262	-	-	-	0.048	0.548
HCM Lane LOS	A	-	-	-	E	C
HCM 95th Percentile Queue (veh)	1.057	-	-	-	0.148	3.336

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	46	449	42	47	692	87	115	64	62	255	110	56
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	50	488	41	51	752	84	137	76	68	263	113	53
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.84	0.84	0.84	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	859	384	164	946	869	170	94	232	306	131	62
Arrive On Green	0.06	0.24	0.24	0.09	0.27	0.27	0.15	0.15	0.15	0.28	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	1161	644	1583	1085	466	219
Grp Volume(v), veh/h	50	488	41	51	752	84	213	0	68	429	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1805	0	1583	1770	0	0
Q Serve(g_s), s	2.2	9.9	1.6	2.2	16.2	2.1	9.4	0.0	3.1	18.8	0.0	0.0
Cycle Q Clear(g_c), s	2.2	9.9	1.6	2.2	16.2	2.1	9.4	0.0	3.1	18.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.64		1.00	0.61		0.12
Lane Grp Cap(c), veh/h	103	859	384	164	946	869	264	0	232	499	0	0
V/C Ratio(X)	0.49	0.57	0.11	0.31	0.80	0.10	0.81	0.00	0.29	0.86	0.00	0.00
Avail Cap(c_a), veh/h	173	1159	518	260	1297	1026	397	0	348	731	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.4	27.2	24.1	34.7	27.9	8.8	33.8	0.0	31.2	27.9	0.0	0.0
Incr Delay (d2), s/veh	3.5	0.6	0.1	1.1	2.5	0.0	7.2	0.0	0.7	7.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.9	0.7	1.1	8.2	1.5	5.2	0.0	1.4	10.2	0.0	0.0
LnGrp Delay(d),s/veh	40.9	27.8	24.2	35.8	30.4	8.8	41.0	0.0	31.9	34.9	0.0	0.0
LnGrp LOS	D	C	C	D	C	A	D		C	C		
Approach Vol, veh/h		579			887			281			429	
Approach Delay, s/veh		28.7			28.6			38.8			34.9	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.8	25.9		27.3	10.8	26.9		17.0
Change Period (Y+Rc), s	* 4.2	6.0		* 4.2	6.0	5.0		5.0
Max Green Setting (Gmax), s	* 12	26.8		* 34	8.0	30.0		18.0
Max Q Clear Time (g_c+I1), s	4.2	11.9		20.8	4.2	18.2		11.4
Green Ext Time (p_c), s	0.0	2.6		2.2	1.1	3.7		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	31.2
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	1	328	9	9	288	3	14	1	20	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	550		0	530		0	0		0	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.60	0.60	0.60	0.64	0.64	0.64	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	1	469	13	15	480	5	22	2	31	0	0	0
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	485	0	0	482	0	0	748	993	242	751	997	243
Stage 1	-	-	-	-	-	-	478	478	-	513	513	-
Stage 2	-	-	-	-	-	-	270	515	-	238	484	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1074	-	-	1077	-	-	301	244	759	299	243	758
Stage 1	-	-	-	-	-	-	537	554	-	512	534	-
Stage 2	-	-	-	-	-	-	713	533	-	744	550	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1074	-	-	1077	-	-	298	240	759	282	239	758
Mov Capacity-2 Maneuver	-	-	-	-	-	-	298	240	-	282	239	-
Stage 1	-	-	-	-	-	-	537	553	-	512	527	-
Stage 2	-	-	-	-	-	-	703	526	-	711	549	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0	0.3	14.1	0
HCM LOS	A	A	B	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	452							0
HCM Control Delay (s)	14.1	8.356	0	-	8.39	0	-	0
HCM Lane VC Ratio	0.121	0.001	-	-	0.014	-	-	-
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th Percentile Queue (veh)	0.41	0.004	-	-	0.042	-	-	-

Intersection	
Intersection Delay (sec/veh):	8.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	253	116	120	88	21	202
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	400	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.81	0.81	0.81	0.81	0.85	0.85
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	312	143	148	109	25	238
Number of Lanes	1	1	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	491	203	0	0	257	0
Stage 1	203	-	-	-	-	-
Stage 2	288	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	537	838	-	-	1308	-
Stage 1	831	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	525	838	-	-	1308	-
Mov Capacity-2 Maneuver	525	-	-	-	-	-
Stage 1	831	-	-	-	-	-
Stage 2	744	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	17.9	0	0.7
HCM LOS	C	A	A

Lane	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (vph)			525	838		
HCM Control Delay (s)	-	-	21.4	10.2	7.805	-
HCM Lane VC Ratio	-	-	0.595	0.171	0.019	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th Percentile Queue (veh)	-	-	3.849	0.614	0.058	-

Intersection	
Intersection Delay (sec/veh):	70.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	59	27	57	296	58	145	32	31	158	73	205	145
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
Storage Length	0		50	200		50	200		0	200		0
Median Width		0			0			12			12	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.50	0.50	0.50	0.92	0.92	0.92	0.72	0.72	0.72	0.84	0.84	0.84
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	118	54	114	322	63	158	44	43	219	87	244	173
Number of Lanes	0	1	1	0	1	1	1	1	0	1	2	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	856	855	209	564	832	132	417	0	0	262	0	0
Stage 1	505	505	-	241	241	-	-	-	-	-	-	-
Stage 2	351	350	-	323	591	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	251	294	797	408	304	893	1138	-	-	1299	-	-
Stage 1	518	539	-	741	705	-	-	-	-	-	-	-
Stage 2	639	631	-	663	493	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	157	264	797	# 272	273	893	1138	-	-	1299	-	-
Mov Capacity-2 Maneuver	157	264	-	# 272	273	-	-	-	-	-	-	-
Stage 1	498	503	-	712	678	-	-	-	-	-	-	-
Stage 2	459	607	-	473	460	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	69.2	174.8	1.2	1.4
HCM LOS	F	F	A	A

Lane	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (vph)				180	797	272	893			
HCM Control Delay (s)	8.292	0	-	108.3	10.3	242.4	9.9	7.97	0.1	-
HCM Lane VC Ratio	0.039	-	-	0.956	0.143	1.415	0.176	0.067	-	-
HCM Lane LOS	A	A	-	F	B	F	A	A	A	-
HCM 95th Percentile Queue (veh)	0.122	-	-	7.547	0.498	20.977	0.639	0.215	-	-

Intersection	
Intersection Delay (sec/veh):	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	181	403	7	215	0	0	0	0	60	0	50
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	Yield	Yield	Yield
Storage Length	0		300	0		0	0		0	0		50
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.92	0.92	0.92	0.88	0.88	0.88
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	191	424	8	253	0	0	0	0	68	0	57
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 2		
Conflicting Flow Rate - All	-	0	0	615	0	-	672	884	127
Stage 1	-	-	-	-	-	-	269	269	-
Stage 2	-	-	-	-	-	-	403	615	-
Follow-up Headway	0	-	-	2.218	-	0	3.518	4.018	3.318
Pot Capacity-1 Maneuver	0	-	-	965	-	0	370	284	923
Stage 1	0	-	-	-	-	0	737	687	-
Stage 2	0	-	-	-	-	0	624	482	-
Time blocked-Platoon(%)	0	-	-	0	-	0	0	0	0
Mov Capacity-1 Maneuver	-	-	-	965	-	-	368	282	923
Mov Capacity-2 Maneuver	-	-	-	-	-	-	368	282	-
Stage 1	-	-	-	-	-	-	-	681	-
Stage 2	-	-	-	-	-	-	624	482	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	0.3	11.5
HCM LOS	A	A	B

Lane	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)					675
HCM Control Delay (s)	-	-	8.763	-	11.5
HCM Lane VC Ratio	-	-	0.009	-	0.185
HCM Lane LOS	-	-	A	-	B
HCM 95th Percentile Queue (veh)	-	-	0.026	-	0.675

Intersection	
Intersection Delay (sec/veh):	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	159	5	0	85	145	5
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	Free	Free
Storage Length		0	0		0	250
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.84	0.84
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	173	5	0	92	173	6
Number of Lanes	1	0	0	2	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	0	-	0	222	176
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	46	-
Follow-up Headway	-	-	0	-	3.52	3.32
Pot Capacity-1 Maneuver	-	-	0	-	746	837
Stage 1	-	-	0	-	837	-
Stage 2	-	-	0	-	971	-
Time blocked-Platoon(%)	-	-	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	746	837
Mov Capacity-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	11.2
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBT	EBR	WBT
Capacity (vph)	746	837			
HCM Control Delay (s)	11.3	9.3	-	-	-
HCM Lane VC Ratio	0.231	0.007	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th Percentile Queue (veh)	0.892	0.021	-	-	-

Intersection	
Intersection Delay (sec/veh):	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	12	189	109	90	168	19
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	160			90
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.86	0.86	0.89	0.89	0.95	0.95
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	14	220	122	101	177	20
Number of Lanes	1	0	1	1	1	1

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	532	99	197	0	0	0
Stage 1	187	-	-	-	-	-
Stage 2	345	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	508	957	1376	-	-	-
Stage 1	845	-	-	-	-	-
Stage 2	717	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	463	957	1376	-	-	-
Mov Capacity-2 Maneuver	463	-	-	-	-	-
Stage 1	845	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	10.4	4.3	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			900		
HCM Control Delay (s)	7.872	-	10.4	-	-
HCM Lane VC Ratio	0.089	-	0.26	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.293	-	1.039	-	-

Intersection	
Intersection Delay (sec/veh):	8.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	229	44	161	69	25	368
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		100	170	
Median Width	12		12			12
Grade (%)	0%		0%			0%
Peak Hour Factor	0.87	0.87	0.85	0.85	0.94	0.94
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	263	51	189	81	27	391
Number of Lanes	1	0	1	1	1	1

Major/Minor			Major 1		Major 2	
Conflicting Flow Rate - All	675	136	0	0	270	0
Stage 1	230	-	-	-	-	-
Stage 2	445	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	426	*1357	-	-	1306	-
Stage 1	840	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Time blocked-Platoon(%)	10	10	-	-	10	-
Mov Capacity-1 Maneuver	417	*1357	-	-	1306	-
Mov Capacity-2 Maneuver	417	-	-	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	633	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	26.8	0	0.5
HCM LOS	D	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			*469		
HCM Control Delay (s)	-	-	26.8	7.814	-
HCM Lane VC Ratio	-	-	0.669	0.02	-
HCM Lane LOS	-	-	D	A	-
HCM 95th Percentile Queue (veh)	-	-	4.852	0.062	-

Intersection	
Intersection Delay (sec/veh):	174.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	241	226	383	346	0	0	0	0	53	2	553
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	Free	Free	Free	None	None	None	None	None	None	Free	Free	Free
Storage Length	0		0	200		0	0		0	0		25
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.86	0.86	0.86	0.92	0.92	0.92	0.95	0.95	0.95
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	313	294	445	402	0	0	0	0	56	2	582
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	402	0	0	607	0	-			1752	1899	201
Stage 1	-	-	-	-	-	-			1292	1292	-
Stage 2	-	-	-	-	-	-			460	607	-
Follow-up Headway	2.22	-	-	2.22	-	0			3.52	4.02	3.32
Pot Capacity-1 Maneuver	1153	-	-	967	-	0			# 54	69	806
Stage 1	-	-	-	-	-	0			172	232	-
Stage 2	-	-	-	-	-	0			551	485	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	1153	-	-	967	-	-			# 35	37	806
Mov Capacity-2 Maneuver	-	-	-	-	-	-			# 35	37	-
Stage 1	-	-	-	-	-	-			172	125	-
Stage 2	-	-	-	-	-	-			551	485	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	6.2	$ 561.9
HCM LOS	A	A	F

Lane	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)						296
HCM Control Delay (s)	0	-	-	11.861	-	$ -1
HCM Lane VC Ratio	-	-	-	0.461	-	2.162
HCM Lane LOS	A	-	-	B	-	F
HCM 95th Percentile Queue (veh)	0	-	-	2.468	-	48

Intersection	
Intersection Delay (sec/veh):	9.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	143	151	0	0	567	62	162	2	139	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	Free	Free	Free	Free	Free	Free	None	None	None
Storage Length	220		0	0		0	0		25	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	146	154	0	0	616	67	182	2	156	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	0	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow Rate - All	683	0	-	154	0	0	754	1129	77
Stage 1	-	-	-	-	-	-	446	446	-
Stage 2	-	-	-	-	-	-	308	683	-
Follow-up Headway	2.22	-	0	2.22	-	-	3.52	4.02	3.32
Pot Capacity-1 Maneuver	906	-	0	1424	-	-	298	203	968
Stage 1	-	-	0	-	-	-	561	572	-
Stage 2	-	-	0	-	-	-	677	447	-
Time blocked-Platoon(%)	0	-	0	0	-	-	0	0	0
Mov Capacity-1 Maneuver	906	-	-	1424	-	-	261	170	968
Mov Capacity-2 Maneuver	-	-	-	-	-	-	261	170	-
Stage 1	-	-	-	-	-	-	471	480	-
Stage 2	-	-	-	-	-	-	677	447	-

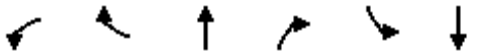
Approach	EB	WB	NB
HCM Control Delay (s)	4.7	0	34.1
HCM LOS	A	A	D

Lane	NBLn1	EBL	EBT	WBL	WBT	WBR
Capacity (vph)	449					
HCM Control Delay (s)	34.1	9.735	-	0	-	-
HCM Lane VC Ratio	0.758	0.161	-	-	-	-
HCM Lane LOS	D	A	-	A	-	-
HCM 95th Percentile Queue (veh)	6.395	0.572	-	0	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	145	145	247	85	216	382
Number	7	14	5	2	6	16
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	165	91	274	94	237	349
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.88	0.88	0.90	0.90	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	261	550	356	1162	576	489
Arrive On Green	0.15	0.15	0.20	0.62	0.31	0.31
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583
Grp Volume(v), veh/h	165	91	274	94	237	349
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583
Q Serve(g_s), s	3.1	1.4	5.1	0.7	3.5	6.8
Cycle Q Clear(g_c), s	3.1	1.4	5.1	0.7	3.5	6.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	261	550	356	1162	576	489
V/C Ratio(X)	0.63	0.17	0.77	0.08	0.41	0.71
Avail Cap(c_a), veh/h	838	1065	711	1892	933	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.0	7.9	13.2	2.6	9.6	10.7
Incr Delay (d2), s/veh	2.5	0.1	3.5	0.0	0.5	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.5	2.8	0.3	1.9	3.2
LnGrp Delay(d),s/veh	16.5	8.0	16.8	2.6	10.0	12.7
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h	256			368	586	
Approach Delay, s/veh	13.5			13.1	11.6	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		25.8		9.1	11.0	14.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		35.5		16.5	14.0	17.5		
Max Q Clear Time (g_c+I1), s		2.7		5.1	7.1	8.8		
Green Ext Time (p_c), s		3.0		0.6	0.4	2.0		

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	88	270	61	29	163	199
Number	3	18	2	12	1	6
Initial Queue, veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863
Lanes	1	1	1	0	1	1
Capacity, veh/h	232	423	757	174	242	1350
Arriving On Green	0.13	0.13	0.52	0.52	0.27	1.00
Sat Flow, veh/h	1774.0	1583.3	1466.7	336.6	1774.0	1862.7
Grp Volume(v), veh/h	104.8	166.7	0.0	93.8	194.0	236.9
Grp Sat Flow(s),veh/h/ln	1774.0	1583.3	0.0	1803.3	1774.0	1862.7
Q Serve(g_s), s	3.0	4.8	0.0	1.5	5.6	0.0
Cycle Q Clear(g_c), s	3.0	4.8	0.0	1.5	5.6	0.0
Proportion In Lane	1.000	1.000		0.187	1.000	
Lane Grp Cap(c), veh/h	231.7	422.5	0.0	930.1	241.7	1349.6
V/C Ratio(X)	0.452	0.394	0.000	0.101	0.803	0.176
Avail Cap(c_a), veh/h	546.2	703.3	0.0	930.1	514.1	1349.6
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.000	1.000	0.000	1.000	0.977	0.977
Uniform Delay (d), s/veh	22.2	16.6	0.0	6.8	19.4	0.0
Incr Delay (d2), s/veh	1.4	0.6	0.0	0.2	6.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	23.6	17.2	0.0	7.0	25.4	0.3
Lane Group LOS	C	B		A	C	A
Approach Volume, veh/h	271		94			431
Approach Delay, s/veh	19.6		7.0			11.6
Approach LOS	B		A			B

Timer					
Assigned Phase		2		1	6
Phase Duration (G+Y+Rc), s		32.48		11.52	44.00
Change Period (Y+Rc), s		4.00		4.00	4.00
Max Green Setting (Gmax), s		20.00		16.00	40.00
Max Q Clear Time (g_c+I1), s		3.47		7.62	2.00
Green Extension Time (p_c)		1.44		0.30	1.73

Intersection Summary	
HCM 2010 Control Delay	13.8
HCM 2010 Level of Service	B

Intersection	
Intersection Delay (sec/veh):	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	19	0	24	3	0	2	24	42	1	0	48	14
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.42	0.42	0.42	0.75	0.75	0.75	0.55	0.55	0.55
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	27	0	34	7	0	5	32	56	1	0	87	25
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	223	221	100	238	233	57	112	0	0	57	0	0
Stage 1	100	100	-	121	121	-	-	-	-	-	-	-
Stage 2	123	121	-	117	112	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	733	678	956	716	668	1009	1478	-	-	1547	-	-
Stage 1	906	813	-	883	796	-	-	-	-	-	-	-
Stage 2	881	796	-	888	803	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	717	663	956	679	653	1009	1478	-	-	1547	-	-
Mov Capacity-2 Maneuver	717	663	-	679	653	-	-	-	-	-	-	-
Stage 1	886	813	-	864	778	-	-	-	-	-	-	-
Stage 2	858	778	-	856	803	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	9.7	9.7	2.7	0
HCM LOS	A	A	A	A

Lane	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (vph)				833	781			
HCM Control Delay (s)	7.49	0	-	9.7	9.7	0	-	-
HCM Lane VC Ratio	0.022	-	-	0.074	0.015	-	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th Percentile Queue (veh)	0.066	-	-	0.238	0.046	0	-	-

Intersection	
Intersection Delay (sec/veh):	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	2	37	0	0	126	6	0	0	0	5	0	7
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.78	0.78	0.78	0.83	0.83	0.83	0.92	0.92	0.92	0.75	0.75	0.75
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	3	47	0	0	152	7	0	0	0	7	0	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	159	0	0	47	0	0	213	212	47	209	209	156
Stage 1	-	-	-	-	-	-	53	53	-	156	156	-
Stage 2	-	-	-	-	-	-	160	159	-	53	53	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1420	-	-	1560	-	-	744	685	1022	748	688	890
Stage 1	-	-	-	-	-	-	960	851	-	846	769	-
Stage 2	-	-	-	-	-	-	842	766	-	960	851	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1420	-	-	1560	-	-	735	684	1022	747	687	890
Mov Capacity-2 Maneuver	-	-	-	-	-	-	735	684	-	747	687	-
Stage 1	-	-	-	-	-	-	958	849	-	844	769	-
Stage 2	-	-	-	-	-	-	833	766	-	958	849	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0.4	0	0	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	0							824
HCM Control Delay (s)	0	7.54	0	-	0	-	-	9.5
HCM Lane VC Ratio	-	0.002	-	-	-	-	-	0.019
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th Percentile Queue (veh)	-	0.005	-	-	0	-	-	0.059

Intersection	
Intersection Delay (sec/veh):	5.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	66	38	27	20	53	41
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.83	0.83	0.69	0.69
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	74	43	33	24	77	59
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	258	45	0	0	57	0
Stage 1	45	-	-	-	-	-
Stage 2	213	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	731	1025	-	-	1547	-
Stage 1	977	-	-	-	-	-
Stage 2	823	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	694	1025	-	-	1547	-
Mov Capacity-2 Maneuver	694	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	781	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	10.4	0	4.2
HCM LOS	B	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			787		
HCM Control Delay (s)	-	-	10.4	7.449	-
HCM Lane VC Ratio	-	-	0.148	0.05	-
HCM Lane LOS	-	-	B	A	-
HCM 95th Percentile Queue (veh)	-	-	0.52	0.157	-

Intersection	
Intersection Delay (sec/veh):	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	13	77	42	63	100	33
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.82	0.82	0.75	0.75
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	19	115	51	77	133	44
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	334	155	177	0	0	0
Stage 1	155	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	661	891	1399	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	852	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	636	891	1399	-	-	-
Mov Capacity-2 Maneuver	636	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	820	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	10.1	3.1	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			842		
HCM Control Delay (s)	7.671	-	10.1	-	-
HCM Lane VC Ratio	0.037	-	0.16	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.114	-	0.566	-	-

Intersection	
Intersection Delay (sec/veh):	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	12	111	227	67	113	55
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	170			80	0	0
Median Width		12	12		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.94	0.94	0.90	0.90
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	15	135	241	71	126	61
Number of Lanes	1	1	1	1	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	312	0	0	0	442	157
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	165	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1248	-	-	-	573	889
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	864	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1248	-	-	-	566	889
Mov Capacity-2 Maneuver	-	-	-	-	566	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	854	-

Approach	EB	WB	SB
HCM Control Delay (s)	0.8	0	12.9
HCM LOS	A	A	B

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					642
HCM Control Delay (s)	7.919	-	-	-	12.9
HCM Lane VC Ratio	0.012	-	-	-	0.291
HCM Lane LOS	A	-	-	-	B
HCM 95th Percentile Queue (veh)	0.036	-	-	-	1.204

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	129	0	201	0	0	0	112	284	0	3	662	154
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	0	1863	0	0	0	1863	1863	0	1863	1863	1863
Lanes	1	1	1	0	1	0	2	2	0	1	2	0
Capacity, veh/h	236	0	211	0	0	0	225	2146	0	4	1543	312
Arriving On Green	0.13	0.00	0.13	0.00	0.00	0.00	0.07	0.58	0.00	0.00	0.51	0.51
Sat Flow, veh/h	1774.0	0.0	1583.3	0.0	0.0	0.0	3441.6	3725.5	0.0	1774.0	3009.0	609.0
Grp Volume(v), veh/h	144.9	0.0	127.0	0.0	0.0	0.0	127.3	322.7	0.0	3.4	465.6	438.9
Grp Sat Flow(s),veh/h/ln	1774.0	0.0	1583.3	0.0	0.0	0.0	1720.8	1862.7	0.0	1774.0	1862.7	1755.3
Q Serve(g_s), s	3.2	5.5	3.1	0.0	0.0	0.0	1.5	1.7	0.0	0.1	6.7	6.8
Cycle Q Clear(g_c), s	3.2	5.5	3.1	0.0	0.0	0.0	1.5	1.7	0.0	0.1	6.7	6.8
Proportion In Lane	1.000		1.000	0.000		0.000	1.000		0.000	1.000		0.347
Lane Grp Cap(c), veh/h	236.4	0.0	211.0	0.0	0.0	0.0	224.8	2146.0	0.0	4.3	954.9	899.8
V/C Ratio(X)	0.613	0.000	0.602	0.000	0.000	0.000	0.566	0.150	0.000	0.798	0.488	0.488
Avail Cap(c_a), veh/h	708.8	0.0	632.6	0.0	0.0	0.0	381.0	2146.0	0.0	192.1	954.9	899.8
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	0.000	1.000	0.000	0.000	0.000	1.000	1.000	0.000	1.000	1.000	1.000
Uniform Delay (d), s/veh	17.0	0.0	17.0	0.0	0.0	0.0	18.8	4.1	0.0	20.7	6.6	6.6
Incr Delay (d2), s/veh	2.6	0.0	2.7	0.0	0.0	0.0	2.2	0.1	0.0	141.2	1.8	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	19.6	0.0	19.7	0.0	0.0	0.0	21.1	4.2	0.0	161.9	8.4	8.5
Lane Group LOS	B		B				C	A		F	A	A
Approach Volume, veh/h		272			0			450			908	
Approach Delay, s/veh		19.6			0.0			9.0			9.0	
Approach LOS		B						A			A	

Timer								
Assigned Phase	4		8		5	2		1	6	
Phase Duration (G+Y+Rc), s	9.54		0.00		6.71	27.93		4.08	25.30	
Change Period (Y+Rc), s	4.00		4.00		4.00	4.00		4.00	4.00	
Max Green Setting (Gmax), s	16.60		16.50		4.60	21.40		4.50	21.30	
Max Q Clear Time (g_c+I1), s	5.20		0.00		3.49	3.67		2.08	8.75	
Green Extension Time (p_c)	0.58		0.00		0.03	6.95		0.00	5.77	

Intersection Summary	
HCM 2010 Control Delay	10.8
HCM 2010 Level of Service	B

Intersection	
Intersection Delay (sec/veh):	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	26	690	808	4	9	64
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	90			0	0	0
Median Width		24	24		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.91	0.91	0.70	0.70
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	31	831	888	4	13	91
Number of Lanes	1	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	892	0	0	0	1368	446
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	478	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	756	-	-	-	138	560
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	590	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	756	-	-	-	132	560
Mov Capacity-2 Maneuver	-	-	-	-	132	-
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	566	-

Approach	EB	WB	SB
HCM Control Delay (s)	0.4	0	17.1
HCM LOS	A	A	C

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					400
HCM Control Delay (s)	9.968	-	-	-	17.1
HCM Lane VC Ratio	0.041	-	-	-	0.261
HCM Lane LOS	A	-	-	-	C
HCM 95th Percentile Queue (veh)	0.129	-	-	-	1.029

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	343	318	37	16	332	143	24	13	17	195	25	466
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Lanes	2	1	1	1	2	0	0	1	0	0	1	2
Capacity, veh/h	452	599	509	25	595	140	229	124	76	300	38	529
Arriving On Green	0.13	0.32	0.32	0.01	0.20	0.20	0.24	0.24	0.24	0.19	0.19	0.19
Sat Flow, veh/h	3441.6	1583.3	1583.3	1774.0	2915.6	688.4	939.0	508.6	313.0	1581.0	202.7	2786.7
Grp Volume(v), veh/h	372.8	345.7	10.9	21.6	285.4	270.0	60.0	0.0	0.0	268.3	0.0	324.4
Grp Sat Flow(s),veh/h/ln	1720.8	1862.7	1583.3	1774.0	1862.7	1741.3	1760.6	0.0	0.0	1783.7	0.0	1393.3
Q Serve(g_s), s	7.3	10.7	0.3	0.8	10.0	10.1	1.8	0.0	0.0	9.9	0.0	7.4
Cycle Q Clear(g_c), s	7.3	10.7	0.3	0.8	10.0	10.1	1.8	0.0	0.0	9.9	0.0	7.4
Proportion In Lane	1.000		1.000	1.000		0.395	0.533		0.178	0.886		1.000
Lane Grp Cap(c), veh/h	452.2	598.6	508.8	24.8	379.9	355.1	429.6	0.0	0.0	338.4	0.0	528.6
V/C Ratio(X)	0.825	0.577	0.021	0.872	0.751	0.760	0.140	0.000	0.000	0.793	0.000	0.614
Avail Cap(c_a), veh/h	452.2	598.6	508.8	115.3	443.7	414.8	429.6	0.0	0.0	424.9	0.0	663.8
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	1.000	0.000	1.000
Uniform Delay (d), s/veh	29.3	19.6	16.1	34.1	25.9	26.0	20.5	0.0	0.0	26.8	0.0	25.7
Incr Delay (d2), s/veh	11.8	1.4	0.0	54.8	6.0	6.8	0.7	0.0	0.0	7.9	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	41.1	21.0	16.1	88.8	31.9	32.8	21.2	0.0	0.0	34.7	0.0	26.9
Lane Group LOS	D	C	B	F	C	C	C			C		C
Approach Volume, veh/h		729			577			60			593	
Approach Delay, s/veh		31.2			34.5			21.2			30.4	
Approach LOS		C			C			C			C	

Timer												
Assigned Phase	7	4		3	8			2			6	
Phase Duration (G+Y+Rc), s	13.10	26.26		4.97	18.13			20.90			17.14	
Change Period (Y+Rc), s	4.00	4.00		4.00	4.00			4.00			4.00	
Max Green Setting (Gmax), s	9.10	21.10		4.50	16.50			16.90			16.50	
Max Q Clear Time (g_c+I1), s	9.31	12.71		2.84	12.12			3.85			11.94	
Green Extension Time (p_c)	0.00	3.23		0.00	2.01			0.17			1.20	

Intersection Summary	
HCM 2010 Control Delay	31.6
HCM 2010 Level of Service	C

Intersection	
Intersection Delay (sec/veh)	6.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	291	388	72	126
Demand Flow Rate (pc/h)	297	396	73	128
Vehicles Circulating (pc/h)	13	109	280	452
Vehicles Exiting (pc/h)	567	244	30	53
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	5.8	7.9	5.1	7.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	297	396	73	128
Capacity, Entry Lane (pc/h)	1115	1013	854	719
Entry HV Adjustment Factor	0.981	0.981	0.984	0.984
Flow Rate, Entry (vph)	291	388	72	126
Capacity, Entry (vph)	1094	994	841	707
Volume to Capacity Ratio	0.266	0.391	0.085	0.178
Control Delay (sec/veh)	5.8	7.9	5.1	7.1
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	1	2	0	1

Intersection	
Intersection Delay (sec/veh)	5.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	38	114	280	230
Demand Flow Rate (pc/h)	38	116	285	234
Vehicles Circulating (pc/h)	234	302	73	27
Vehicles Exiting (pc/h)	27	56	199	391
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	4.4	5.8	6.1	5.3
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	38	116	285	234
Capacity, Entry Lane (pc/h)	894	835	1050	1100
Entry HV Adjustment Factor	0.997	0.982	0.981	0.981
Flow Rate, Entry (vph)	38	114	280	230
Capacity, Entry (vph)	892	820	1031	1079
Volume to Capacity Ratio	0.042	0.139	0.271	0.213
Control Delay (sec/veh)	4.4	5.8	6.1	5.3
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	1	1

Intersection	
Intersection Delay (sec/veh)	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	0	0	6	110	5	90	20	0	0	10	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	0	0	7	120	5	98	22	0	0	11	27
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.1	8.2	7.1
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Volume Left (%)	82%	5%	0%
Volume Thru (%)	18%	91%	29%
Volume Right (%)	0%	4%	71%
Sign Control	Stop	Stop	Stop
Traffic Volume by Lane	110	121	35
Left Turning Volume	20	110	10
Through Volume	0	5	25
Right Turning Volume	90	6	0
Lane Flow Rate	120	132	38
Geometry Group	1	1	1
Degree of Utilization, X	0.145	0.153	0.042
Departure Headway, Hd	4.359	4.19	3.936
Convergence(Y/N)	Yes	Yes	Yes
Capacity	813	843	915
Service Time	2.438	2.28	1.936
HCM Lane V/C Ratio	0.148	0.157	0.042
HCM Control Delay	8.2	8.1	7.1
HCM Lane LOS	A	A	A
HCM 95th Percentile Queue	0.5	0.5	0.1

Intersection	
Intersection Delay (sec/veh)	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	20	50	40	0	0	0	0	90	6	10	9	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	22	54	43	0	0	0	0	98	7	11	10	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.6	7.7	7.5
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Volume Left (%)	0%	18%	53%
Volume Thru (%)	94%	45%	47%
Volume Right (%)	6%	36%	0%
Sign Control	Stop	Stop	Stop
Traffic Volume by Lane	96	110	19
Left Turning Volume	90	50	9
Through Volume	6	40	0
Right Turning Volume	0	20	10
Lane Flow Rate	104	120	21
Geometry Group	1	1	1
Degree of Utilization, X	0.119	0.132	0.025
Departure Headway, Hd	4.121	3.968	4.33
Convergence(Y/N)	Yes	Yes	Yes
Capacity	863	894	817
Service Time	2.179	2.031	2.406
HCM Lane V/C Ratio	0.121	0.134	0.026
HCM Control Delay	7.7	7.6	7.5
HCM Lane LOS	A	A	A
HCM 95th Percentile Queue	0.4	0.5	0.1

Intersection	
Intersection Delay (sec/veh):	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	5	24	21	5	17	5
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	5	26	23	5	18	5
Number of Lanes	0	1	1	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	28	0	0	0	62	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	36	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1585	-	-	-	944	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	986	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1585	-	-	-	941	1050
Mov Capacity-2 Maneuver	-	-	-	-	941	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	983	-

Approach	EB	WB	SB
HCM Control Delay (s)	1.3	0	8.8
HCM LOS	A	A	A

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					964
HCM Control Delay (s)	7.279	-	-	-	8.8
HCM Lane VC Ratio	0.003	-	-	-	0.025
HCM Lane LOS	A	-	-	-	A
HCM 95th Percentile Queue (veh)	0.01	-	-	-	0.076

Intersection	
Intersection Delay (sec/veh)	3.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	50	68	0	28
Demand Flow Rate (pc/h)	51	70	0	28
Vehicles Circulating (pc/h)	23	5	74	29
Vehicles Exiting (pc/h)	34	69	0	46
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	3.7	3.8	0.0	3.5
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	51	70	0	28
Capacity, Entry Lane (pc/h)	1104	1124	1049	1098
Entry HV Adjustment Factor	0.982	0.978	1.000	1.000
Flow Rate, Entry (vph)	50	68	0	28
Capacity, Entry (vph)	1085	1099	1049	1098
Volume to Capacity Ratio	0.046	0.062	0.000	0.026
Control Delay (sec/veh)	3.7	3.8	3.4	3.5
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	408	1	190	6	379	881	319	380	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	0	0	434	1	112	7	412	849	347	413	5
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	1	1	0
Peak Hour Factor	0.25	0.25	0.25	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1	0	298	1	267	12	286	589	299	1282	16
Arrive On Green	0.00	0.00	0.00	0.17	0.17	0.17	0.01	0.53	0.53	0.17	0.70	0.70
Sat Flow, veh/h	0	1863	0	1770	4	1583	1774	544	1121	1774	1837	22
Grp Volume(v), veh/h	0	0	0	435	0	112	7	0	1261	347	0	418
Grp Sat Flow(s),veh/h/ln	0	1863	0	1774	0	1583	1774	0	1665	1774	0	1859
Q Serve(g_s), s	0.0	0.0	0.0	23.4	0.0	8.8	0.5	0.0	73.0	23.4	0.0	12.2
Cycle Q Clear(g_c), s	0.0	0.0	0.0	23.4	0.0	8.8	0.5	0.0	73.0	23.4	0.0	12.2
Prop In Lane	0.00		0.00	1.00		1.00	1.00		0.67	1.00		0.01
Lane Grp Cap(c), veh/h	0	1	0	299	0	267	12	0	874	299	0	1298
V/C Ratio(X)	0.00	0.00	0.00	1.46	0.00	0.42	0.58	0.00	1.44	1.16	0.00	0.32
Avail Cap(c_a), veh/h	0	94	0	299	0	267	51	0	874	299	0	1298
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	57.8	0.0	51.7	68.8	0.0	33.0	57.8	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	223.1	0.0	1.1	37.0	0.0	205.5	103.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	30.0	0.0	3.9	0.4	0.0	83.2	20.0	0.0	6.2
LnGrp Delay(d),s/veh	0.0	0.0	0.0	280.9	0.0	52.8	105.8	0.0	238.5	161.1	0.0	8.3
LnGrp LOS				F		D	F		F	F		A
Approach Vol, veh/h		0			547			1268			765	
Approach Delay, s/veh		0.0			234.2			237.7			77.6	
Approach LOS					F			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	29.0	81.0		0.0	4.9	105.1		29.0
Change Period (Y+Rc), s	5.6	8.0		4.0	4.0	* 8		5.6
Max Green Setting (Gmax), s	23.4	73.0		7.0	4.0	* 94		23.4
Max Q Clear Time (g_c+I1), s	25.4	75.0		0.0	2.5	14.2		25.4
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	28.2		0.0

Intersection Summary		
HCM 2010 Ctrl Delay		189.5
HCM 2010 LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	68	75	185	62	348	97	986	204	375	696	15
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	3	78	80	128	153	297	102	1038	173	383	710	10
Adj No. of Lanes	0	2	0	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.87	0.87	0.87	0.97	0.97	0.97	0.95	0.95	0.95	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	9	233	206	381	400	340	196	1512	471	477	1683	24
Arrive On Green	0.13	0.13	0.13	0.21	0.21	0.21	0.11	0.30	0.30	0.14	0.33	0.33
Sat Flow, veh/h	69	1790	1583	1774	1863	1583	1774	5085	1583	3442	5167	73
Grp Volume(v), veh/h	81	0	80	128	153	297	102	1038	173	383	466	254
Grp Sat Flow(s),veh/h/ln	1859	0	1583	1774	1863	1583	1774	1695	1583	1721	1695	1850
Q Serve(g_s), s	3.6	0.0	4.2	5.5	6.4	16.4	4.9	16.3	7.8	9.8	9.7	9.8
Cycle Q Clear(g_c), s	3.6	0.0	4.2	5.5	6.4	16.4	4.9	16.3	7.8	9.8	9.7	9.8
Prop In Lane	0.04		1.00	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	242	0	206	381	400	340	196	1512	471	477	1104	603
V/C Ratio(X)	0.34	0.00	0.39	0.34	0.38	0.87	0.52	0.69	0.37	0.80	0.42	0.42
Avail Cap(c_a), veh/h	328	0	279	452	475	403	313	1783	555	729	1308	714
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	0.0	36.1	30.2	30.5	34.4	38.1	28.1	25.1	37.9	23.9	23.9
Incr Delay (d2), s/veh	0.8	0.0	1.2	0.5	0.6	16.7	2.1	0.9	0.5	3.8	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	1.9	2.8	3.3	8.8	2.5	7.7	3.5	4.9	4.6	5.0
LnGrp Delay(d),s/veh	36.7	0.0	37.3	30.7	31.1	51.2	40.2	29.0	25.6	41.6	24.1	24.4
LnGrp LOS	D		D	C	C	D	D	C	C	D	C	C
Approach Vol, veh/h		161			578			1313			1103	
Approach Delay, s/veh		37.0			41.3			29.4			30.3	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.2	36.0		24.1	16.8	33.5		16.4
Change Period (Y+Rc), s	* 4.2	6.5		4.6	* 4.2	6.5		4.6
Max Green Setting (Gmax), s	* 16	35.0		23.1	* 19	31.8		16.0
Max Q Clear Time (g_c+I1), s	6.9	11.8		18.4	11.8	18.3		6.2
Green Ext Time (p_c), s	0.1	12.2		1.0	0.8	8.6		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	32.3
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	97	66	73	65	87	314	47	1087	71	195	823	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	101	69	71	80	107	314	49	1144	64	199	840	34
Adj No. of Lanes	2	1	1	1	1	1	1	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.81	0.81	0.81	0.95	0.95	0.95	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	404	344	215	412	350	133	1598	497	348	1587	494
Arrive On Green	0.12	0.22	0.22	0.12	0.22	0.22	0.07	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	3442	1863	1583	1774	1863	1583	1774	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	101	69	71	80	107	314	49	1144	64	199	840	34
Grp Sat Flow(s),veh/h/ln	1721	1863	1583	1774	1863	1583	1774	1695	1583	1721	1695	1583
Q Serve(g_s), s	2.6	3.0	3.6	4.1	4.7	19.1	2.6	19.7	2.9	5.5	13.5	1.5
Cycle Q Clear(g_c), s	2.6	3.0	3.6	4.1	4.7	19.1	2.6	19.7	2.9	5.5	13.5	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	417	404	344	215	412	350	133	1598	497	348	1587	494
V/C Ratio(X)	0.24	0.17	0.21	0.37	0.26	0.90	0.37	0.72	0.13	0.57	0.53	0.07
Avail Cap(c_a), veh/h	515	459	390	258	459	390	179	1798	560	410	1747	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	31.5	31.8	40.0	31.9	37.5	43.6	30.0	24.3	42.4	28.0	23.9
Incr Delay (d2), s/veh	0.3	0.2	0.3	1.1	0.3	21.3	1.7	1.2	0.1	1.5	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.6	1.6	2.1	2.4	10.4	1.3	9.4	1.3	2.7	6.3	0.7
LnGrp Delay(d),s/veh	39.7	31.7	32.1	41.1	32.2	58.7	45.3	31.2	24.4	43.9	28.3	24.0
LnGrp LOS	D	C	C	D	C	E	D	C	C	D	C	C
Approach Vol, veh/h		241			501			1257			1073	
Approach Delay, s/veh		35.1			50.2			31.4			31.1	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	39.1	17.6	27.1	15.4	38.9	17.2	27.5
Change Period (Y+Rc), s	* 5.2	8.0	5.6	* 5.6	8.0	* 8	* 5.2	5.6
Max Green Setting (Gmax), s	* 12	35.0	14.4	* 24	10.0	* 34	* 15	24.4
Max Q Clear Time (g_c+I1), s	7.5	21.7	6.1	5.6	4.6	15.5	4.6	21.1
Green Ext Time (p_c), s	0.2	9.4	0.1	2.2	0.0	11.9	0.2	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	34.7
HCM 2010 LOS	C

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	233	0	0	270	105	124
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	Free	Free	Free	Free	Free	Free
Storage Length		0	0		0	0
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.95	0.95	0.93	0.93
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	265	0	0	284	113	133
Number of Lanes	1	0	1	1	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	265	0	549	265
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	284	-
Follow-up Headway	-	0	2.218	-	3.518	3.318
Pot Capacity-1 Maneuver	-	0	1299	-	497	774
Stage 1	-	0	-	-	779	-
Stage 2	-	0	-	-	764	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	1299	-	497	774
Mov Capacity-2 Maneuver	-	-	-	-	497	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	764	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	12.3
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBT	WBL	WBT
Capacity (vph)	497	774			
HCM Control Delay (s)	14.4	10.6	-	0	-
HCM Lane VC Ratio	0.227	0.172	-	-	-
HCM Lane LOS	B	B	-	A	-
HCM 95th Percentile Queue (veh)	0.866	0.62	-	0	-

Intersection	
Intersection Delay (sec/veh):	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	129	285	243	5	3	127
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.83	0.83	0.83	0.83
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	140	310	293	6	4	153
Number of Lanes	0	1	1	0	1	1

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	299	0	0	0	886	296
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	590	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1262	-	-	-	315	743
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	554	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1262	-	-	-	273	743
Mov Capacity-2 Maneuver	-	-	-	-	273	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	480	-

Approach	EB	WB	SB
HCM Control Delay (s)	2.6	0	11.3
HCM LOS	A	A	B

Lane	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (vph)					273	743
HCM Control Delay (s)	8.209	-	-	-	18.4	11.1
HCM Lane VC Ratio	0.111	-	-	-	0.013	0.206
HCM Lane LOS	A	-	-	-	C	B
HCM 95th Percentile Queue (veh)	0.374	-	-	-	0.04	0.77

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	54	763	75	73	592	198	70	144	76	206	85	56
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	59	838	77	78	630	168	85	176	87	242	100	60
Adj No. of Lanes	1	2	1	1	2	1	0	1	1	0	1	0
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.82	0.82	0.82	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	996	445	161	963	823	96	199	255	263	109	65
Arrive On Green	0.10	0.28	0.28	0.09	0.27	0.27	0.16	0.16	0.16	0.25	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	1774	3539	1583	597	1236	1583	1061	439	263
Grp Volume(v), veh/h	59	838	77	78	630	168	261	0	87	402	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1583	1833	0	1583	1763	0	0
Q Serve(g_s), s	3.4	24.6	4.1	4.6	17.4	6.3	15.4	0.0	5.4	24.5	0.0	0.0
Cycle Q Clear(g_c), s	3.4	24.6	4.1	4.6	17.4	6.3	15.4	0.0	5.4	24.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.33		1.00	0.60		0.15
Lane Grp Cap(c), veh/h	177	996	445	161	963	823	295	0	255	437	0	0
V/C Ratio(X)	0.33	0.84	0.17	0.49	0.65	0.20	0.88	0.00	0.34	0.92	0.00	0.00
Avail Cap(c_a), veh/h	190	1059	474	206	1091	880	332	0	287	479	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.3	37.3	30.0	47.7	35.6	14.2	45.3	0.0	41.1	40.4	0.0	0.0
Incr Delay (d2), s/veh	1.1	6.0	0.2	2.3	1.2	0.1	21.8	0.0	0.8	22.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	12.8	1.8	2.4	8.6	4.2	9.5	0.0	2.4	14.6	0.0	0.0
LnGrp Delay(d),s/veh	47.4	43.3	30.1	50.0	36.7	14.3	67.0	0.0	41.9	62.5	0.0	0.0
LnGrp LOS	D	D	C	D	D	B	E		D	E		
Approach Vol, veh/h		974			876			348			402	
Approach Delay, s/veh		42.5			33.6			60.8			62.5	
Approach LOS		D			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.2	37.0		23.8	15.2	38.0		33.3
Change Period (Y+Rc), s	* 5.2	7.0		6.0	* 5.2	7.0		6.0
Max Green Setting (Gmax), s	* 12	34.0		20.0	* 13	33.0		30.0
Max Q Clear Time (g_c+I1), s	5.4	19.4		17.4	6.6	26.6		26.5
Green Ext Time (p_c), s	0.0	8.2		0.4	0.1	4.4		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	45.0
HCM 2010 LOS	D

Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay (sec/veh):	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	356	27	20	445	7	14	1	13	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	550		0	530		0	0		0	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.70	0.70	0.70	0.60	0.60	0.60	0.60	0.60	0.60	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	509	39	33	742	12	23	2	22	0	0	0
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	754	0	0	548	0	0	966	1349	275	1070	1362	377
Stage 1	-	-	-	-	-	-	529	529	-	814	814	-
Stage 2	-	-	-	-	-	-	437	820	-	256	548	-
Follow-up Headway	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Capacity-1 Maneuver	852	-	-	1018	-	-	209	150	722	175	147	621
Stage 1	-	-	-	-	-	-	501	526	-	338	390	-
Stage 2	-	-	-	-	-	-	568	387	-	726	515	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	852	-	-	1018	-	-	204	145	722	164	142	621
Mov Capacity-2 Maneuver	-	-	-	-	-	-	204	145	-	164	142	-
Stage 1	-	-	-	-	-	-	501	526	-	338	377	-
Stage 2	-	-	-	-	-	-	550	374	-	702	515	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0	0.5	19.3	0
HCM LOS	A	A	C	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	299							0
HCM Control Delay (s)	19.3	0	-	-	8.656	0.1	-	0
HCM Lane VC Ratio	0.156	-	-	-	0.033	-	-	-
HCM Lane LOS	C	A	-	-	A	A	-	A
HCM 95th Percentile Queue (veh)	0.545	0	-	-	0.101	-	-	-

Intersection	
Intersection Delay (sec/veh):	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	118	71	212	170	87	166
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	400	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.78	0.78	0.88	0.88	0.80	0.80
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	151	91	241	193	109	207
Number of Lanes	1	1	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	764	338	0	0	434	0
Stage 1	338	-	-	-	-	-
Stage 2	426	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	372	704	-	-	1126	-
Stage 1	722	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	331	704	-	-	1126	-
Mov Capacity-2 Maneuver	331	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	19.5	0	2.9
HCM LOS	C	A	A

Lane	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (vph)			331	704		
HCM Control Delay (s)	-	-	24.7	10.9	8.539	-
HCM Lane VC Ratio	-	-	0.457	0.129	0.097	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th Percentile Queue (veh)	-	-	2.292	0.443	0.32	-

Intersection	
Intersection Delay (sec/veh):	188.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	49	61	37	223	40	114	72	205	375	184	60	22
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	Free	Free	Free	Free	Free	Free	None	None	None	None	None	None
Storage Length	0		50	200		50	200		0	200		0
Median Width		0			0			12			12	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	53	66	40	235	42	120	76	216	395	200	65	24
Number of Lanes	0	1	1	0	1	1	1	1	0	1	2	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	1124	1240	45	1032	1055	306	89	0	0	611	0	0
Stage 1	477	477	-	566	566	-	-	-	-	-	-	-
Stage 2	647	763	-	466	489	-	-	-	-	-	-	-
Follow-up Headway	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Capacity-1 Maneuver	160	174	1015	# 187	224	690	1504	-	-	964	-	-
Stage 1	538	554	-	476	506	-	-	-	-	-	-	-
Stage 2	426	411	-	546	548	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	87	131	1015	# 89	169	690	1504	-	-	964	-	-
Mov Capacity-2 Maneuver	87	131	-	# 89	169	-	-	-	-	-	-	-
Stage 1	511	439	-	452	480	-	-	-	-	-	-	-
Stage 2	305	390	-	353	434	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	150.2	$ 662.1	0.8	6.7
HCM LOS	F	F	A	A

Lane	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (vph)				107	1015	96	690			
HCM Control Delay (s)	7.521	0	-	197.8	8.7	$ 944.2	11.3	9.709	0.1	-
HCM Lane VC Ratio	0.05	-	-	1.117	0.04	2.884	0.174	0.207	-	-
HCM Lane LOS	A	A	-	F	A	F	B	A	A	-
HCM 95th Percentile Queue (veh)	0.159	-	-	7.527	0.124	26.52	0.626	0.779	-	-

Intersection	
Intersection Delay (sec/veh):	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	108	235	4	554	0	0	0	0	72	0	99
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	Yield	Yield	Yield
Storage Length	0		300	0		0	0		0	0		50
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.84	0.84	0.84	0.93	0.93	0.93	0.92	0.92	0.92	0.81	0.81	0.81
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	129	280	4	596	0	0	0	0	89	0	122
Number of Lanes	0	1	1	1	1	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	-	0	0	409	0	-			873	1013	298
Stage 1	-	-	-	-	-	-			604	604	-
Stage 2	-	-	-	-	-	-			269	409	-
Follow-up Headway	0	-	-	2.218	-	0			3.518	4.018	3.318
Pot Capacity-1 Maneuver	0	-	-	1150	-	0			271	239	741
Stage 1	0	-	-	-	-	0			485	488	-
Stage 2	0	-	-	-	-	0			737	596	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	-	-	-	1150	-	-			270	238	741
Mov Capacity-2 Maneuver	-	-	-	-	-	-			270	238	-
Stage 1	-	-	-	-	-	-			-	486	-
Stage 2	-	-	-	-	-	-			737	596	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	0.1	13.4
HCM LOS	A	A	B

Lane	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)					641
HCM Control Delay (s)	-	-	8.142	-	13.4
HCM Lane VC Ratio	-	-	0.004	-	0.329
HCM Lane LOS	-	-	A	-	B
HCM 95th Percentile Queue (veh)	-	-	0.011	-	1.435

Intersection	
Intersection Delay (sec/veh):	9.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	120	0	0	259	362	17
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	Free	Free
Storage Length		0	0		0	250
Median Width	0			0	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.80	0.80	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	143	0	0	324	421	20
Number of Lanes	1	0	0	2	1	1

Major/Minor	Major 1			Major 2		
Conflicting Flow Rate - All	0	-	-	0	305	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	162	-
Follow-up Headway	-	0	0	-	3.52	3.32
Pot Capacity-1 Maneuver	-	0	0	-	663	879
Stage 1	-	0	0	-	869	-
Stage 2	-	0	0	-	850	-
Time blocked-Platoon(%)	-	0	0	-	0	0
Mov Capacity-1 Maneuver	-	-	-	-	663	879
Mov Capacity-2 Maneuver	-	-	-	-	663	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	850	-

Approach	EB	WB	NB
HCM Control Delay (s)	0	0	18.9
HCM LOS	A	A	C

Lane	NBLn1	NBLn2	EBT	WBT
Capacity (vph)	663	879		
HCM Control Delay (s)	19.4	9.2	-	-
HCM Lane VC Ratio	0.635	0.022	-	-
HCM Lane LOS	C	A	-	-
HCM 95th Percentile Queue (veh)	4.537	0.069	-	-

Intersection	
Intersection Delay (sec/veh):	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	28	154	179	214	133	17
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	160			90
Median Width	12			12	12	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.93	0.93	0.96	0.96
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	34	186	192	230	139	18
Number of Lanes	1	0	1	1	1	1

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	762	79	157	0	0	0
Stage 1	148	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	373	981	1423	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	323	981	1423	-	-	-
Mov Capacity-2 Maneuver	323	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	11.8	3.6	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			747		
HCM Control Delay (s)	7.925	-	11.8	-	-
HCM Lane VC Ratio	0.135	-	0.294	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.468	-	1.224	-	-

Intersection	
Intersection Delay (sec/veh):	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	130	33	429	226	41	196
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		100	170	
Median Width	12		12			12
Grade (%)	0%		0%			0%
Peak Hour Factor	0.85	0.85	0.89	0.89	0.90	0.90
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	153	39	482	254	46	218
Number of Lanes	1	0	1	1	1	1

Major/Minor			Major 1		Major 2	
Conflicting Flow Rate - All	919	368	0	0	736	0
Stage 1	609	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	301	677	-	-	870	-
Stage 1	543	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	285	677	-	-	870	-
Mov Capacity-2 Maneuver	285	-	-	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	705	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	31.2	0	1.6
HCM LOS	D	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			323		
HCM Control Delay (s)	-	-	31.2	9.366	-
HCM Lane VC Ratio	-	-	0.594	0.052	-
HCM Lane LOS	-	-	D	A	-
HCM 95th Percentile Queue (veh)	-	-	3.596	0.166	-

Intersection	
Intersection Delay (sec/veh):	33.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	789	323	212	343	0	0	0	0	42	1	179
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	Free	Free	Free	None	None	None	None	None	None	Free	Free	Free
Storage Length	0		0	200		0	0		0	0		25
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.94	0.94	0.94	0.97	0.97	0.97	0.92	0.92	0.92	0.96	0.96	0.96
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	839	344	219	354	0	0	0	0	44	1	186
Number of Lanes	0	1	0	1	2	0	0	0	0	0	1	0

Major/Minor	Major 1			Major 2					Minor 2		
Conflicting Flow Rate - All	354	0	0	1183	0	-			1803	1975	177
Stage 1	-	-	-	-	-	-			792	792	-
Stage 2	-	-	-	-	-	-			1011	1183	-
Follow-up Headway	2.22	-	-	2.22	-	0			3.52	4.02	3.32
Pot Capacity-1 Maneuver	1201	-	-	586	-	0			50	61	835
Stage 1	-	-	-	-	-	0			349	399	-
Stage 2	-	-	-	-	-	0			257	261	-
Time blocked-Platoon(%)	0	-	-	0	-	0			0	0	0
Mov Capacity-1 Maneuver	1201	-	-	586	-	-			# 35	38	835
Mov Capacity-2 Maneuver	-	-	-	-	-	-			# 35	38	-
Stage 1	-	-	-	-	-	-			349	250	-
Stage 2	-	-	-	-	-	-			257	261	-

Approach	EB	WB	SB
HCM Control Delay (s)	0	5.6	272.9
HCM LOS	A	A	F

Lane	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (vph)						163
HCM Control Delay (s)	0	-	-	14.751	-	272.9
HCM Lane VC Ratio	-	-	-	0.373	-	1.419
HCM Lane LOS	A	-	-	B	-	F
HCM 95th Percentile Queue (veh)	0	-	-	1.72	-	14.508

Intersection	
Intersection Delay (sec/veh):	$ 738

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	567	264	0	0	365	72	190	1	444	0	0	0
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	Free	Free	Free	Free	Free	Free	None	None	None
Storage Length	220		0	0		0	0		25	0		0
Median Width		12			12			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.95	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	585	272	0	0	376	74	200	1	467	0	0	0
Number of Lanes	1	2	0	0	2	0	0	1	0	0	0	0

Major/Minor	Major 1			Major 2			Minor 1		
Conflicting Flow Rate - All	450	0	-	272	0	0	1630	1892	136
Stage 1	-	-	-	-	-	-	1442	1442	-
Stage 2	-	-	-	-	-	-	188	450	-
Follow-up Headway	2.22	-	0	2.22	-	-	3.52	4.02	3.32
Pot Capacity-1 Maneuver	1107	-	0	1288	-	-	# 67	69	888
Stage 1	-	-	0	-	-	-	# 139	196	-
Stage 2	-	-	0	-	-	-	796	570	-
Time blocked-Platoon(%)	0	-	0	0	-	-	0	0	0
Mov Capacity-1 Maneuver	1107	-	-	1288	-	-	# 39	33	888
Mov Capacity-2 Maneuver	-	-	-	-	-	-	# 39	33	-
Stage 1	-	-	-	-	-	-	# 66	92	-
Stage 2	-	-	-	-	-	-	796	570	-

Approach	EB	WB	NB
HCM Control Delay (s)	8.1	0	$ 2171
HCM LOS	A	A	F

Lane	NBLn1	EBL	EBT	WBL	WBT	WBR
Capacity (vph)	118					
HCM Control Delay (s)	$ 2171	11.83	-	0	-	-
HCM Lane VC Ratio	5.665	0.528	-	-	-	-
HCM Lane LOS	F	B	-	A	-	-
HCM 95th Percentile Queue (veh)	72.271	3.2	-	0	-	-

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	444	264	217	211	106	220
Number	7	14	1	6	2	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	462	207	244	237	122	178
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.96	0.96	0.89	0.89	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	559	803	309	881	359	305
Arrive On Green	0.31	0.31	0.17	0.47	0.19	0.19
Sat Flow, veh/h	1774	1583	1774	1863	1863	1583
Grp Volume(v), veh/h	462	207	244	237	122	178
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1863	1863	1583
Q Serve(g_s), s	10.2	3.1	5.6	3.3	2.4	4.3
Cycle Q Clear(g_c), s	10.2	3.1	5.6	3.3	2.4	4.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	559	803	309	881	359	305
V/C Ratio(X)	0.83	0.26	0.79	0.27	0.34	0.58
Avail Cap(c_a), veh/h	724	950	489	1480	768	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	5.9	16.8	6.8	14.8	15.6
Incr Delay (d2), s/veh	6.2	0.2	4.5	0.2	0.6	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	1.9	3.1	1.7	1.3	2.0
LnGrp Delay(d),s/veh	19.6	6.1	21.3	6.9	15.4	17.4
LnGrp LOS	B	A	C	A	B	B
Approach Vol, veh/h	669			481	300	
Approach Delay, s/veh	15.4			14.2	16.5	
Approach LOS	B			B	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	11.9	12.7		17.9		24.6		
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		
Max Green Setting (Gmax), s	11.7	17.5		17.3		33.7		
Max Q Clear Time (g_c+I1), s	7.6	6.3		12.2		5.3		
Green Ext Time (p_c), s	0.3	1.8		1.1		2.4		

Intersection Summary	
HCM 2010 Ctrl Delay	15.3
HCM 2010 LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	41	223	205	92	270	100
Number	3	18	2	12	1	6
Initial Queue, veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863
Lanes	1	1	1	0	1	1
Capacity, veh/h	145	464	599	213	375	1399
Arriving On Green	0.08	0.08	0.46	0.46	0.21	0.75
Sat Flow, veh/h	1774.0	1583.3	1312.8	467.5	1774.0	1862.7
Grp Volume(v), veh/h	41.8	105.1	0.0	327.1	310.3	114.9
Grp Sat Flow(s),veh/h/ln	1774.0	1583.3	0.0	1780.2	1774.0	1862.7
Q Serve(g_s), s	1.2	2.7	0.0	6.6	9.0	0.9
Cycle Q Clear(g_c), s	1.2	2.7	0.0	6.6	9.0	0.9
Proportion In Lane	1.000	1.000		0.263	1.000	
Lane Grp Cap(c), veh/h	145.5	464.5	0.0	812.3	374.9	1399.1
V/C Ratio(X)	0.288	0.226	0.000	0.403	0.828	0.082
Avail Cap(c_a), veh/h	510.0	789.7	0.0	812.3	575.8	1399.1
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	0.000	1.000	1.000	1.000
Uniform Delay (d), s/veh	23.3	14.4	0.0	9.8	20.3	1.8
Incr Delay (d2), s/veh	1.1	0.2	0.0	1.5	5.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	24.3	14.7	0.0	11.2	26.3	1.9
Lane Group LOS	C	B		B	C	A
Approach Volume, veh/h	147		327			425
Approach Delay, s/veh	17.4		11.2			19.7
Approach LOS	B		B			B

Timer					
Assigned Phase		2		1	6
Phase Duration (G+Y+Rc), s		29.10		15.90	45.00
Change Period (Y+Rc), s		4.50		4.50	4.50
Max Green Setting (Gmax), s		18.50		17.50	40.50
Max Q Clear Time (g_c+I1), s		8.60		11.02	2.88
Green Extension Time (p_c)		1.63		0.49	2.46

Intersection Summary	
HCM 2010 Control Delay	16.2
HCM 2010 Level of Service	B

Intersection	
Intersection Delay (sec/veh):	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	16	2	35	0	2	1	40	74	1	1	44	24
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.46	0.46	0.46	0.75	0.75	0.75	0.75	0.75	0.75	0.79	0.79	0.79
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	35	4	76	0	3	1	53	99	1	1	56	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Minor 2			Minor 1			Major 1			Major 2		
Conflicting Flow Rate - All	281	279	71	319	294	100	86	0	0	100	0	0
Stage 1	73	73	-	206	206	-	-	-	-	-	-	-
Stage 2	208	206	-	113	88	-	-	-	-	-	-	-
Follow-up Headway	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Capacity-1 Maneuver	671	629	991	634	617	956	1510	-	-	1493	-	-
Stage 1	937	834	-	796	732	-	-	-	-	-	-	-
Stage 2	794	731	-	892	822	-	-	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	0	0	0	0	-	-	0	-	-
Mov Capacity-1 Maneuver	648	605	991	565	594	956	1510	-	-	1493	-	-
Mov Capacity-2 Maneuver	648	605	-	565	594	-	-	-	-	-	-	-
Stage 1	902	833	-	767	705	-	-	-	-	-	-	-
Stage 2	761	704	-	818	821	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	10	10.3	2.6	0.1
HCM LOS	B	B	A	A

Lane	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (vph)				837	680			
HCM Control Delay (s)	7.471	0	-	10	10.3	7.413	0	-
HCM Lane VC Ratio	0.035	-	-	0.138	0.006	0.001	-	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th Percentile Queue (veh)	0.11	-	-	0.476	0.018	0.003	-	-

Intersection	
Intersection Delay (sec/veh):	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	4	113	1	0	72	2	1	0	0	2	0	3
Conflicting Peds.(#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	0		0	0		0	0		0	0		0
Median Width		0			0			0			0	
Grade (%)		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.72	0.72	0.72	0.25	0.25	0.25	0.63	0.63	0.63
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	4	124	1	0	100	3	4	0	0	3	0	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Major/Minor	Major 1			Major 2			Minor 1			Minor 2		
Conflicting Flow Rate - All	103	0	0	125	0	0	237	236	125	235	235	102
Stage 1	-	-	-	-	-	-	133	133	-	102	102	-
Stage 2	-	-	-	-	-	-	104	103	-	133	133	-
Follow-up Headway	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Capacity-1 Maneuver	1489	-	-	1462	-	-	717	665	926	720	666	953
Stage 1	-	-	-	-	-	-	870	787	-	904	811	-
Stage 2	-	-	-	-	-	-	902	810	-	870	786	-
Time blocked-Platoon(%)	0	-	-	0	-	-	0	0	0	0	0	0
Mov Capacity-1 Maneuver	1489	-	-	1462	-	-	712	663	926	718	664	953
Mov Capacity-2 Maneuver	-	-	-	-	-	-	712	663	-	718	664	-
Stage 1	-	-	-	-	-	-	867	785	-	901	811	-
Stage 2	-	-	-	-	-	-	897	810	-	867	784	-

Approach	EB	WB	NB	SB
HCM Control Delay (s)	0.3	0	10.1	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (vph)	712							843
HCM Control Delay (s)	10.1	7.425	0	-	0	-	-	9.3
HCM Lane VC Ratio	0.006	0.003	-	-	-	-	-	0.009
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th Percentile Queue (veh)	0.017	0.009	-	-	0	-	-	0.029

Intersection	
Intersection Delay (sec/veh):	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	26	68	59	50	48	49
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0		0	0	
Median Width	12		0			0
Grade (%)	0%		0%			0%
Peak Hour Factor	0.73	0.73	0.79	0.79	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	36	93	75	63	56	57
Number of Lanes	1	0	1	0	0	1

Major/Minor			Major 1			Major 2
Conflicting Flow Rate - All	276	107	0	0	138	0
Stage 1	107	-	-	-	-	-
Stage 2	169	-	-	-	-	-
Follow-up Headway	3.518	3.318	-	-	2.218	-
Pot Capacity-1 Maneuver	714	947	-	-	1446	-
Stage 1	917	-	-	-	-	-
Stage 2	861	-	-	-	-	-
Time blocked-Platoon(%)	0	0	-	-	0	-
Mov Capacity-1 Maneuver	685	947	-	-	1446	-
Mov Capacity-2 Maneuver	685	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	827	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay (s)	9.9	0	3.8
HCM LOS	A	A	A

Lane	NBT	NBR	WBLn1	SBL	SBT
Capacity (vph)			856		
HCM Control Delay (s)	-	-	9.9	7.59	-
HCM Lane VC Ratio	-	-	0.15	0.039	-
HCM Lane LOS	-	-	A	A	-
HCM 95th Percentile Queue (veh)	-	-	0.528	0.12	-

Intersection	
Intersection Delay (sec/veh):	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Volume (vph)	37	56	67	85	75	32
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
Right Turn Channelized	None	None	None	None	None	None
Storage Length	0	0	0			0
Median Width	12			0	0	
Grade (%)	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.75	0.75	0.86	0.86
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	47	72	89	113	87	37
Number of Lanes	1	0	0	1	1	0

Major/Minor				Major 1	Major 2	
Conflicting Flow Rate - All	397	106	124	0	0	0
Stage 1	106	-	-	-	-	-
Stage 2	291	-	-	-	-	-
Follow-up Headway	3.518	3.318	2.218	-	-	-
Pot Capacity-1 Maneuver	608	948	1463	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	759	-	-	-	-	-
Time blocked-Platoon(%)	0	0	0	-	-	-
Mov Capacity-1 Maneuver	568	948	1463	-	-	-
Mov Capacity-2 Maneuver	568	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	710	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay (s)	10.7	3.4	0
HCM LOS	B	A	A

Lane	NBL	NBT	EBLn1	SBT	SBR
Capacity (vph)			749		
HCM Control Delay (s)	7.621	-	10.7	-	-
HCM Lane VC Ratio	0.061	-	0.159	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th Percentile Queue (veh)	0.195	-	0.564	-	-

Intersection	
Intersection Delay (sec/veh):	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	47	273	204	154	131	34
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	170			80	0	0
Median Width		12	12		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.82	0.82
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	53	307	229	173	160	41
Number of Lanes	1	1	1	1	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	402	0	0	0	729	202
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	413	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1157	-	-	-	390	839
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	668	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1157	-	-	-	372	839
Mov Capacity-2 Maneuver	-	-	-	-	372	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	637	-

Approach	EB	WB	SB
HCM Control Delay (s)	1.2	0	21.2
HCM LOS	A	A	C

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					420
HCM Control Delay (s)	8.26	-	-	-	21.2
HCM Lane VC Ratio	0.046	-	-	-	0.479
HCM Lane LOS	A	-	-	-	C
HCM 95th Percentile Queue (veh)	0.143	-	-	-	2.526

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	273	1	192	0	1	10	251	754	2	0	633	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	0	1863	1863	1863	1863	1863	0	1863	1863
Lanes	1	1	1	0	1	0	2	2	0	1	2	0
Capacity, veh/h	318	437	371	0	5	49	389	1960	5	0	885	345
Arriving On Green	0.23	0.23	0.23	0.00	0.03	0.03	0.11	0.53	0.53	0.00	0.35	0.35
Sat Flow, veh/h	1356.7	1862.7	1583.3	0.0	145.9	1459.3	3441.6	3713.9	9.9	0.0	2553.4	996.3
Grp Volume(v), veh/h	303.3	1.1	102.2	0.0	0.0	44.0	291.9	439.7	439.3	0.0	496.5	449.7
Grp Sat Flow(s),veh/h/ln	1356.7	1862.7	1583.3	0.0	0.0	1605.2	1720.8	1862.7	1861.0	0.0	1862.7	1686.9
Q Serve(g_s), s	14.6	0.0	3.5	0.0	0.0	1.8	5.4	9.6	9.6	0.1	15.7	15.7
Cycle Q Clear(g_c), s	14.6	0.0	3.5	0.0	0.0	1.8	5.4	9.6	9.6	0.1	15.7	15.7
Proportion In Lane	1.000		1.000	0.000		0.909	1.000		0.005	1.000		0.591
Lane Grp Cap(c), veh/h	318.2	436.9	371.4	0.0	0.0	53.8	389.0	982.9	981.9	0.0	645.5	584.6
V/C Ratio(X)	0.953	0.003	0.275	0.000	0.000	0.817	0.750	0.447	0.447	0.000	0.769	0.769
Avail Cap(c_a), veh/h	318.2	436.9	371.4	0.0	0.0	376.5	421.8	982.9	981.9	0.0	645.5	584.6
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	1.000	0.000	0.000	1.000	1.000	1.000	1.000	0.000	1.000	1.000
Uniform Delay (d), s/veh	24.9	19.4	20.7	0.0	0.0	31.7	28.4	9.7	9.7	0.0	19.2	19.2
Incr Delay (d2), s/veh	38.1	0.0	0.4	0.0	0.0	24.8	6.8	1.5	1.5	0.0	8.6	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	63.0	19.4	21.1	0.0	0.0	56.5	35.2	11.1	11.1	0.0	27.8	28.7
Lane Group LOS	E	B	C			E	D	B	B		C	C
Approach Volume, veh/h		407			44			1171			946	
Approach Delay, s/veh		52.3			56.5			17.1			28.2	
Approach LOS		D			E			B			C	

Timer												
Assigned Phase		4			8		5	2		1	6	
Phase Duration (G+Y+Rc), s		20.00			6.72		11.97	39.37		0.00	27.40	
Change Period (Y+Rc), s		4.50			4.50		4.50	4.50		4.50	4.50	
Max Green Setting (Gmax), s		15.50			15.50		8.10	27.00		4.00	22.90	
Max Q Clear Time (g_c+I1), s		16.57			3.80		7.43	11.65		0.00	17.70	
Green Extension Time (p_c)		0.00			0.11		0.07	9.33		0.00	3.97	

Intersection Summary		
HCM 2010 Control Delay	27.5	
HCM 2010 Level of Service	C	

Intersection	
Intersection Delay (sec/veh):	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	73	999	855	24	9	48
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	90			0	0	0
Median Width		24	24		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.80	0.80	0.84	0.84
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	78	1074	1069	30	11	57
Number of Lanes	1	2	2	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	1099	0	0	0	1777	550
Stage 1	-	-	-	-	1084	-
Stage 2	-	-	-	-	693	-
Follow-up Headway	2.22	-	-	-	3.52	3.32
Pot Capacity-1 Maneuver	631	-	-	-	74	479
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	457	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	631	-	-	-	65	479
Mov Capacity-2 Maneuver	-	-	-	-	65	-
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	401	-

Approach	EB	WB	SB
HCM Control Delay (s)	0.8	0	25.9
HCM LOS	A	A	D

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					239
HCM Control Delay (s)	11.514	-	-	-	25.9
HCM Lane VC Ratio	0.124	-	-	-	0.284
HCM Lane LOS	B	-	-	-	D
HCM 95th Percentile Queue (veh)	0.424	-	-	-	1.13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	506	409	51	19	424	105	43	31	33	154	24	405
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Queue, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking, Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow Rate	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Lanes	2	1	1	1	2	0	0	1	0	0	1	2
Capacity, veh/h	638	709	603	25	619	138	147	106	58	353	55	637
Arriving On Green	0.19	0.38	0.38	0.01	0.21	0.21	0.18	0.18	0.18	0.23	0.23	0.23
Sat Flow, veh/h	3441.6	1583.3	1583.3	1774.0	2952.3	657.2	833.1	600.6	329.3	1544.8	240.7	2786.7
Grp Volume(v), veh/h	532.6	430.5	43.2	21.1	296.1	280.6	109.6	0.0	0.0	211.9	0.0	303.6
Grp Sat Flow(s),veh/h/ln	1720.8	1862.7	1583.3	1774.0	1862.7	1746.8	1763.0	0.0	0.0	1785.5	0.0	1393.3
Q Serve(g_s), s	13.4	16.7	1.6	1.1	13.4	13.6	4.9	0.0	0.0	9.3	0.0	8.5
Cycle Q Clear(g_c), s	13.4	16.7	1.6	1.1	13.4	13.6	4.9	0.0	0.0	9.3	0.0	8.5
Proportion In Lane	1.000		1.000	1.000		0.376	0.473		0.187	0.865		1.000
Lane Grp Cap(c), veh/h	637.9	709.4	603.0	24.8	390.2	366.0	310.4	0.0	0.0	407.9	0.0	636.7
V/C Ratio(X)	0.835	0.607	0.072	0.850	0.759	0.767	0.353	0.000	0.000	0.519	0.000	0.477
Avail Cap(c_a), veh/h	889.9	834.5	709.4	108.7	467.1	438.0	310.4	0.0	0.0	407.9	0.0	636.7
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.000	0.000	1.000	0.000	1.000
Uniform Delay (d), s/veh	35.2	22.4	17.7	44.1	33.3	33.4	32.5	0.0	0.0	30.3	0.0	30.0
Incr Delay (d2), s/veh	5.0	0.9	0.0	50.8	5.9	6.6	3.1	0.0	0.0	4.7	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Group Delay (d), s/veh	40.2	23.3	17.7	94.9	39.2	40.0	35.6	0.0	0.0	35.0	0.0	32.5
Lane Group LOS	D	C	B	F	D	D	D			C		C
Approach Volume, veh/h		1006			598			110			515	
Approach Delay, s/veh		32.0			41.6			35.6			33.5	
Approach LOS		C			D			D			C	

Timer												
Assigned Phase	7	4		3	8			2			6	
Phase Duration (G+Y+Rc), s	21.13	38.67		5.76	23.30			20.30			25.00	
Change Period (Y+Rc), s	4.50	4.50		4.50	4.50			4.50			4.50	
Max Green Setting (Gmax), s	23.20	40.20		5.50	22.50			15.80			20.50	
Max Q Clear Time (g_c+I1), s	15.38	18.70		3.07	15.57			6.90			11.32	
Green Extension Time (p_c)	1.25	5.94		0.00	3.23			0.31			1.61	

Intersection Summary	
HCM 2010 Control Delay	35.1
HCM 2010 Level of Service	D

Intersection	
Intersection Delay (sec/veh)	10.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	691	341	30	89
Demand Flow Rate (pc/h)	705	348	30	91
Vehicles Circulating (pc/h)	13	127	621	365
Vehicles Exiting (pc/h)	443	524	97	110
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	11.9	7.4	6.5	5.9
Approach LOS	B	A	A	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	705	348	30	91
Capacity, Entry Lane (pc/h)	1115	995	607	784
Entry HV Adjustment Factor	0.980	0.981	0.998	0.976
Flow Rate, Entry (vph)	691	341	30	89
Capacity, Entry (vph)	1093	976	606	766
Volume to Capacity Ratio	0.632	0.350	0.049	0.116
Control Delay (sec/veh)	11.9	7.4	6.5	5.9
Level of Service	B	A	A	A
95th-Percentile Queue (veh)	5	2	0	0

Intersection	
Intersection Delay (sec/veh)	7.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	27	98	292	505
Demand Flow Rate (pc/h)	27	100	297	515
Vehicles Circulating (pc/h)	486	297	120	32
Vehicles Exiting (pc/h)	61	120	393	365
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	5.6	5.6	6.7	8.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	27	100	297	515
Capacity, Entry Lane (pc/h)	695	840	1002	1094
Entry HV Adjustment Factor	0.996	0.979	0.983	0.980
Flow Rate, Entry (vph)	27	98	292	505
Capacity, Entry (vph)	692	822	985	1072
Volume to Capacity Ratio	0.039	0.119	0.296	0.471
Control Delay (sec/veh)	5.6	5.6	6.7	8.7
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	1	3

Intersection	
Intersection Delay (sec/veh)	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	0	0	0	15	90	10	60	90	0	0	5	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	0	0	0	16	98	11	65	98	0	0	5	30
Number of Lanes	0	0	0	0	1	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.1	8.4	7.1
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Volume Left (%)	40%	13%	0%
Volume Thru (%)	60%	78%	15%
Volume Right (%)	0%	9%	85%
Sign Control	Stop	Stop	Stop
Traffic Volume by Lane	150	115	33
Left Turning Volume	90	90	5
Through Volume	0	10	28
Right Turning Volume	60	15	0
Lane Flow Rate	163	125	36
Geometry Group	1	1	1
Degree of Utilization, X	0.193	0.151	0.039
Departure Headway, Hd	4.261	4.354	3.887
Convergence(Y/N)	Yes	Yes	Yes
Capacity	830	829	925
Service Time	2.347	2.356	1.894
HCM Lane V/C Ratio	0.196	0.151	0.039
HCM Control Delay	8.4	8.1	7.1
HCM Lane LOS	A	A	A
HCM 95th Percentile Queue	0.7	0.5	0.1

Intersection	
Intersection Delay (sec/veh)	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	90	90	80	0	0	0	0	60	10	5	15	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2	2	2	2	2	2	2
Movement Flow Rate	98	98	87	0	0	0	0	65	11	5	16	0
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.9	8	7.8
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Volume Left (%)	0%	35%	25%
Volume Thru (%)	86%	35%	75%
Volume Right (%)	14%	31%	0%
Sign Control	Stop	Stop	Stop
Traffic Volume by Lane	70	260	20
Left Turning Volume	60	90	15
Through Volume	10	80	0
Right Turning Volume	0	90	5
Lane Flow Rate	76	283	22
Geometry Group	1	1	1
Degree of Utilization, X	0.095	0.313	0.028
Departure Headway, Hd	4.491	3.988	4.691
Convergence(Y/N)	Yes	Yes	Yes
Capacity	803	890	767
Service Time	2.492	2.057	2.694
HCM Lane V/C Ratio	0.095	0.318	0.029
HCM Control Delay	8	8.9	7.8
HCM Lane LOS	A	A	A
HCM 95th Percentile Queue	0.3	1.4	0.1

Intersection	
Intersection Delay (sec/veh)	3.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adjusted Approach Flow (vph)	46	99	0	38
Demand Flow Rate (pc/h)	47	101	0	39
Vehicles Circulating (pc/h)	34	5	81	62
Vehicles Exiting (pc/h)	67	76	0	44
Follow-Up Headway (s)	3.186	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000	1.000
Approach Delay (sec/veh)	3.7	4.0	0.0	3.8
Approach LOS	A	A	-	A

Lane	Left	Left	Left	Left
Designated moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
Right Turn Channelized				
Lane Utilization	1.000	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193	5.193
Entry Flow Rate (pc/h)	47	101	0	39
Capacity, Entry Lane (pc/h)	1092	1124	1042	1062
Entry HV Adjustment Factor	0.982	0.978	1.000	0.974
Flow Rate, Entry (vph)	46	99	0	38
Capacity, Entry (vph)	1073	1100	1042	1035
Volume to Capacity Ratio	0.043	0.090	0.000	0.037
Control Delay (sec/veh)	3.7	4.0	3.5	3.8
Level of Service	A	A	A	A
95th-Percentile Queue (veh)	0	0	0	0

Intersection	
Intersection Delay (sec/veh):	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	5	23	37	22	15	10
Conflicting Peds.(#/hr)	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Right Turn Channelized	None	None	None	None	None	None
Storage Length	120			0	0	0
Median Width		0	0		12	
Grade (%)		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles(%)	2	2	2	2	2	2
Movement Flow Rate	5	25	40	24	16	11
Number of Lanes	0	1	1	0	1	0

Major/Minor	Major 1		Major 2			
Conflicting Flow Rate - All	64	0	0	0	87	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	35	-
Follow-up Headway	2.218	-	-	-	3.518	3.318
Pot Capacity-1 Maneuver	1538	-	-	-	914	1016
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	987	-
Time blocked-Platoon(%)	0	-	-	-	0	0
Mov Capacity-1 Maneuver	1538	-	-	-	911	1016
Mov Capacity-2 Maneuver	-	-	-	-	911	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	984	-

Approach	EB	WB	SB
HCM Control Delay (s)	1.3	0	8.9
HCM LOS	A	A	A

Lane	EBL	EBT	WBT	WBR	SBLn1
Capacity (vph)					950
HCM Control Delay (s)	7.349	-	-	-	8.9
HCM Lane VC Ratio	0.004	-	-	-	0.029
HCM Lane LOS	A	-	-	-	A
HCM 95th Percentile Queue (veh)	0.011	-	-	-	0.088

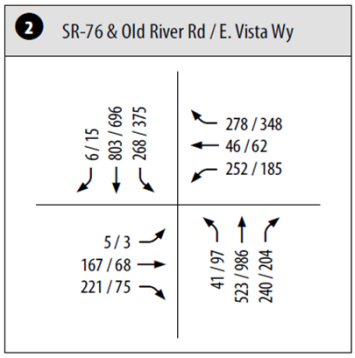
Appendix AA

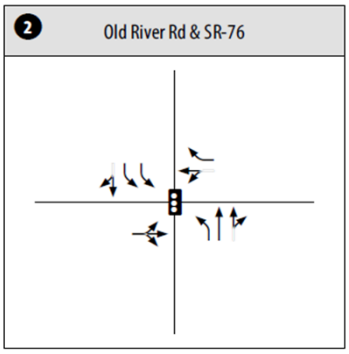
Ramp Intersection Capacity Analysis Worksheets – Existing Plus Project (Phases C) Conditions

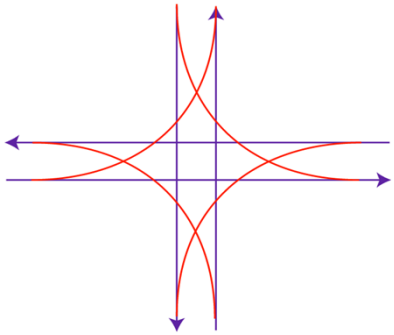
EXISTING + PROJECT PHASE C

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
(BASED ON CALTRANS HIGHWAY DESIGN MANUAL)

N/S Street SR-76 E/W Street OLD RIVER ROAD / EAST VISTA WAY







PHASE 1:

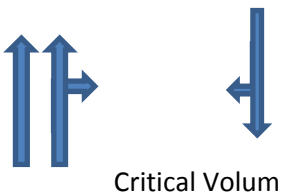
41 / 97
AM/PM

Critical Volume

268 / 375
AM/PM
134 / 188

PHASE 2:

763 / 1,190
AM/PM

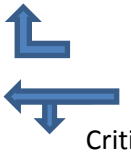


Critical Volume

809 / 711
AM/PM
716 / 620

PHASE 3

WBL	252 /	185
WBT	46 /	62
WBR	278 /	348
	AM /	PM



Critical Volume

298 / 348

PHASE 4

EBL	5 /	3
EBT	167 /	68
EBR	221 /	75
	AM /	PM

Critical Volume

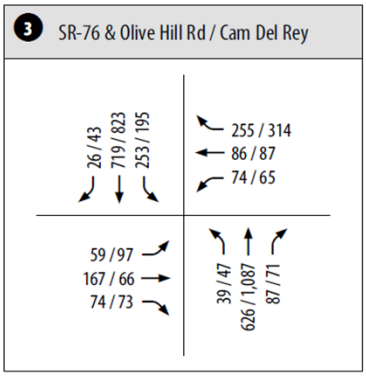
393 / 146

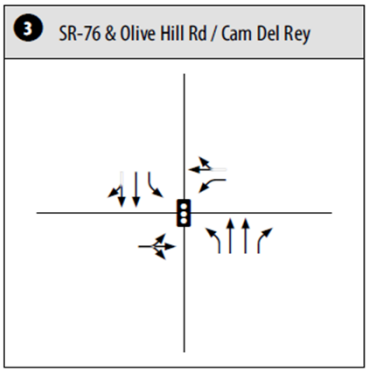
SUM	PHASE 1	134 / 188	AM	1,541 >1500: (Over Capacity)
	PHASE 2	716 / 620	PM	1,302 1200-1500: (At Capacity)
	PHASE 3	298 / 348		
	PHASE 4	393 / 146		
	TOTAL	1,541 / 1,302		

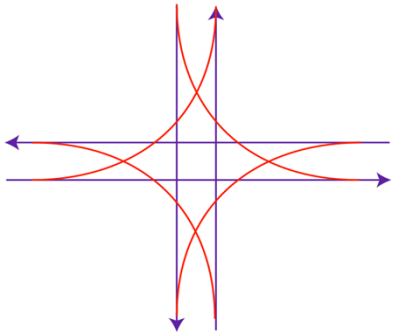
EXISTING + PROJECT PHASE C

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
(BASED ON CALTRANS HIGHWAY DESIGN MANUAL)

N/S Street SR-76 E/W Street OLIVE HILL RD / CAM DEL REY







PHASE 1:

39 / 47	253 / 195
AM/PM	AM/PM

Critical Volume 253 / 195

PHASE 2:

NBT	626 / 1,087	745 / 866
NBR	87 / 71	AM/PM
	AM/PM	

Critical Volume 313 / 544

PHASE 3

WBL	74	/	65
WBT	86	/	87
WBR	255	/	314
	AM	/	PM

Critical Volume 341 / 401

PHASE 4

EBL	59	/	97
EBT	167	/	66
EBR	74	/	73
	AM	/	PM

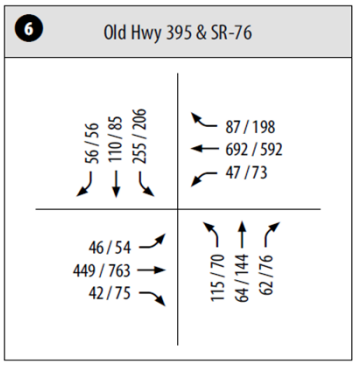
Critical Volume 300 / 236

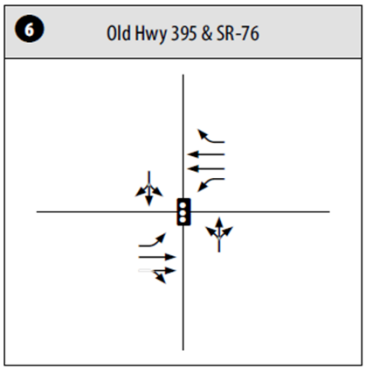
SUM	PHASE 1	253 / 195	AM	1,207 1200-1500: (At Capacity)
	PHASE 2	313 / 544	PM	1,376 1200-1500: (At Capacity)
	PHASE 3	341 / 401		
	PHASE 4	300 / 236		
	TOTAL	1,207 / 1,376		

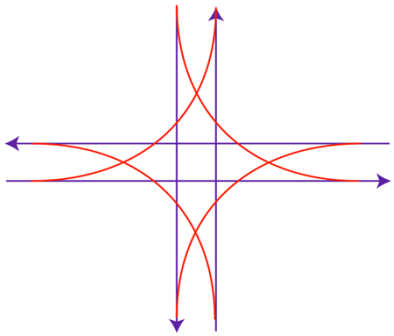
EXISTING + PROJECT PHASE C

INTERSECTION LANE VEHICLES CALCULATION WORKSHEET
(BASED ON CALTRANS HIGHWAY DESIGN MANUAL)

N/S Street SR-76 E/W Street OLD HIGHWAY 395







PHASE 1:

46 / 54	
AM/PM	

Critical Volume

47 / 73
AM/PM
47 / 73

PHASE 2:

NBT	449 / 763	
NBR	42 / 75	
	AM/PM	

Critical Volume

87 / 198	WBR
692 / 592	WBT
AM/PM	
346 / 419	

PHASE 3

NBL	115 /	70
NBT	64 /	144
NBR	62 /	76
	AM /	PM

Critical Volume 241 / 290

PHASE 4

SBL	255 /	206
SBT	110 /	85
SBR	56 /	56
	AM /	PM

Critical Volume 421 / 347

SUM	PHASE 1	47 / 73	AM	1,055 <1200: (Under Capacity)
	PHASE 2	346 / 419	PM	1,129 <1200: (Under Capacity)
	PHASE 3	241 / 290		
	PHASE 4	421 / 347		
	TOTAL	1,055 / 1,129		

Appendix AB

Traffic Signal Warrants –

Existing Plus Project (Phases C) Conditions

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

INTERSECTION #9 : OLD HIGHWAY 395 / W. LILAC ROAD

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More				Hour
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☒ NO ☐**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

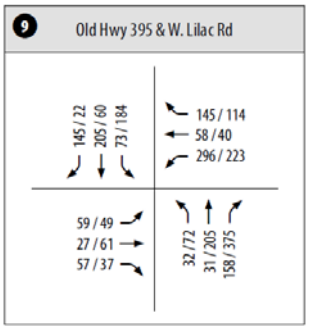
1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☒ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐ 499 / 377
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐ 1,286 / 1442

PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More		Hour
Both Approaches - Major Street		x		644 / 918
Higher Approach - Minor Street	x			499 / 377

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.



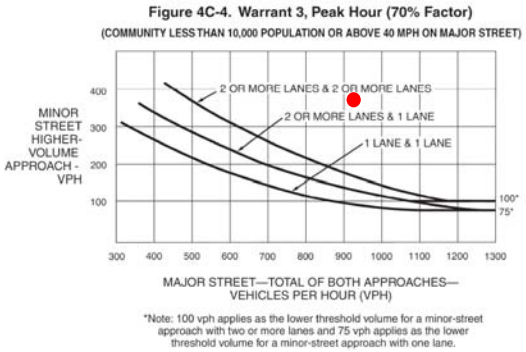


Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE Existing + Phase C

DIST ____ CO ____ RTE ____ PM ____

CALC ____ DATE ____

CHK ____ DATE ____

Major St: Old Highway 395 Critical Approach Speed ____ mph

Minor St: West Lilac Road Critical Approach Speed ____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒
or } RURAL (R)
In built up area of isolated community of < 10,000 population..... ☐

☐ URBAN (U)

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....X.....

CONDITION A - Minimum Vehicular Volume

Satisfied X Not Satisfied ____

Number of lanes for moving traffic on each approach

Major 9,730 Street	Minor 10,340 Street
1.....	1.....
2 or More.....	1.....
2 or More.....	2 or More.....
1.....	2 or More.....

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied X Not Satisfied ____

Number of lanes for moving traffic on each approach

Major 9,730 Street	Minor 10,340 Street
1.....	1.....
2 or More.....	1.....
2 or More.....	2 or More.....
1.....	2 or More.....

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied X Not Satisfied ____

2 CONDITIONS 80%

2 CONDITIONS 80%

No one condition satisfied, but following conditions fulfilled 80% or more..... ____ (A) ____ (B)

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

COUNT DATE Existing + Phase C

DIST ____ CO ____ RTE ____ PM ____

CALC ____ DATE ____

CHK ____ DATE ____

Major St: Gopher Canyon Rd Critical Approach Speed ____ mph

Minor St: I-15 SB Ramps Critical Approach Speed ____ mph

Speed limit or critical speed on major street traffic > 40 mph..... ☒ or
In built up area of isolated community of < 10,000 population..... ☐ } **RURAL (R)**

☐ **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

URBAN..... RURAL.....X.....

CONDITION A - Minimum Vehicular Volume

Satisfied X Not Satisfied ____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More.....13,020.....	1.....4,000.....
2 or More.....	2 or More.....
1.....	2 or More.....

Minimum Requirements EADT

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
9,600	6,720	3,200	2,240
8,000	5,600	3,200	2,240

CONDITION B - Interruption of Continuous Traffic

Satisfied X Not Satisfied ____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1.....	1.....
2 or More.....13,020.....	1.....4,000.....
2 or More.....	2 or More.....
1.....	2 or More.....

Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
14,400	10,080	1,600	1,120
12,000	8,400	1,600	1,120

Combination of CONDITIONS A + B

Satisfied X Not Satisfied ____

2 CONDITIONS 80%

2 CONDITIONS 80%

No one condition satisfied, but following conditions fulfilled 80% or more..... ____ (A) ____ (B)

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.