

## APPENDIX B: CALCULATION WORKSHEETS FOR INTERSECTIONS

## SIA PLAN UPDATE

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Intersection													
Int Delay, s/veh	3.8												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	4	2	0	9	5	0	3	1	5	2	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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	50	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	5	3	0	12	7	0	4	1	7	3	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	19	0	0	8	0	0	31	31	7	30	28	15
Stage 1	-	-	-	-	-	-	12	12	-	15	15	-
Stage 2	-	-	-	-	-	-	19	19	-	15	13	-
Critical Hdwy	4.6	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.65	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1335	-	-	1625	-	-	982	866	1081	984	869	1070
Stage 1	-	-	-	-	-	-	1014	890	-	1010	887	-
Stage 2	-	-	-	-	-	-	1005	884	-	1010	889	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1335	-	-	1625	-	-	975	864	1081	978	867	1070
Mov Cap-2 Maneuver	-	-	-	-	-	-	975	864	-	978	867	-
Stage 1	-	-	-	-	-	-	1012	888	-	1008	887	-
Stage 2	-	-	-	-	-	-	998	884	-	1002	887	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0	9	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	910	1335	-	-	1625	-	-	978
HCM Lane V/C Ratio	0.006	0.002	-	-	-	-	-	0.014
HCM Control Delay (s)	9	7.7	0	-	0	-	-	8.7
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

**Intersection**

Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Vol, veh/h	0	0	13	0	89	12	0	6	61
Peak Hour Factor	0.95	0.79	0.79	0.95	0.79	0.79	0.95	0.79	0.79
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	16	0	113	15	0	8	77
Number of Lanes	0	1	0	0	0	1	0	1	0

**Approach**

	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	6.7	8.1	7.1
HCM LOS	A	A	A

**Lane**

	NBLn1	EBLn1	WBLn1
Vol Left, %	9%	0%	88%
Vol Thru, %	0%	0%	12%
Vol Right, %	91%	100%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	67	13	101
LT Vol	6	0	89
Through Vol	0	0	12
RT Vol	61	13	0
Lane Flow Rate	85	16	128
Geometry Grp	1	1	1
Degree of Util (X)	0.086	0.016	0.152
Departure Headway (Hd)	3.655	3.579	4.271
Convergence, Y/N	Yes	Yes	Yes
Cap	966	991	840
Service Time	1.731	1.634	2.294
HCM Lane V/C Ratio	0.088	0.016	0.152
HCM Control Delay	7.1	6.7	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0	0.5

**Intersection**

Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	0	0	0	152	0	11	0	0	71	177	0	16	97	0
Peak Hour Factor	0.95	0.94	0.94	0.94	0.95	0.94	0.94	0.94	0.95	0.94	0.94	0.94	0.95	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	162	0	12	0	0	76	188	0	17	103	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	9.5	8.9	8.6
HCM LOS	-	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	93%	14%
Vol Thru, %	29%	100%	0%	86%
Vol Right, %	71%	0%	7%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	248	0	163	113
LT Vol	0	0	152	16
Through Vol	71	0	0	97
RT Vol	177	0	11	0
Lane Flow Rate	264	0	173	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.3	0	0.236	0.156
Departure Headway (Hd)	4.092	5	4.902	4.678
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	879	0	732	767
Service Time	2.114	3.05	2.94	2.708
HCM Lane V/C Ratio	0.3	0	0.236	0.156
HCM Control Delay	8.9	8.1	9.5	8.6
HCM Lane LOS	A	N	A	A
HCM 95th-tile Q	1.3	0	0.9	0.6

**Intersection**

Int Delay, s/veh 2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	36	39	51	190	153	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	46	60	224	180	112

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	580	236	292 0
Stage 1	236	-	- -
Stage 2	344	-	- -
Critical Hdwy	6.42	6.22	4.12 -
Critical Hdwy Stg 1	5.42	-	- -
Critical Hdwy Stg 2	5.42	-	- -
Follow-up Hdwy	3.518	3.318	2.218 -
Pot Cap-1 Maneuver	477	803	1270 -
Stage 1	803	-	- -
Stage 2	718	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	451	803	1270 -
Mov Cap-2 Maneuver	451	-	- -
Stage 1	803	-	- -
Stage 2	679	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	12.3	1.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1270	-	584	-	-
HCM Lane V/C Ratio	0.047	-	0.151	-	-
HCM Control Delay (s)	8	0	12.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

























HCM 2010 Signalized Intersection Summary  
5: Fiddymt Rd & Blue Oaks Blvd

Existing AM - AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	10	43	2	333	61	58	2	223	358	59	221	6
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		0.99	1.00		0.99	1.00		1.00	1.00		0.99
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	11	48	2	370	68	64	2	248	398	66	246	7
Adj No. of Lanes	2	3	1	2	3	1	2	2	1	2	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	301	686	160	558	899	226	892	1403	563	399	780	284
Arrive On Green	0.09	0.13	0.10	0.16	0.18	0.14	0.26	0.40	0.36	0.12	0.22	0.18
Sat Flow, veh/h	3442	5085	1565	3442	5085	1567	3442	3539	1577	3442	3539	1570
Grp Volume(v), veh/h	11	48	2	370	68	64	2	248	398	66	246	7
Grp Sat Flow(s),veh/h/ln	1721	1695	1565	1721	1695	1567	1721	1770	1577	1721	1770	1570
Q Serve(g_s), s	0.2	0.5	0.0	6.1	0.7	1.5	0.0	2.8	13.2	1.1	3.5	0.2
Cycle Q Clear(g_c), s	0.2	0.5	0.0	6.1	0.7	1.5	0.0	2.8	13.2	1.1	3.5	0.2
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	301	686	160	558	899	226	892	1403	563	399	780	284
V/C Ratio(X)	0.04	0.07	0.01	0.66	0.08	0.28	0.00	0.18	0.71	0.17	0.32	0.02
Avail Cap(c_a), veh/h	1187	1921	540	1300	3508	1029	1187	2116	880	1187	2116	877
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	25.4	23.0	5.9	23.9	20.9	10.5	16.7	11.9	16.8	24.3	19.9	20.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.5	0.1	1.0	0.0	0.1	3.2	0.1	0.4	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	0.1	0.2	0.0	3.0	0.3	0.7	0.0	1.4	6.2	0.5	1.8	0.1
LnGrp Delay(d),s/veh	25.5	23.1	6.0	24.5	21.0	11.5	16.7	12.0	20.0	24.3	20.3	20.6
LnGrp LOS	C	C	A	C	C	B	B	B	C	C	C	C
Approach Vol, veh/h		61			502			648			319	
Approach Delay, s/veh		22.9			22.3			16.9			21.2	
Approach LOS		C			C			B			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	10.1	26.7	12.9	11.2	20.8	16.0	10.3	13.8				
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	6.0	* 6	6.0	* 6				
Max Green Setting (Gmax), s	20.0	33.0	22.0	20.0	20.0	* 33	20.0	* 39				
Max Q Clear Time (g_c+I1), s	3.1	15.2	8.1	2.5	2.0	5.5	2.2	3.5				
Green Ext Time (p_c), s	0.1	5.0	0.7	0.2	5.0	2.0	0.2	0.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			19.8									
HCM 2010 LOS			B									
<b>Notes</b>												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 2010 Signalized Intersection Summary  
6: Nelson Ln & SR-65

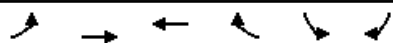
Existing AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	28	546	8	7	611	117	23	18	4	318	23	54
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	1827	1792	1900	1900	1696	1727	1900	1712	1900	1845	1827	1863
Adj Flow Rate, veh/h	30	581	9	7	650	124	24	19	4	338	24	57
Adj No. of Lanes	2	2	1	2	2	1	2	1	1	2	1	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	4	6	0	0	12	10	0	11	0	3	4	2
Cap, veh/h	854	1443	684	984	1366	622	1078	407	384	1095	435	376
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1320	3406	1615	1629	3223	1468	2591	1712	1613	2651	1827	1581
Grp Volume(v), veh/h	30	581	9	7	650	124	24	19	4	338	24	57
Grp Sat Flow(s),veh/h/ln	660	1703	1615	814	1612	1468	1296	1712	1613	1326	1827	1581
Q Serve(g_s), s	0.5	3.5	0.1	0.1	4.3	1.6	0.2	0.3	0.1	3.3	0.3	0.8
Cycle Q Clear(g_c), s	4.8	3.5	0.1	3.6	4.3	1.6	0.5	0.3	0.1	3.6	0.3	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	854	1443	684	984	1366	622	1078	407	384	1095	435	376
V/C Ratio(X)	0.04	0.40	0.01	0.01	0.48	0.20	0.02	0.05	0.01	0.31	0.06	0.15
Avail Cap(c_a), veh/h	1009	1843	874	1175	1744	795	1863	926	873	1899	989	856
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	7.9	5.9	4.9	7.2	6.1	5.4	8.9	8.7	8.6	10.1	8.7	8.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.2	0.1	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	0.1	1.7	0.0	0.0	1.9	0.6	0.1	0.1	0.0	1.2	0.2	0.4
LnGrp Delay(d),s/veh	7.9	6.1	4.9	7.2	6.4	5.5	8.9	8.7	8.6	10.2	8.7	9.1
LnGrp LOS	A	A	A	A	A	A	A	A	A	B	A	A
Approach Vol, veh/h		620			781			47			419	
Approach Delay, s/veh		6.2			6.3			8.8			10.0	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		12.0		17.5		12.0		17.5				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		2.5		6.8		5.6		6.3				
Green Ext Time (p_c), s		1.5		5.7		1.4		6.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				7.1								
HCM 2010 LOS				A								



HCM 2010 Signalized Intersection Summary  
7: Moore Rd & Nelson Ln

Existing AM - AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	39	13	20	3	2	35
Number	7	4	8	18	1	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	1900	1727	1747	1900	1798	1900
Adj Flow Rate, veh/h	54	18	28	4	3	49
Adj No. of Lanes	0	1	1	0	0	0
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Percent Heavy Veh, %	31	31	10	10	0	0
Cap, veh/h	488	27	145	21	23	368
Arrive On Green	0.10	0.10	0.10	0.10	0.26	0.26
Sat Flow, veh/h	837	279	1495	214	87	1426
Grp Volume(v), veh/h	72	0	0	32	53	0
Grp Sat Flow(s),veh/h/ln	1116	0	0	1709	1542	0
Q Serve(g_s), s	0.8	0.0	0.0	0.3	0.4	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	0.3	0.4	0.0
Prop In Lane	0.75			0.12	0.06	0.92
Lane Grp Cap(c), veh/h	515	0	0	166	398	0
V/C Ratio(X)	0.14	0.00	0.00	0.19	0.13	0.00
Avail Cap(c_a), veh/h	1783	0	0	1763	1591	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.9	0.0	0.0	6.4	4.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.2	0.2	0.0
LnGrp Delay(d),s/veh	7.1	0.0	0.0	7.0	4.6	0.0
LnGrp LOS	A			A	A	

Approach Vol, veh/h		72	32		53	
Approach Delay, s/veh		7.1	7.0		4.6	
Approach LOS		A	A		A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				6.5		9.0		6.5
Change Period (Y+Rc), s				5.0		5.0		5.0
Max Green Setting (Gmax), s				16.0		16.0		16.0
Max Q Clear Time (g_c+I1), s				3.1		2.4		2.3
Green Ext Time (p_c), s				0.4		0.1		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	6.2
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

**Intersection**

Int Delay, s/veh 2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	138	70	9	165	60	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	345	300	-	350	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	74	9	174	63	29














Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	145
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1437
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1437
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	654	902	-	-	1437	-
HCM Lane V/C Ratio	0.097	0.033	-	-	0.007	-
HCM Control Delay (s)	11.1	9.1	-	-	7.5	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-

HCM 2010 Signalized Intersection Summary  
 9: Industrial Ave/Industrial Ave. & Athens Ave

Existing AM - AM

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations			 					
Volume (veh/h)	135	136	171	45	87	197		
Number	1	16	7	4	8	18		
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	1727	1727	1792	1667	1810	1743		
Adj Flow Rate, veh/h	167	168	206	54	95	214		
Adj No. of Lanes	1	1	2	1	1	1		
Peak Hour Factor	0.81	0.81	0.83	0.83	0.92	0.92		
Percent Heavy Veh, %	10	10	6	14	5	9		
Cap, veh/h	384	342	750	378	332	272		
Arrive On Green	0.23	0.23	0.23	0.23	0.18	0.18		
Sat Flow, veh/h	1645	1468	3312	1667	1810	1482		
Grp Volume(v), veh/h	167	168	206	54	95	214		
Grp Sat Flow(s),veh/h/ln	1645	1468	1656	1667	1810	1482		
Q Serve(g_s), s	3.6	4.2	2.2	1.1	1.9	5.8		
Cycle Q Clear(g_c), s	3.6	4.2	2.2	1.1	1.9	5.8		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	384	342	750	378	332	272		
V/C Ratio(X)	0.44	0.49	0.27	0.14	0.29	0.79		
Avail Cap(c_a), veh/h	979	874	1970	992	1077	882		
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	13.9	13.4	13.0	14.8	16.4		
Incr Delay (d2), s/veh	1.7	2.3	0.2	0.2	0.2	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	1.8	1.9	1.0	0.5	1.0	2.5		
LnGrp Delay(d),s/veh	15.4	16.3	13.6	13.2	15.0	18.3		
LnGrp LOS	B	B	B	B	B	B		
Approach Vol, veh/h	335			260	309			
Approach Delay, s/veh	15.8			13.5	17.3			
Approach LOS	B			B	B			
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Assigned Phs				4	6		8	
Phs Duration (G+Y+Rc), s				15.5	15.8		10.7	
Change Period (Y+Rc), s				6.0	6.0		3.0	
Max Green Setting (Gmax), s				25.0	25.0		25.0	
Max Q Clear Time (g_c+I1), s				4.2	6.2		7.8	
Green Ext Time (p_c), s				0.7	2.3		0.1	
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay	15.7							
HCM 2010 LOS	B							

HCM 2010 Signalized Intersection Summary  
 10: Industrial Ave & Placer Corporate Dr

Existing AM - AM

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Volume (veh/h)	275	200	136	132	11	183	
Number	7	14	2	12	1	6	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		0.97	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1863	1810	1792	1845	1743	1792	
Adj Flow Rate, veh/h	331	241	197	191	14	226	
Adj No. of Lanes	1	1	1	1	1	1	
Peak Hour Factor	0.83	0.83	0.69	0.69	0.81	0.81	
Percent Heavy Veh, %	2	5	6	3	9	6	
Cap, veh/h	478	415	592	504	18	788	
Arrive On Green	0.27	0.27	0.33	0.33	0.01	0.44	
Sat Flow, veh/h	1774	1538	1792	1526	1660	1792	
Grp Volume(v), veh/h	331	241	197	191	14	226	
Grp Sat Flow(s),veh/h/ln	1774	1538	1792	1526	1660	1792	
Q Serve(g_s), s	6.1	5.0	3.0	3.5	0.3	2.9	
Cycle Q Clear(g_c), s	6.1	5.0	3.0	3.5	0.3	2.9	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	478	415	592	504	18	788	
V/C Ratio(X)	0.69	0.58	0.33	0.38	0.78	0.29	
Avail Cap(c_a), veh/h	1216	1054	2211	1883	910	2211	
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	12.0	11.5	9.2	9.4	18.0	6.5	
Incr Delay (d2), s/veh	1.8	1.3	0.7	1.0	22.5	0.4	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	8.2	2.2	1.6	1.6	0.2	1.5	
LnGrp Delay(d),s/veh	13.8	12.8	9.9	10.4	40.5	7.0	
LnGrp LOS	B	B	A	B	D	A	
Approach Vol, veh/h	572		388			240	
Approach Delay, s/veh	13.4		10.1			8.9	
Approach LOS	B		B			A	
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7 8</b>
Assigned Phs	1	2		4		6	
Phs Duration (G+Y+Rc), s	4.0	18.0		14.4		22.0	
Change Period (Y+Rc), s	3.6	6.0		4.6		6.0	
Max Green Setting (Gmax)	20.0	45.0		25.0		45.0	
Max Q Clear Time (g_c+I)	12.3	5.5		8.1		4.9	
Green Ext Time (p_c), s	0.0	6.6		1.8		6.6	
<b>Intersection Summary</b>							
HCM 2010 Ctrl Delay			11.4				
HCM 2010 LOS			B				

Intersection													
Int Delay, s/veh	3.9												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	227	24	0	353	492	0	0	262	0	0	46
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
RT Channelized	-	-	Free	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	265	-	-	0	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	85	85	85	86	86	86	64	64	64
Heavy Vehicles, %	2	16	21	2	10	2	2	2	3	2	2	7
Mvmt Flow	0	241	26	0	415	579	0	0	305	0	0	72













Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	415	0	-	241	0	0	449	656	121	536	656	208
Stage 1	-	-	-	-	-	-	241	241	-	415	415	-
Stage 2	-	-	-	-	-	-	208	415	-	121	241	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.96	7.54	6.54	7.04
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.33	3.52	4.02	3.37
Pot Cap-1 Maneuver	1140	-	0	1323	-	0	493	384	904	428	384	783
Stage 1	-	-	0	-	-	0	741	705	-	585	591	-
Stage 2	-	-	0	-	-	0	775	591	-	870	705	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1140	-	-	1323	-	-	448	384	904	284	384	783
Mov Cap-2 Maneuver	-	-	-	-	-	-	448	384	-	284	384	-
Stage 1	-	-	-	-	-	-	741	705	-	585	591	-
Stage 2	-	-	-	-	-	-	704	591	-	577	705	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	11	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBL	WBT	SBLn1
Capacity (veh/h)	904	1140	-	1323	-	783
HCM Lane V/C Ratio	0.337	-	-	-	-	0.092
HCM Control Delay (s)	11	0	-	0	-	10.1
HCM Lane LOS	B	A	-	A	-	B
HCM 95th %tile Q(veh)	1.5	0	-	0	-	0.3

HCM 2010 Signalized Intersection Summary  
 12: Industrial Ave./Industrial Ave & South Loop Rd

Existing AM - AM

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Volume (veh/h)	17	5	330	38	184	248		
Number	7	14	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.97	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1792	1188	1863	1810	1827	1863		
Adj Flow Rate, veh/h	31	9	429	49	227	306		
Adj No. of Lanes	1	1	1	1	1	1		
Peak Hour Factor	0.55	0.55	0.77	0.77	0.81	0.81		
Percent Heavy Veh, %	6	60	2	5	4	2		
Cap, veh/h	90	53	802	645	300	1317		
Arrive On Green	0.05	0.05	0.43	0.43	0.17	0.71		
Sat Flow, veh/h	1707	1009	1863	1499	1740	1863		
Grp Volume(v), veh/h	31	9	429	49	227	306		
Grp Sat Flow(s),veh/h/ln	1707	1009	1863	1499	1740	1863		
Q Serve(g_s), s	0.8	0.4	7.5	0.8	5.5	2.5		
Cycle Q Clear(g_c), s	0.8	0.4	7.5	0.8	5.5	2.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	90	53	802	645	300	1317		
V/C Ratio(X)	0.34	0.17	0.54	0.08	0.76	0.23		
Avail Cap(c_a), veh/h	968	572	1901	1530	1776	1901		
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	20.1	20.0	9.3	7.4	17.4	2.3		
Incr Delay (d2), s/veh	2.3	1.5	1.2	0.1	3.9	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	0.1	4.1	0.4	2.9	1.3		
LnGrp Delay(d),s/veh	22.4	21.4	10.5	7.5	21.3	2.5		
LnGrp LOS	C	C	B	A	C	A		
Approach Vol, veh/h	40		478			533		
Approach Delay, s/veh	22.2		10.2			10.5		
Approach LOS	C		B			B		
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	12.2	25.0		6.9		37.2		
Change Period (Y+Rc), s	4.6	6.0		4.6		6.0		
Max Green Setting (Gmax), s	45.0	45.0		25.0		45.0		
Max Q Clear Time (g_c+I1), s	7.5	9.5		2.8		4.5		
Green Ext Time (p_c), s	0.6	9.5		0.1		9.8		
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			10.8					
HCM 2010 LOS			B					

























HCM 2010 Signalized Intersection Summary  
 14: Lincoln Hwy & Sterling Pkwy

Existing AM - AM

Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Volume (veh/h)	996	20	991	381	22	1446		
Number	3	18	2	12	1	6		
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	1810	1792	1776	1863	1845		
Adj Flow Rate, veh/h	1038	21	1239	476	27	1742		
Adj No. of Lanes	2	1	2	1	2	2		
Peak Hour Factor	0.96	0.96	0.80	0.80	0.83	0.83		
Percent Heavy Veh, %	2	5	6	7	2	3		
Cap, veh/h	1096	490	1699	1234	110	2005		
Arrive On Green	0.32	0.32	0.50	0.50	0.03	0.57		
Sat Flow, veh/h	3442	1538	3495	1509	3442	3597		
Grp Volume(v), veh/h	1038	21	1239	476	27	1742		
Grp Sat Flow(s),veh/h/ln	1721	1538	1703	1509	1721	1752		
Q Serve(g_s), s	28.6	0.9	27.8	8.2	0.7	41.0		
Cycle Q Clear(g_c), s	28.6	0.9	27.8	8.2	0.7	41.0		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	1096	490	1699	1234	110	2005		
V/C Ratio(X)	0.95	0.04	0.73	0.39	0.25	0.87		
Avail Cap(c_a), veh/h	1100	491	2317	1508	922	2384		
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	32.3	22.8	19.1	2.4	45.8	17.7		
Incr Delay (d2), s/veh	16.3	0.1	0.4	0.1	2.4	2.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	16.0	0.4	13.0	9.3	0.4	20.4		
LnGrp Delay(d),s/veh	48.6	22.9	19.5	2.4	48.3	20.5		
LnGrp LOS	D	C	B	A	D	C		
Approach Vol, veh/h	1059		1715			1769		
Approach Delay, s/veh	48.1		14.8			20.9		
Approach LOS	D		B			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.1	54.4				61.5		35.5
Change Period (Y+Rc), s	4.0	6.0				6.0		4.6
Max Green Setting (Gmax), s	20.0	66.0				66.0		31.0
Max Q Clear Time (g_c+I), s	12.5	29.8				43.0		30.6
Green Ext Time (p_c), s	0.1	15.3				12.5		0.4
<b>Intersection Summary</b>								
HCM 2010 Ctrl Delay			24.9					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary  
 15: Twelve Bridges Dr & E. Joiner Pkwy

Existing AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	70	137	36	320	458	89	29	224	241	62	346	114
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		0.99
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	1743	1827	1810	1863	1863	1863	1776	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	91	178	47	364	520	101	53	407	438	78	438	144
Adj No. of Lanes	1	2	1	1	2	1	1	1	1	1	1	1
Peak Hour Factor	0.77	0.77	0.77	0.88	0.88	0.88	0.55	0.55	0.55	0.79	0.79	0.79
Percent Heavy Veh, %	9	4	5	2	2	2	7	2	2	2	2	2
Cap, veh/h	115	451	200	404	1020	457	67	624	530	101	657	551
Arrive On Green	0.07	0.13	0.13	0.23	0.29	0.29	0.04	0.34	0.34	0.06	0.35	0.35
Sat Flow, veh/h	1660	3471	1538	1774	3539	1583	1691	1863	1582	1774	1863	1563
Grp Volume(v), veh/h	91	178	47	364	520	101	53	407	438	78	438	144
Grp Sat Flow(s),veh/h/ln	1660	1736	1538	1774	1770	1583	1691	1863	1582	1774	1863	1563
Q Serve(g_s), s	4.6	4.0	2.4	17.1	10.5	4.2	2.7	16.0	21.9	3.7	17.1	5.6
Cycle Q Clear(g_c), s	4.6	4.0	2.4	17.1	10.5	4.2	2.7	16.0	21.9	3.7	17.1	5.6
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	115	451	200	404	1020	457	67	624	530	101	657	551
V/C Ratio(X)	0.79	0.39	0.23	0.90	0.51	0.22	0.80	0.65	0.83	0.77	0.67	0.26
Avail Cap(c_a), veh/h	387	1294	573	620	1319	590	394	716	608	413	716	601
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	34.2	33.5	32.2	25.5	23.2	40.9	24.3	26.2	39.9	23.5	19.8
Incr Delay (d2), s/veh	4.6	0.6	0.6	8.3	0.4	0.2	7.8	1.7	8.2	4.6	2.1	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	2.3	2.0	1.0	9.3	5.2	1.9	1.4	8.4	10.7	2.0	9.1	2.5
LnGrp Delay(d),s/veh	43.9	34.8	34.1	40.5	25.9	23.5	48.7	26.0	34.5	44.6	25.6	20.1
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		316			985			898			660	
Approach Delay, s/veh		37.3			31.0			31.5			26.7	
Approach LOS		D			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	10.9	30.9	9.9	34.2	24.5	17.3	8.4	35.7				
Change Period (Y+Rc), s	5.0	6.1	5.0	5.4	5.0	6.1	5.0	5.4				
Max Green Setting (Gmax), s	20.0	32.0	20.0	33.0	30.0	32.0	20.0	33.0				
Max Q Clear Time (g_c+I), s	10.6	12.5	5.7	23.9	19.1	6.0	4.7	19.1				
Green Ext Time (p_c), s	0.1	4.7	0.1	4.9	0.4	5.1	0.0	6.3				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				30.9								
HCM 2010 LOS				C								



HCM 2010 Signalized Intersection Summary  
 16: Wildcat Blvd & Whitney Ranch Pkwy

Existing AM - AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔
Volume (veh/h)	17	9	54	145	16	45	29	803	50	47	682	4
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		0.99	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	25	13	78	201	22	62	53	1460	91	78	1137	7
Adj No. of Lanes	2	3	1	2	2	1	1	2	1	1	2	1
Peak Hour Factor	0.69	0.69	0.69	0.72	0.72	0.72	0.55	0.55	0.55	0.60	0.60	0.60
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	452	139	280	475	213	87	1946	870	102	1975	882
Arrive On Green	0.04	0.09	0.09	0.08	0.13	0.13	0.05	0.55	0.55	0.06	0.56	0.56
Sat Flow, veh/h	3442	5085	1567	3442	3539	1583	1774	3539	1583	1774	3539	1581
Grp Volume(v), veh/h	25	13	78	201	22	62	53	1460	91	78	1137	7
Grp Sat Flow(s),veh/h/ln	1721	1695	1567	1721	1770	1583	1774	1770	1583	1774	1770	1581
Q Serve(g_s), s	0.6	0.2	4.3	5.1	0.5	3.2	2.6	28.4	2.5	3.9	18.8	0.2
Cycle Q Clear(g_c), s	0.6	0.2	4.3	5.1	0.5	3.2	2.6	28.4	2.5	3.9	18.8	0.2
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	124	452	139	280	475	213	87	1946	870	102	1975	882
V/C Ratio(X)	0.20	0.03	0.56	0.72	0.05	0.29	0.61	0.75	0.10	0.77	0.58	0.01
Avail Cap(c_a), veh/h	651	2831	872	651	1970	881	336	1970	881	336	1975	882
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	42.0	37.4	39.2	40.2	33.9	35.0	41.9	15.5	9.7	41.8	12.9	8.8
Incr Delay (d2), s/veh	0.3	0.1	7.3	1.3	0.1	1.6	2.6	2.0	0.1	4.5	0.7	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	0.3	0.1	2.1	2.5	0.2	1.5	1.4	14.3	1.1	2.0	9.3	0.1
LnGrp Delay(d),s/veh	42.3	37.4	46.6	41.5	34.0	36.6	44.4	17.5	9.8	46.2	13.6	8.8
LnGrp LOS	D	D	D	D	C	D	D	B	A	D	B	A
Approach Vol, veh/h		116			285			1604			1222	
Approach Delay, s/veh		44.6			39.9			17.9			15.7	
Approach LOS		D			D			B			B	
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	54.7	12.2	13.3	8.9	55.4	8.1	17.4					
Change Period (Y+Rc), s	4.5	5.3	4.9	5.3	4.5	5.3	4.9	5.3				
Max Green Setting (Gmax), s	50.0	17.0	50.0	17.0	50.0	17.0	50.0					
Max Q Clear Time (g_c+I), s	30.4	7.1	6.3	4.6	20.8	2.6	5.2					
Green Ext Time (p_c), s	0.0	19.0	0.3	1.6	0.0	28.1	0.0	1.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			20.0									
HCM 2010 LOS			B									

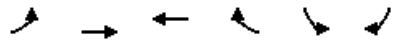
HCM 2010 Signalized Intersection Summary  
 17: Sunset Blvd & Lonetree Blvd/W Stanford Ranch Rd

Existing AM - AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	106	91	16	181	152	357	41	356	88	194	280	74
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		0.99	1.00		0.99	1.00		0.99	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	1810	1743	1900	1845	1845	1810	1900	1759	1810	1681	1727	1776
Adj Flow Rate, veh/h	125	107	19	213	179	420	48	419	104	228	329	87
Adj No. of Lanes	1	2	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	5	9	0	3	3	5	0	8	5	13	10	7
Cap, veh/h	158	1236	595	303	1298	562	106	1121	354	310	1429	457
Arrive On Green	0.09	0.37	0.37	0.09	0.37	0.37	0.03	0.23	0.23	0.10	0.30	0.30
Sat Flow, veh/h	1723	3312	1593	3408	3505	1517	3510	4803	1516	3107	4715	1508
Grp Volume(v), veh/h	125	107	19	213	179	420	48	419	104	228	329	87
Grp Sat Flow(s),veh/h/ln	1723	1656	1593	1704	1752	1517	1755	1601	1516	1553	1572	1508
Q Serve(g_s), s	6.8	2.0	0.7	5.8	3.2	23.1	1.3	7.0	5.4	6.8	5.0	4.1
Cycle Q Clear(g_c), s	6.8	2.0	0.7	5.8	3.2	23.1	1.3	7.0	5.4	6.8	5.0	4.1
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	158	1236	595	303	1298	562	106	1121	354	310	1429	457
V/C Ratio(X)	0.79	0.09	0.03	0.70	0.14	0.75	0.45	0.37	0.29	0.74	0.23	0.19
Avail Cap(c_a), veh/h	549	1892	910	1264	2003	867	1669	2243	708	990	2202	704
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	42.6	19.4	19.0	42.4	20.0	26.2	45.6	30.8	30.2	41.9	25.0	24.7
Incr Delay (d2), s/veh	8.6	0.1	0.1	3.0	0.2	7.0	3.0	0.4	1.0	3.4	0.2	0.4
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
%ile BackOfQ(50%),veh/ln	8.6	0.9	0.3	2.9	1.6	10.7	0.7	3.1	2.4	3.1	2.2	1.8
LnGrp Delay(d),s/veh	51.1	19.5	19.1	45.4	20.2	33.3	48.7	31.3	31.2	45.2	25.2	25.1
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		251			812			571			644	
Approach Delay, s/veh		35.2			33.6			32.7			32.3	
Approach LOS		D			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	33.3	40.8	14.1	27.6	13.0	41.0	7.4	34.3				
Change Period (Y+Rc), s	4.5	5.3	4.5	5.3	4.5	5.3	4.5	5.3				
Max Green Setting (Gmax), s	30.5	54.7	30.5	44.7	35.5	54.7	45.5	44.7				
Max Q Clear Time (g_c+I), s	10.8	25.1	8.8	9.0	7.8	4.0	3.3	7.0				
Green Ext Time (p_c), s	0.3	10.4	0.8	13.2	0.7	12.3	0.1	13.4				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay					33.2							
HCM 2010 LOS					C							

HCM 2010 Signalized Intersection Summary  
 18: Twelve Bridges Dr & SR-65 SB Ramps

Existing AM - AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑	↗	↘	↗
Volume (veh/h)	13	167	130	578	171	154
Number	5	2	6	16	7	14
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	1652	1792	1827	1863	1863	1810
Adj Flow Rate, veh/h	17	217	159	0	238	214
Adj No. of Lanes	1	1	1	1	1	1
Peak Hour Factor	0.77	0.77	0.82	0.82	0.72	0.72
Percent Heavy Veh, %	15	6	4	2	2	5
Cap, veh/h	113	865	456	396	409	355
Arrive On Green	0.07	0.48	0.25	0.00	0.23	0.23
Sat Flow, veh/h	1573	1792	1827	1583	1774	1538
Grp Volume(v), veh/h	17	217	159	0	238	214
Grp Sat Flow(s),veh/h/ln	1573	1792	1827	1583	1774	1538
Q Serve(g_s), s	0.3	2.0	2.0	0.0	3.3	3.5
Cycle Q Clear(g_c), s	0.3	2.0	2.0	0.0	3.3	3.5
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	113	865	456	396	409	355
V/C Ratio(X)	0.15	0.25	0.35	0.00	0.58	0.60
Avail Cap(c_a), veh/h	1071	2652	2703	2342	2548	2209
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	12.2	4.3	8.6	0.0	9.5	9.6
Incr Delay (d2), s/veh	0.2	0.1	0.2	0.0	0.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.0	1.0	0.0	1.6	2.9
LnGrp Delay(d),s/veh	12.4	4.3	8.8	0.0	10.0	10.2
LnGrp LOS	B	A	A		B	B
Approach Vol, veh/h		234	159		452	
Approach Delay, s/veh		4.9	8.8		10.1	
Approach LOS		A	A		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		17.5		10.4	6.5	11.0		
Change Period (Y+Rc), s		5.3		4.1	3.5	5.3		
Max Green Setting (Gmax), s		40.0		40.0	20.0	40.0		
Max Q Clear Time (g_c+I1), s		4.0		5.5	2.3	4.0		
Green Ext Time (p_c), s		0.7		1.1	0.0	0.7		

Intersection Summary	
HCM 2010 Ctrl Delay	8.4
HCM 2010 LOS	A

HCM 2010 Signalized Intersection Summary  
 19: SR-65 NB Ramps & Twelve Bridges Dr

Existing AM - AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	89	249	0	0	686	142	22	5	242	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	1712	1845	0	0	1863	1863	1667	1815	1827			
Adj Flow Rate, veh/h	116	323	0	0	780	0	29	7	0			
Adj No. of Lanes	1	2	0	0	2	1	1	1	1			
Peak Hour Factor	0.77	0.77	0.77	0.88	0.88	0.88	0.76	0.76	0.76			
Percent Heavy Veh, %	11	3	0	0	2	2	14	20	4			
Cap, veh/h	181	2372	0	0	1419	559	47	54	46			
Arrive On Green	0.11	0.68	0.00	0.00	0.40	0.00	0.03	0.03	0.00			
Sat Flow, veh/h	1630	3597	0	0	3632	1583	1587	1815	1553			
Grp Volume(v), veh/h	116	323	0	0	780	0	29	7	0			
Grp Sat Flow(s),veh/h/ln	1630	1752	0	0	1770	1583	1587	1815	1553			
Q Serve(g_s), s	1.9	0.9	0.0	0.0	4.6	0.0	0.5	0.1	0.0			
Cycle Q Clear(g_c), s	1.9	0.9	0.0	0.0	4.6	0.0	0.5	0.1	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	181	2372	0	0	1419	559	47	54	46			
V/C Ratio(X)	0.64	0.14	0.00	0.00	0.55	0.00	0.61	0.13	0.00			
Avail Cap(c_a), veh/h	1135	5306	0	0	5358	2322	2333	2668	2283			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(l)	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	11.6	1.6	0.0	0.0	6.3	0.0	13.1	12.9	0.0			
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.0	0.1	0.0	4.6	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			
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.0	0.0	2.2	0.0	0.3	0.1	0.0			
LnGrp Delay(d),s/veh	13.0	1.6	0.0	0.0	6.4	0.0	17.7	13.3	0.0			
LnGrp LOS	B	A			A		B	B				
Approach Vol, veh/h		439			780			36				
Approach Delay, s/veh		4.6			6.4			16.9				
Approach LOS		A			A			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		22.5			7.5	14.9		4.8				
Change Period (Y+Rc), s		5.3			3.5	5.3		4.1				
Max Green Setting (Gmax), s		40.0			20.0	40.0		40.0				
Max Q Clear Time (g_c+I1), s		2.9			3.9	6.6		2.5				
Green Ext Time (p_c), s		3.0			0.2	3.0		0.1				

Intersection Summary

HCM 2010 Ctrl Delay	6.1
HCM 2010 LOS	A

Notes

User approved volume balancing among the lanes for turning movement.













HCM 2010 Signalized Intersection Summary  
 20: SB On-Ramp/SR-65 SB Off Ramp & Sunset Blvd

Existing AM - AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗				↖	↕	↗
Volume (veh/h)	0	169	320	0	747	389	0	0	0	274	0	98
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	1776	1696	0	1792	1845				1863	1863	1863
Adj Flow Rate, veh/h	0	194	368	0	859	0				371	0	80
Adj No. of Lanes	0	3	1	0	3	1				2	0	1
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87				0.82	0.82	0.82
Percent Heavy Veh, %	0	7	12	0	6	3				2	2	2
Cap, veh/h	0	1680	500	0	1696	544				1151	0	514
Arrive On Green	0.00	0.35	0.35	0.00	0.35	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	5007	1442	0	5055	1568				3548	0	1583
Grp Volume(v), veh/h	0	194	368	0	859	0				371	0	80
Grp Sat Flow(s),veh/h/ln	0	1616	1442	0	1631	1568				1774	0	1583
Q Serve(g_s), s	0.0	0.8	6.7	0.0	4.2	0.0				2.4	0.0	1.1
Cycle Q Clear(g_c), s	0.0	0.8	6.7	0.0	4.2	0.0				2.4	0.0	1.1
Prop In Lane	0.00		1.00	0.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1680	500	0	1696	544				1151	0	514
V/C Ratio(X)	0.00	0.12	0.74	0.00	0.51	0.00				0.32	0.00	0.16
Avail Cap(c_a), veh/h	0	7246	2155	0	7314	2344				3536	0	1578
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	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.7	8.6	0.0	7.8	0.0				7.7	0.0	7.2
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.1	0.0				0.1	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
%ile BackOfQ(50%),veh/ln	0.0	0.4	2.8	0.0	1.8	0.0				1.1	0.0	0.5
LnGrp Delay(d),s/veh	0.0	6.7	9.4	0.0	7.9	0.0				7.7	0.0	7.3
LnGrp LOS		A	A		A					A		A
Approach Vol, veh/h		562			859						451	
Approach Delay, s/veh		8.5			7.9						7.7	
Approach LOS		A			A						A	
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.7		14.4		15.7						
Change Period (Y+Rc), s		5.3		4.6		5.3						
Max Green Setting (Gmax), s		45.0		30.0		45.0						
Max Q Clear Time (g_c+I1), s		8.7		4.4		6.2						
Green Ext Time (p_c), s		1.7		0.3		1.7						
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				8.0								
HCM 2010 LOS				A								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary  
 21: NB Off-Ramp/SR-65 NB On Ramp & Sunset Blvd

Existing AM - AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↗		↑↑↑	↗	↘	↖	↗			
Volume (veh/h)	0	406	37	0	590	203	546	0	639	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	0	1863	1557	0	1845	1863	1792	1792	1863			
Adj Flow Rate, veh/h	0	495	0	0	756	260	628	0	734			
Adj No. of Lanes	0	3	1	0	3	1	2	0	2			
Peak Hour Factor	0.82	0.82	0.82	0.78	0.78	0.78	0.87	0.87	0.87			
Percent Heavy Veh, %	0	2	22	0	3	2	6	2	2			
Cap, veh/h	0	1545	402	0	1530	481	1155	0	1071			
Arrive On Green	0.00	0.30	0.00	0.00	0.30	0.30	0.34	0.00	0.34			
Sat Flow, veh/h	0	5253	1324	0	5202	1583	3414	0	3167			
Grp Volume(v), veh/h	0	495	0	0	756	260	628	0	734			
Grp Sat Flow(s),veh/h/ln	0	1695	1324	0	1679	1583	1707	0	1583			
Q Serve(g_s), s	0.0	2.2	0.0	0.0	3.6	4.1	4.4	0.0	5.9			
Cycle Q Clear(g_c), s	0.0	2.2	0.0	0.0	3.6	4.1	4.4	0.0	5.9			
Prop In Lane	0.00		1.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	0	1545	402	0	1530	481	1155	0	1071			
V/C Ratio(X)	0.00	0.32	0.00	0.00	0.49	0.54	0.54	0.00	0.69			
Avail Cap(c_a), veh/h	0	7725	2011	0	7650	2405	3458	0	3207			
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	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	0.0	8.0	0.0	0.0	8.4	8.6	7.9	0.0	8.4			
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.1	0.4	0.1	0.0	0.3			
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	1.0	0.0	0.0	1.7	1.8	2.0	0.0	2.6			
LnGrp Delay(d),s/veh	0.0	8.0	0.0	0.0	8.5	8.9	8.1	0.0	8.7			
LnGrp LOS		A			A	A	A		A			
Approach Vol, veh/h		495			1016			1362				
Approach Delay, s/veh		8.0			8.6			8.4				
Approach LOS		A			A			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		14.3				14.3		15.3				
Change Period (Y+Rc), s		5.3				5.3		5.3				
Max Green Setting (Gmax), s		45.0				45.0		30.0				
Max Q Clear Time (g_c+I1), s		4.2				6.1		7.9				
Green Ext Time (p_c), s		1.8				1.8		2.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay					8.4							
HCM 2010 LOS					A							
<b>Notes</b>												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

HCM 2010 Signalized Intersection Summary  
 22: Washington Blvd/SR-65 SB Ramps & Blue Oaks Blvd

Existing AM - AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗	↖↗	↖↗	↖	↖↗			↗	↖	↖↗
Volume (veh/h)	0	1522	238	165	495	332	157	0	285	59	228	258
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	0	1863	1863	1863	1863	1863	1863	0	1863	1863	1863	1863
Adj Flow Rate, veh/h	0	1691	264	183	550	0	174	0	317	66	253	0
Adj No. of Lanes	0	4	1	2	2	1	2	0	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	0	2	2	2	2	2	2	0	2	2	2	2
Cap, veh/h	0	2859	706	300	1947	871	0	0	0	202	402	180
Arrive On Green	0.00	0.45	0.45	0.09	0.55	0.00	0.02	0.00	0.02	0.11	0.11	0.00
Sat Flow, veh/h	0	6669	1583	3442	3539	1583		0		1774	3539	1583
Grp Volume(v), veh/h	0	1691	264	183	550	0		0.0		66	253	0
Grp Sat Flow(s),veh/h/ln	0	1602	1583	1721	1770	1583				1774	1770	1583
Q Serve(g_s), s	0.0	23.8	13.3	6.2	9.9	0.0				4.1	8.2	0.0
Cycle Q Clear(g_c), s	0.0	23.8	13.3	6.2	9.9	0.0				4.1	8.2	0.0
Prop In Lane	0.00		1.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2859	706	300	1947	871				202	402	180
V/C Ratio(X)	0.00	0.59	0.37	0.61	0.28	0.00				0.33	0.63	0.00
Avail Cap(c_a), veh/h	0	2859	706	660	1947	871				310	619	277
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	1.00	1.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	25.0	22.1	52.8	14.4	0.0				49.0	50.8	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.6	0.8	0.4	0.0				1.7	3.0	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	10.5	5.9	3.0	4.9	0.0				2.1	4.2	0.0
LnGrp Delay(d),s/veh	0.0	25.5	22.7	53.6	14.7	0.0				50.7	53.8	0.0
LnGrp LOS		C	C	D	B					D	D	
Approach Vol, veh/h		1955			733						319	
Approach Delay, s/veh		25.1			24.4						53.1	
Approach LOS		C			C						D	
<b>Timer</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			12.5	57.5		17.6		70.0				
Change Period (Y+Rc), s			4.0	6.0		6.0		6.0				
Max Green Setting (Gmax), s			21.0	39.0		19.0		64.0				
Max Q Clear Time (g_c+I1), s			8.2	25.8		10.2		11.9				
Green Ext Time (p_c), s			0.3	12.1		1.4		39.8				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			27.9									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary  
 23: SR-65 NB Ramps & Blue Oaks Blvd

Existing AM - AM

	→	↘	↙	←	↖	↗		
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↘	↑↑	↘	↗		
Volume (veh/h)	591	273	48	858	148	311		
Number	4	14	3	8	5	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	622	0	51	903	156	327		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1526	683	458	1526	491	439		
Arrive On Green	0.43	0.00	0.43	0.43	0.28	0.28		
Sat Flow, veh/h	3632	1583	799	3632	1774	1583		
Grp Volume(v), veh/h	622	0	51	903	156	327		
Grp Sat Flow(s),veh/h/ln	1770	1583	799	1770	1774	1583		
Q Serve(g_s), s	4.2	0.0	1.6	6.7	2.4	6.4		
Cycle Q Clear(g_c), s	4.2	0.0	5.8	6.7	2.4	6.4		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1526	683	458	1526	491	439		
V/C Ratio(X)	0.41	0.00	0.11	0.59	0.32	0.75		
Avail Cap(c_a), veh/h	1859	831	533	1859	880	785		
HCM Platoon Ratio	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		
Uniform Delay (d), s/veh	6.7	0.0	8.7	7.4	9.8	11.3		
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.4	0.4	2.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.4	3.2	1.2	3.0		
LnGrp Delay(d),s/veh	6.9	0.0	8.8	7.8	10.2	13.8		
LnGrp LOS	A		A	A	B	B		
Approach Vol, veh/h	622			954	483			
Approach Delay, s/veh	6.9			7.9	12.7			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		14.5		19.8				19.8
Change Period (Y+Rc), s		5.0		5.0				5.0
Max Green Setting (Gmax), s		17.0		18.0				18.0
Max Q Clear Time (g_c+I1), s		8.4		6.2				8.7
Green Ext Time (p_c), s		1.0		7.3				6.1
Intersection Summary								
HCM 2010 Ctrl Delay			8.7					
HCM 2010 LOS			A					



Intersection												
Int Delay, s/veh	2.9											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	14	1	0	10	13	0	1	0	12	0	1
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
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	20	7	0	0	0	0	0	0	0	8	0	0
Mvmt Flow	7	20	1	0	14	18	0	1	0	17	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	32	0	0	21	0	0	59	67	20	58	58	23
Stage 1	-	-	-	-	-	-	35	35	-	23	23	-
Stage 2	-	-	-	-	-	-	24	32	-	35	35	-
Critical Hdwy	4.3	-	-	4.1	-	-	7.1	6.5	6.2	7.18	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.18	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.18	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.572	4	3.3
Pot Cap-1 Maneuver	1471	-	-	1608	-	-	942	828	1064	924	837	1060
Stage 1	-	-	-	-	-	-	986	870	-	980	880	-
Stage 2	-	-	-	-	-	-	999	872	-	966	870	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1471	-	-	1608	-	-	937	824	1064	919	833	1060
Mov Cap-2 Maneuver	-	-	-	-	-	-	937	824	-	919	833	-
Stage 1	-	-	-	-	-	-	981	866	-	975	880	-
Stage 2	-	-	-	-	-	-	998	872	-	960	866	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0	9.4	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	824	1471	-	-	1608	-	-	929
HCM Lane V/C Ratio	0.002	0.005	-	-	-	-	-	0.02
HCM Control Delay (s)	9.4	7.5	0	-	0	-	-	9
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

**Intersection**

Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Vol, veh/h	0	17	11	0	76	4	0	15	93
Peak Hour Factor	0.95	0.84	0.84	0.95	0.84	0.84	0.95	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	20	13	0	90	5	0	18	111
Number of Lanes	0	1	0	0	0	1	0	1	0

**Approach**

	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.2	8	7.3
HCM LOS	A	A	A

**Lane**

	NBLn1	EBLn1	WBLn1
Vol Left, %	14%	0%	95%
Vol Thru, %	0%	61%	5%
Vol Right, %	86%	39%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	108	28	80
LT Vol	15	0	76
Through Vol	0	17	4
RT Vol	93	11	0
Lane Flow Rate	129	33	95
Geometry Grp	1	1	1
Degree of Util (X)	0.131	0.037	0.116
Departure Headway (Hd)	3.667	3.997	4.376
Convergence, Y/N	Yes	Yes	Yes
Cap	964	887	816
Service Time	1.74	2.059	2.416
HCM Lane V/C Ratio	0.134	0.037	0.116
HCM Control Delay	7.3	7.2	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.5	0.1	0.4

**Intersection**

Intersection Delay, s/veh10.7

Intersection LOS B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Vol, veh/h	0	0	0	0	0	219	1	25	0	0	127	231	0	15	45	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	231	1	26	0	0	134	243	0	16	47	0
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	10.9	10.9	8.6
HCM LOS	-	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	89%	25%
Vol Thru, %	35%	100%	0%	75%
Vol Right, %	65%	0%	10%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	358	0	245	60
LT Vol	0	0	219	15
Through Vol	127	0	1	45
RT Vol	231	0	25	0
Lane Flow Rate	377	0	258	63
Geometry Grp	1	1	1	1
Degree of Util (X)	0.451	0	0.36	0.089
Departure Headway (Hd)	4.304	5.278	5.019	5.079
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	837	0	712	701
Service Time	2.342	3.364	3.08	3.14
HCM Lane V/C Ratio	0.45	0	0.362	0.09
HCM Control Delay	10.9	8.4	10.9	8.6
HCM Lane LOS	B	N	B	A
HCM 95th-tile Q	2.4	0	1.6	0.3

## SIA PLAN UPDATE

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