

APPENDIX G
SYNCHRO ANALYSIS WORKSHEETS (NEAR-TERM)

APPENDIX G-1

**EXISTING TRAFFIC CONDITIONS –
SYNCHRO OPERATIONS METHOD OF ANALYSIS**

Lanes, Volumes, Timings
3: Del Obispo Street & Ortega Highway

MD Ex
MD Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	296	13	67	22	4	56	81	1103	52	34	1255	401
Future Volume (vph)	296	13	67	22	4	56	81	1103	52	34	1255	401
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		0	0		0	190		0	150		130
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850		0.860			0.993				0.850
Flt Protected	0.950	0.956		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1692	1583	1770	1602	0	1770	5050	0	1770	3539	1583
Flt Permitted	0.950	0.956		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1692	1583	1770	1602	0	1770	5050	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			159		59			9				411
Link Speed (mph)		25			25			35				35
Link Distance (ft)		407			222			303				426
Travel Time (s)		11.1			6.1			5.9				8.3
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
Adj. Flow (vph)	312	14	71	23	4	59	85	1161	55	36	1321	422
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	162	164	71	23	63	0	85	1216	0	36	1321	422
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6

Lanes, Volumes, Timings
3: Del Obispo Street & Ortega Highway

MD Ex
MD Peak Hour

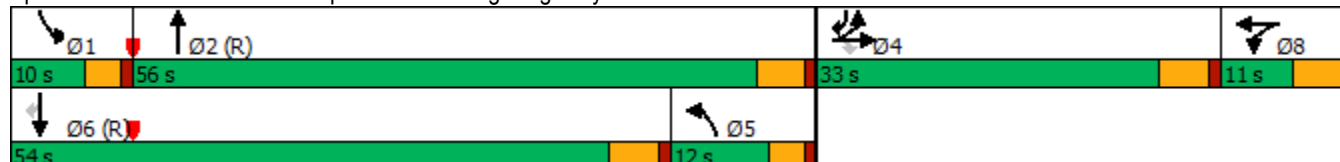


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		5	2		1	6	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	33.0	33.0	33.0	11.0	11.0		10.0	23.0		10.0	26.0	33.0
Total Split (s)	33.0	33.0	33.0	11.0	11.0		12.0	56.0		10.0	54.0	33.0
Total Split (%)	30.0%	30.0%	30.0%	10.0%	10.0%		10.9%	50.9%		9.1%	49.1%	30.0%
Maximum Green (s)	28.0	28.0	28.0	6.0	6.0		8.0	51.0		6.0	49.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag							Lag	Lag		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	7.0
Flash Dont Walk (s)	21.0	21.0	21.0					11.0			14.0	21.0
Pedestrian Calls (#/hr)	5	5	5					5			5	5
Act Effct Green (s)	18.9	18.9	18.9	6.5	6.5		7.8	64.9		7.0	62.2	83.1
Actuated g/C Ratio	0.17	0.17	0.17	0.06	0.06		0.07	0.59		0.06	0.57	0.76
v/c Ratio	0.56	0.56	0.18	0.22	0.42		0.68	0.41		0.32	0.66	0.33
Control Delay	47.9	48.0	1.0	54.6	23.4		53.4	8.5		57.3	21.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	47.9	48.0	1.0	54.6	23.4		53.4	8.5		57.3	21.9	1.0
LOS	D	D	A	D	C		D	A		E	C	A
Approach Delay		39.5			31.8			11.5			17.7	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 51 (46%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 18.2
 Intersection LOS: B
 Intersection Capacity Utilization 66.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Del Obispo Street & Ortega Highway



HCM 6th Signalized Intersection Summary

3: Del Bispo Street & Ortega Highway

MD Ex
MD Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↖	↗	↗	↖		↗	↑↑↑		↗	↑↑	↗
Traffic Volume (veh/h)	296	13	67	22	4	56	81	1103	52	34	1255	401
Future Volume (veh/h)	296	13	67	22	4	56	81	1103	52	34	1255	401
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	322	0	71	23	4	59	85	1161	55	36	1321	422
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	0	186	94	5	79	361	3100	147	65	1583	892
Arrive On Green	0.12	0.00	0.12	0.05	0.05	0.05	0.20	0.62	0.62	0.04	0.45	0.45
Sat Flow, veh/h	3563	0	1585	1781	102	1499	1781	4995	237	1781	3554	1585
Grp Volume(v), veh/h	322	0	71	23	0	63	85	791	425	36	1321	422
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1601	1781	1702	1828	1781	1777	1585
Q Serve(g_s), s	9.6	0.0	4.6	1.4	0.0	4.3	4.4	12.6	12.6	2.2	36.1	17.4
Cycle Q Clear(g_c), s	9.6	0.0	4.6	1.4	0.0	4.3	4.4	12.6	12.6	2.2	36.1	17.4
Prop In Lane	1.00		1.00	1.00		0.94	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	418	0	186	94	0	85	361	2112	1134	65	1583	892
V/C Ratio(X)	0.77	0.00	0.38	0.24	0.00	0.74	0.24	0.37	0.37	0.56	0.83	0.47
Avail Cap(c_a), veh/h	907	0	403	97	0	87	361	2112	1134	97	1583	892
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	47.1	0.0	44.8	50.0	0.0	51.4	36.7	10.3	10.3	52.1	26.9	14.3
Incr Delay (d2), s/veh	3.0	0.0	1.3	1.3	0.0	28.1	0.3	0.5	0.9	7.2	5.3	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
%ile BackOfQ(50%),veh/ln	4.5	0.0	1.9	0.6	0.0	2.4	1.9	4.5	5.0	1.1	15.7	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.1	0.0	46.1	51.3	0.0	79.4	37.1	10.8	11.3	59.4	32.3	16.1
LnGrp LOS	D	A	D	D	A	E	D	B	B	E	C	B
Approach Vol, veh/h		393			86			1301			1779	
Approach Delay, s/veh		49.4			71.9			12.7			29.0	
Approach LOS		D			E			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	73.3		17.9	27.3	54.0		10.8				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	51.0		28.0	8.0	* 49		6.0				
Max Q Clear Time (g_c+I1), s	4.2	14.6		11.6	6.4	38.1		6.3				
Green Ext Time (p_c), s	0.0	10.1		1.3	0.0	7.5		0.0				

Intersection Summary

HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C































Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
6: Camino Capistrano & Del Obispo Street

MD Ex
MD Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 			 	 	
Traffic Volume (vph)	188	753	300	182	708	90	390	238	316	76	244	211
Future Volume (vph)	188	753	300	182	708	90	390	238	316	76	244	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		160	90		0	215		140	110		0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.983				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3479	0	3433	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3479	0	3433	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			227		14				305			149
Link Speed (mph)		30		30			30			30		30
Link Distance (ft)		433		330			633			501		
Travel Time (s)		9.8		7.5			14.4			11.4		
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
Adj. Flow (vph)	198	793	316	192	745	95	411	251	333	80	257	222
Shared Lane Traffic (%)												
Lane Group Flow (vph)	198	793	316	192	840	0	411	251	333	80	257	222
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24		24			24			24		24
Link Offset(ft)		0		0			0			0		0
Crosswalk Width(ft)		16		16			16			16		16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94		94			94			94		94
Detector 2 Size(ft)		6		6			6			6		6
Detector 2 Type		Cl+Ex		Cl+Ex			Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0		0.0			0.0			0.0		0.0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4

Lanes, Volumes, Timings

6: Camino Capistrano & Del Obispo Street

MD Ex
MD Peak Hour

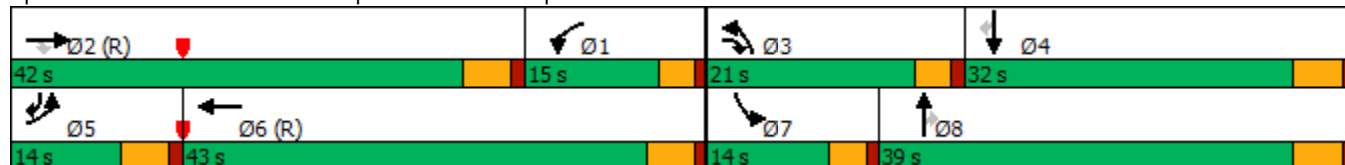


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	12.0	3.0	6.0	12.0		3.0	8.0	8.0	3.0	8.0	3.0
Minimum Split (s)	8.0	30.0	7.0	10.0	22.0		7.0	28.0	28.0	7.0	32.0	8.0
Total Split (s)	14.0	42.0	21.0	15.0	43.0		21.0	39.0	39.0	14.0	32.0	14.0
Total Split (%)	12.7%	38.2%	19.1%	13.6%	39.1%		19.1%	35.5%	35.5%	12.7%	29.1%	12.7%
Maximum Green (s)	9.0	37.0	17.0	11.0	38.0		17.0	34.0	34.0	10.0	27.0	9.0
Yellow Time (s)	4.0	4.0	3.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	2.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	2.0
Recall Mode	None	C-Max	None	None	C-Max		None	None	None	None	None	None
Walk Time (s)		4.0			4.0			4.0	4.0		4.0	
Flash Dont Walk (s)		21.0			13.0			19.0	19.0		23.0	
Pedestrian Calls (#/hr)		5			5			5	5		5	
Act Effct Green (s)	9.8	44.7	61.7	11.0	44.9		15.9	29.7	29.7	8.5	20.3	35.1
Actuated g/C Ratio	0.09	0.41	0.56	0.10	0.41		0.14	0.27	0.27	0.08	0.18	0.32
v/c Ratio	0.65	0.55	0.32	0.56	0.59		0.83	0.50	0.51	0.59	0.75	0.37
Control Delay	58.8	28.0	3.2	39.0	14.8		60.4	37.6	7.9	66.4	55.5	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.3		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.8	28.0	3.2	39.0	15.1		60.4	37.6	7.9	66.4	55.5	10.7
LOS	E	C	A	D	B		E	D	A	E	E	B
Approach Delay		26.7			19.5			37.1			39.3	
Approach LOS		C			B			D			D	

Intersection Summary
























Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	69 (63%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	29.2
Intersection LOS:	C
Intersection Capacity Utilization:	67.6%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 6: Camino Capistrano & Del Obispo Street



HCM 6th Signalized Intersection Summary
6: Camino Capistrano & Del Obispo Street

MD Ex
MD Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	753	300	182	708	90	390	238	316	76	244	211
Future Volume (veh/h)	188	753	300	182	708	90	390	238	316	76	244	211
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	198	793	316	192	745	95	411	251	333	80	257	222
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	1195	750	649	1425	182	473	460	390	102	311	382
Arrive On Green	0.07	0.34	0.34	0.19	0.45	0.45	0.14	0.25	0.25	0.06	0.17	0.17
Sat Flow, veh/h	3456	3554	1585	3456	3170	404	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	198	793	316	192	417	423	411	251	333	80	257	222
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1798	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	6.2	21.0	5.8	5.3	18.6	18.6	12.8	12.9	13.9	4.9	14.6	13.6
Cycle Q Clear(g_c), s	6.2	21.0	5.8	5.3	18.6	18.6	12.8	12.9	13.9	4.9	14.6	13.6
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	1195	750	649	799	808	473	460	390	102	311	382
V/C Ratio(X)	0.77	0.66	0.42	0.30	0.52	0.52	0.87	0.55	0.85	0.78	0.83	0.58
Avail Cap(c_a), veh/h	283	1195	750	649	799	808	534	578	490	162	459	507
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	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	31.2	6.8	38.4	21.8	21.8	46.5	36.1	15.7	51.2	44.3	36.9
Incr Delay (d2), s/veh	9.5	2.9	1.7	0.1	2.1	2.1	12.1	1.0	11.5	4.9	7.7	1.4
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	3.0	9.3	2.6	2.2	8.1	8.2	6.3	6.0	6.1	2.3	7.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	34.1	8.6	38.5	23.9	23.9	58.6	37.1	27.2	56.1	52.1	38.3
LnGrp LOS	E	C	A	D	C	C	E	D	C	E	D	D
Approach Vol, veh/h		1307			1032			995			559	
Approach Delay, s/veh		31.8			26.6			42.7			47.2	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.7	42.0	19.0	23.3	13.2	54.5	10.3	32.0				
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	11.0	* 37	17.0	27.0	9.0	38.0	10.0	34.0				
Max Q Clear Time (g_c+I1), s	7.3	23.0	14.8	16.6	8.2	20.6	6.9	15.9				
Green Ext Time (p_c), s	0.1	5.7	0.2	1.7	0.0	5.1	0.0	2.5				

Intersection Summary













HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
7: Del Obispo Street

MD Ex
MD Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (vph)	0	1022	114	186	924	18	83	7	119	25	9	31
Future Volume (vph)	0	1022	114	186	924	18	83	7	119	25	9	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		40	150		0	50		0	0		0
Storage Lanes	0		1	1		0	1		0	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997			0.858			0.934	
Flt Protected				0.950			0.950				0.981	
Satd. Flow (prot)	0	3539	1583	1770	3529	0	1770	1598	0	0	1707	0
Flt Permitted				0.950			0.950				0.818	
Satd. Flow (perm)	0	3539	1583	1770	3529	0	1770	1598	0	0	1423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			119		3			125			33	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		330			1156			478			164	
Travel Time (s)		6.4			22.5			13.0			4.5	
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
Adj. Flow (vph)	0	1076	120	196	973	19	87	7	125	26	9	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1076	120	196	992	0	87	132	0	0	68	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane				Yes								
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2		1	2		1	2	
Detector Template		Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)		100	20	20	100		20	100		20	100	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Detector 1 Position(ft)		0	0	0	0		0	0		0	0	
Detector 1 Size(ft)		6	20	20	6		20	6		20	6	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94		94			94		94
Detector 2 Size(ft)		6			6		6			6		6
Detector 2 Type		Cl+Ex			Cl+Ex		Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0		0.0			0.0		0.0
Turn Type		NA	Perm	Prot	NA		Split	NA		Perm	NA	
Protected Phases		4		3	8		2	2			6	
Permitted Phases			4							6		

Lanes, Volumes, Timings
7: Del Obispo Street

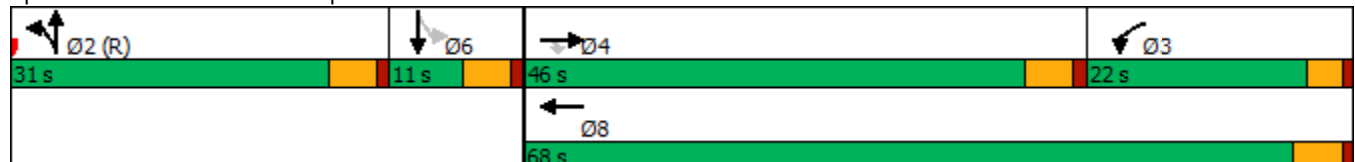
MD Ex
MD Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		4	4	3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		23.0	23.0	10.0	19.0		30.0	30.0		11.0	11.0	
Total Split (s)		46.0	46.0	22.0	68.0		31.0	31.0		11.0	11.0	
Total Split (%)		41.8%	41.8%	20.0%	61.8%		28.2%	28.2%		10.0%	10.0%	
Maximum Green (s)		41.0	41.0	18.0	63.0		26.0	26.0		6.0	6.0	
Yellow Time (s)		4.0	4.0	3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)		5.0	5.0	4.0	5.0		5.0	5.0			5.0	
Lead/Lag		Lead	Lead	Lag								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		None	None	None	None		C-Max	C-Max		None	None	
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		11.0	11.0		7.0		18.0	18.0				
Pedestrian Calls (#/hr)		5	5		5		5	5				
Act Effct Green (s)		39.0	39.0	15.9	59.0		32.2	32.2			6.0	
Actuated g/C Ratio		0.35	0.35	0.14	0.54		0.29	0.29			0.05	
v/c Ratio		0.86	0.19	0.77	0.52		0.17	0.24			0.63	
Control Delay		26.4	3.0	46.2	10.8		33.6	8.2			55.4	
Queue Delay		0.3	0.0	0.0	0.0		0.0	0.0			0.0	
Total Delay		26.7	3.0	46.2	10.8		33.6	8.2			55.4	
LOS		C	A	D	B		C	A			E	
Approach Delay		24.3			16.7			18.2			55.4	
Approach LOS		C			B			B			E	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 21.2
 Intersection LOS: C
 Intersection Capacity Utilization 67.1%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 7: Del Obispo Street



HCM 6th Signalized Intersection Summary
7: Del Bispo Street

MD Ex
MD Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↗	↖			↕	
Traffic Volume (veh/h)	0	1022	114	186	924	18	83	7	119	25	9	31
Future Volume (veh/h)	0	1022	114	186	924	18	83	7	119	25	9	31
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1076	120	196	973	19	87	7	125	26	9	33
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
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1220	544	223	1833	36	532	25	452	33	11	42
Arrive On Green	0.00	0.34	0.34	0.25	1.00	1.00	0.30	0.30	0.30	0.05	0.05	0.05
Sat Flow, veh/h	0	3647	1585	1781	3565	70	1781	85	1513	646	224	820
Grp Volume(v), veh/h	0	1076	120	196	485	507	87	0	132	68	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	1858	1781	0	1598	1690	0	0
Q Serve(g_s), s	0.0	31.4	5.9	11.6	0.0	0.0	4.0	0.0	6.9	4.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	31.4	5.9	11.6	0.0	0.0	4.0	0.0	6.9	4.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.04	1.00		0.95	0.38		0.49
Lane Grp Cap(c), veh/h	0	1220	544	223	914	955	532	0	477	86	0	0
V/C Ratio(X)	0.00	0.88	0.22	0.88	0.53	0.53	0.16	0.00	0.28	0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1325	591	291	1018	1064	532	0	477	92	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.82	0.82	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	34.0	25.7	40.4	0.0	0.0	28.4	0.0	29.5	51.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.8	0.2	20.5	0.5	0.5	0.7	0.0	1.4	34.6	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	0.0	14.1	2.2	5.6	0.1	0.1	1.8	0.0	2.9	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	39.8	25.8	60.9	0.5	0.5	29.1	0.0	30.9	86.2	0.0	0.0
LnGrp LOS	A	D	C	E	A	A	C	A	C	F	A	A
Approach Vol, veh/h		1196			1188			219				68
Approach Delay, s/veh		38.4			10.4			30.2				86.2
Approach LOS		D			B			C				F
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		37.9	18.8	42.8		10.6		61.6				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0		5.0				
Max Green Setting (Gmax), s		26.0	18.0	* 41		6.0		63.0				
Max Q Clear Time (g_c+I1), s		8.9	13.6	33.4		6.4		2.0				
Green Ext Time (p_c), s		0.9	0.2	4.4		0.0		7.8				
Intersection Summary												
HCM 6th Ctrl Delay			26.5									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings
8: Del Obispo Street

MD Ex
MD Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	9	11	1056	1388	27
Future Volume (vph)	2	9	11	1056	1388	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	50			0
Storage Lanes	1	0	1			0
Taper Length (ft)	90		90			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.890				0.997	
Flt Protected	0.991		0.950			
Satd. Flow (prot)	1643	0	1770	3539	3529	0
Flt Permitted	0.991		0.950			
Satd. Flow (perm)	1643	0	1770	3539	3529	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	194			1156	303	
Travel Time (s)	5.3			22.5	5.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	9	12	1112	1461	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	12	1112	1489	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	49.2%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	9	11	1056	1388	27
Future Vol, veh/h	2	9	11	1056	1388	27
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	-	50	-	-	-
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	2	9	12	1112	1461	28
























Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2055	745	1489	0	-	0
Stage 1	1475	-	-	-	-	-
Stage 2	580	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	48	357	447	-	-	-
Stage 1	177	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	47	357	447	-	-	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	172	-	-	-	-	-
Stage 2	523	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	447	-	273	-	-
HCM Lane V/C Ratio	0.026	-	0.042	-	-
HCM Control Delay (s)	13.3	-	18.8	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lanes, Volumes, Timings
3: Del Obispo Street & Ortega Highway

PM Ex
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	327	6	77	6	4	19	85	931	24	19	1024	452
Future Volume (vph)	327	6	77	6	4	19	85	931	24	19	1024	452
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145		0	0		0	190		0	150		130
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850		0.875			0.996				0.850
Flt Protected	0.950	0.954		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1688	1583	1770	1630	0	1770	5065	0	1770	3539	1583
Flt Permitted	0.950	0.954		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1688	1583	1770	1630	0	1770	5065	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			194		20			4				476
Link Speed (mph)		25			25			35				35
Link Distance (ft)		407			222			303				426
Travel Time (s)		11.1			6.1			5.9				8.3
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
Adj. Flow (vph)	344	6	81	6	4	20	89	980	25	20	1078	476
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	175	175	81	6	24	0	89	1005	0	20	1078	476
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane								Yes				
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Split	NA	Perm	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	4	4		8	8		5	2		1	6	4
Permitted Phases			4									6

Lanes, Volumes, Timings
3: Del Obispo Street & Ortega Highway

PM Ex
PM Peak Hour

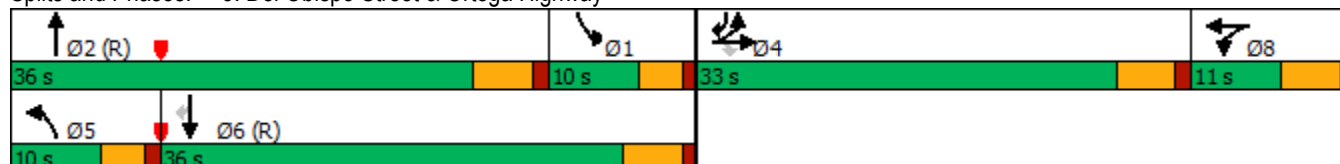


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		5	2		1	6	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	33.0	33.0	33.0	11.0	11.0		10.0	23.0		10.0	26.0	33.0
Total Split (s)	33.0	33.0	33.0	11.0	11.0		10.0	36.0		10.0	36.0	33.0
Total Split (%)	36.7%	36.7%	36.7%	12.2%	12.2%		11.1%	40.0%		11.1%	40.0%	36.7%
Maximum Green (s)	28.0	28.0	28.0	6.0	6.0		6.0	31.0		6.0	31.0	28.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0		4.0	5.0		4.0	5.0	5.0
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Walk Time (s)	7.0	7.0	7.0					7.0			7.0	7.0
Flash Dont Walk (s)	21.0	21.0	21.0					11.0			14.0	21.0
Pedestrian Calls (#/hr)	5	5	5					5			5	5
Act Effct Green (s)	18.9	18.9	18.9	6.1	6.1		8.6	50.4		6.0	41.8	65.7
Actuated g/C Ratio	0.21	0.21	0.21	0.07	0.07		0.10	0.56		0.07	0.46	0.73
v/c Ratio	0.50	0.50	0.17	0.05	0.19		0.53	0.35		0.17	0.66	0.37
Control Delay	34.7	34.6	0.7	40.3	23.1		36.0	8.9		43.2	24.2	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	34.7	34.6	0.7	40.3	23.1		36.0	8.9		43.2	24.2	1.3
LOS	C	C	A	D	C		D	A		D	C	A
Approach Delay		28.3			26.6			11.1			17.5	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 18 (20%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 16.8
 Intersection LOS: B
 Intersection Capacity Utilization 60.9%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 3: Del Obispo Street & Ortega Highway



HCM 6th Signalized Intersection Summary
3: Del Bispo Street & Ortega Highway

PM Ex
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	327	6	77	6	4	19	85	931	24	19	1024	452
Future Volume (veh/h)	327	6	77	6	4	19	85	931	24	19	1024	452
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	348	0	81	6	4	20	89	980	25	20	1078	476
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	0	209	63	10	48	114	1764	45	474	1982	1094
Arrive On Green	0.13	0.00	0.13	0.04	0.04	0.04	0.06	0.34	0.34	0.27	0.56	0.56
Sat Flow, veh/h	3563	0	1585	1781	271	1355	1781	5120	131	1781	3554	1585
Grp Volume(v), veh/h	348	0	81	6	0	24	89	651	354	20	1078	476
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1626	1781	1702	1847	1781	1777	1585
Q Serve(g_s), s	8.5	0.0	4.2	0.3	0.0	1.3	4.4	14.0	14.0	0.8	17.3	12.0
Cycle Q Clear(g_c), s	8.5	0.0	4.2	0.3	0.0	1.3	4.4	14.0	14.0	0.8	17.3	12.0
Prop In Lane	1.00		1.00	1.00		0.83	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	471	0	209	63	0	57	114	1173	636	474	1982	1094
V/C Ratio(X)	0.74	0.00	0.39	0.10	0.00	0.42	0.78	0.56	0.56	0.04	0.54	0.44
Avail Cap(c_a), veh/h	1108	0	493	119	0	108	119	1173	636	474	1982	1094
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	37.6	0.0	35.7	42.0	0.0	42.5	41.5	23.9	23.9	24.5	12.6	6.2
Incr Delay (d2), s/veh	2.3	0.0	1.2	0.7	0.0	4.8	27.3	1.9	3.5	0.0	1.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	1.7	0.1	0.0	0.6	2.8	5.7	6.4	0.3	6.4	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.9	0.0	36.9	42.7	0.0	47.3	68.8	25.8	27.4	24.6	13.7	7.4
LnGrp LOS	D	A	D	D	A	D	E	C	C	C	B	A
Approach Vol, veh/h		429			30			1094			1574	
Approach Delay, s/veh		39.3			46.4			29.8			12.0	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	28.9	36.0		16.9	9.7	55.2		8.2				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 31		28.0	6.0	31.0		6.0				
Max Q Clear Time (g_c+I1), s	2.8	16.0		10.5	6.4	19.3		3.3				
Green Ext Time (p_c), s	0.0	5.7		1.4	0.0	6.9		0.0				

Intersection Summary






























HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lanes, Volumes, Timings
6: Camino Capistrano & Del Obispo Street

PM Ex
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 				 	
Traffic Volume (vph)	294	587	307	150	650	51	443	242	146	65	227	327
Future Volume (vph)	294	587	307	150	650	51	443	242	146	65	227	327
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	220		160	90		0	215		140	110		0
Storage Lanes	2		1	2		0	2		1	1		1
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3500	0	3433	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3500	0	3433	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			321		9				206			133
Link Speed (mph)		30			30			30				30
Link Distance (ft)		433			330			633				501
Travel Time (s)		9.8			7.5			14.4				11.4
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
Adj. Flow (vph)	309	618	323	158	684	54	466	255	154	68	239	344
Shared Lane Traffic (%)												
Lane Group Flow (vph)	309	618	323	158	738	0	466	255	154	68	239	344
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6		3	8		7	4	5
Permitted Phases			2						8			4

Lanes, Volumes, Timings
6: Camino Capistrano & Del Obispo Street

PM Ex
PM Peak Hour

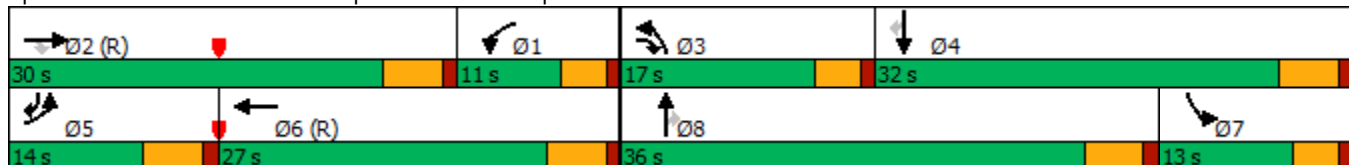


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	12.0	3.0	6.0	12.0		3.0	8.0	8.0	3.0	8.0	3.0
Minimum Split (s)	8.0	30.0	7.0	10.0	22.0		7.0	28.0	28.0	7.0	32.0	8.0
Total Split (s)	14.0	30.0	17.0	11.0	27.0		17.0	36.0	36.0	13.0	32.0	14.0
Total Split (%)	15.6%	33.3%	18.9%	12.2%	30.0%		18.9%	40.0%	40.0%	14.4%	35.6%	15.6%
Maximum Green (s)	9.0	25.0	13.0	7.0	22.0		13.0	31.0	31.0	9.0	27.0	9.0
Yellow Time (s)	4.0	4.0	3.0	3.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	3.0	2.0	2.0	3.0		2.0	3.0	3.0	2.0	3.0	2.0
Recall Mode	None	C-Max	None	None	C-Max		None	None	None	None	None	None
Walk Time (s)		4.0			4.0			4.0	4.0		4.0	
Flash Dont Walk (s)		21.0			13.0			19.0	19.0		23.0	
Pedestrian Calls (#/hr)		5			5			5	5		5	
Act Effct Green (s)	11.8	34.3	48.3	7.0	28.5		13.0	21.4	21.4	10.9	17.7	34.5
Actuated g/C Ratio	0.13	0.38	0.54	0.08	0.32		0.14	0.24	0.24	0.12	0.20	0.38
v/c Ratio	0.69	0.46	0.32	0.59	0.66		0.94	0.58	0.29	0.32	0.65	0.50
Control Delay	46.9	23.5	2.0	31.3	14.7		67.8	36.3	2.9	38.9	41.1	14.2
Queue Delay	0.0	0.1	0.0	0.0	0.3		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	23.6	2.0	31.3	15.0		67.8	36.3	2.9	38.9	41.1	14.2
LOS	D	C	A	C	B		E	D	A	D	D	B
Approach Delay		23.8			17.9			47.2			26.6	
Approach LOS		C			B			D			C	

Intersection Summary
































Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 63 (70%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 28.4
 Intersection LOS: C
 Intersection Capacity Utilization 68.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Camino Capistrano & Del Obispo Street















HCM 6th Signalized Intersection Summary
6: Camino Capistrano & Del Obispo Street

PM Ex
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 			 	 	 
Traffic Volume (veh/h)	294	587	307	150	650	51	443	242	146	65	227	327
Future Volume (veh/h)	294	587	307	150	650	51	443	242	146	65	227	327
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	309	618	323	158	684	54	466	255	154	68	239	344
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	987	669	479	1056	83	499	324	274	335	427	520
Arrive On Green	0.10	0.28	0.28	0.28	0.63	0.63	0.14	0.17	0.17	0.19	0.23	0.23
Sat Flow, veh/h	3456	3554	1585	3456	3337	263	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	309	618	323	158	364	374	466	255	154	68	239	344
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1823	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	8.0	13.7	6.5	3.3	11.5	11.5	12.0	11.7	8.0	2.9	10.2	16.8
Cycle Q Clear(g_c), s	8.0	13.7	6.5	3.3	11.5	11.5	12.0	11.7	8.0	2.9	10.2	16.8
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	987	669	479	562	577	499	324	274	335	427	520
V/C Ratio(X)	0.89	0.63	0.48	0.33	0.65	0.65	0.93	0.79	0.56	0.20	0.56	0.66
Avail Cap(c_a), veh/h	346	987	669	479	562	577	499	644	546	335	561	634
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	28.4	6.7	29.2	13.4	13.4	38.1	35.6	34.1	30.8	30.7	26.0
Incr Delay (d2), s/veh	23.7	3.0	2.5	0.1	4.3	4.3	24.5	4.3	1.8	0.1	1.2	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
%ile BackOfQ(50%),veh/ln	4.5	6.1	3.0	1.3	3.8	3.9	6.7	5.6	3.2	1.2	4.6	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	31.4	9.2	29.3	17.7	17.7	62.5	39.9	35.9	30.9	31.9	27.8
LnGrp LOS	E	C	A	C	B	B	E	D	D	C	C	C
Approach Vol, veh/h		1250			896			875			651	
Approach Delay, s/veh		33.6			19.8			51.2			29.7	
Approach LOS		C			B			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.5	30.0	17.0	25.5	14.0	33.5	21.9	20.6				
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	5.0	5.0	5.0	* 5				
Max Green Setting (Gmax), s	7.0	* 25	13.0	27.0	9.0	22.0	9.0	* 31				
Max Q Clear Time (g_c+I1), s	5.3	15.7	14.0	18.8	10.0	13.5	4.9	13.7				
Green Ext Time (p_c), s	0.0	3.7	0.0	1.8	0.0	3.0	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			33.7									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings
7: Del Obispo Street

PM Ex
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (vph)	0	845	92	119	972	8	67	8	111	19	8	23
Future Volume (vph)	0	845	92	119	972	8	67	8	111	19	8	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		40	150		0	50		0	0		0
Storage Lanes	0		1	1		0	1		0	0		0
Taper Length (ft)	90			90			90			90		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.860			0.938	
Flt Protected				0.950			0.950				0.981	
Satd. Flow (prot)	0	3539	1583	1770	3536	0	1770	1602	0	0	1714	0
Flt Permitted				0.950			0.950				0.820	
Satd. Flow (perm)	0	3539	1583	1770	3536	0	1770	1602	0	0	1433	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133		1			117			24	
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		330			1156			478			164	
Travel Time (s)		6.4			22.5			13.0			4.5	
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
Adj. Flow (vph)	0	889	97	125	1023	8	71	8	117	20	8	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	889	97	125	1031	0	71	125	0	0	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2		1	2		1	2	
Detector Template		Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)		100	20	20	100		20	100		20	100	
Trailing Detector (ft)		0	0	0	0		0	0		0	0	
Detector 1 Position(ft)		0	0	0	0		0	0		0	0	
Detector 1 Size(ft)		6	20	20	6		20	6		20	6	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94		94			94		94
Detector 2 Size(ft)		6			6		6			6		6
Detector 2 Type		Cl+Ex			Cl+Ex		Cl+Ex			Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0		0.0			0.0		0.0
Turn Type		NA	Perm	Prot	NA		Split	NA		Perm	NA	
Protected Phases		4		3	8		2	2				6
Permitted Phases			4							6		

Lanes, Volumes, Timings
7: Del Obispo Street

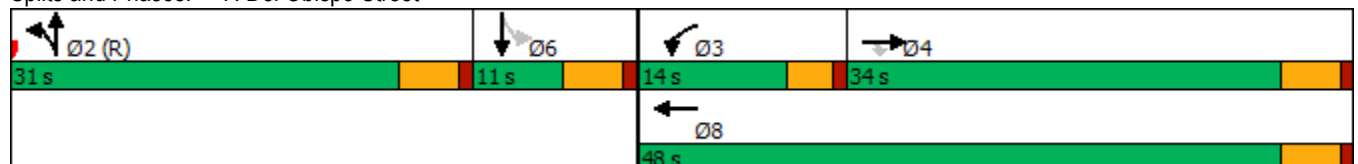
PM Ex
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		4	4	3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		23.0	23.0	10.0	19.0		30.0	30.0		11.0	11.0	
Total Split (s)		34.0	34.0	14.0	48.0		31.0	31.0		11.0	11.0	
Total Split (%)		37.8%	37.8%	15.6%	53.3%		34.4%	34.4%		12.2%	12.2%	
Maximum Green (s)		29.0	29.0	10.0	43.0		26.0	26.0		6.0	6.0	
Yellow Time (s)		4.0	4.0	3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)		1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)		5.0	5.0	4.0	5.0		5.0	5.0			5.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode		None	None	None	None		C-Max	C-Max		None	None	
Walk Time (s)		7.0	7.0		7.0		7.0	7.0				
Flash Dont Walk (s)		11.0	11.0		7.0		18.0	18.0				
Pedestrian Calls (#/hr)		5	5		5		5	5				
Act Effct Green (s)		27.4	27.4	9.5	40.9		32.5	32.5			6.0	
Actuated g/C Ratio		0.30	0.30	0.11	0.45		0.36	0.36			0.07	
v/c Ratio		0.83	0.17	0.67	0.64		0.11	0.19			0.44	
Control Delay		22.5	1.0	69.4	7.3		23.4	6.5			38.0	
Queue Delay		0.6	0.0	0.0	0.1		0.0	0.0			0.0	
Total Delay		23.1	1.0	69.4	7.4		23.4	6.5			38.0	
LOS		C	A	E	A		C	A			D	
Approach Delay		20.9			14.1			12.6			38.0	
Approach LOS		C			B			B			D	

Intersection Summary













Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 86 (96%), Referenced to phase 2:NBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 17.3
 Intersection LOS: B
 Intersection Capacity Utilization 51.2%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 7: Del Obispo Street



HCM 6th Signalized Intersection Summary
7: Del Bispo Street

PM Ex
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (veh/h)	0	845	92	119	972	8	67	8	111	19	8	23
Future Volume (veh/h)	0	845	92	119	972	8	67	8	111	19	8	23
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
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	889	97	125	1023	8	71	8	117	20	8	24
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
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1025	457	154	1515	12	651	37	548	32	13	38
Arrive On Green	0.00	0.38	0.38	0.17	0.84	0.84	0.37	0.37	0.37	0.05	0.05	0.05
Sat Flow, veh/h	0	3647	1585	1781	3614	28	1781	102	1498	653	261	783
Grp Volume(v), veh/h	0	889	97	125	503	528	71	0	125	52	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	1865	1781	0	1601	1697	0	0
Q Serve(g_s), s	0.0	20.8	3.7	6.1	9.5	9.5	2.4	0.0	4.8	2.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	20.8	3.7	6.1	9.5	9.5	2.4	0.0	4.8	2.7	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.02	1.00		0.94	0.38		0.46
Lane Grp Cap(c), veh/h	0	1025	457	154	745	782	651	0	585	82	0	0
V/C Ratio(X)	0.00	0.87	0.21	0.81	0.68	0.68	0.11	0.00	0.21	0.63	0.00	0.00
Avail Cap(c_a), veh/h	0	1145	511	198	849	891	651	0	585	113	0	0
HCM Platoon Ratio	1.00	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	26.2	20.9	36.5	5.0	5.0	18.9	0.0	19.6	42.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.2	0.2	17.7	1.8	1.7	0.3	0.0	0.8	7.8	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	0.0	8.4	1.3	3.1	2.1	2.2	1.0	0.0	1.9	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.3	21.1	54.3	6.8	6.7	19.2	0.0	20.5	49.8	0.0	0.0
LnGrp LOS	A	C	C	D	A	A	B	A	C	D	A	A
Approach Vol, veh/h		986			1156			196				52
Approach Delay, s/veh		31.2			11.9			20.0				49.8
Approach LOS		C			B			C				D
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		37.9	11.8	31.0		9.4		42.7				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0		5.0				
Max Green Setting (Gmax), s		26.0	10.0	29.0		6.0		43.0				
Max Q Clear Time (g_c+I1), s		6.8	8.1	22.8		4.7		11.5				
Green Ext Time (p_c), s		0.9	0.1	3.2		0.0		7.6				
Intersection Summary												
HCM 6th Ctrl Delay				21.3								
HCM 6th LOS				C								

Lanes, Volumes, Timings
8: Del Obispo Street

PM Ex
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	25	19	1056	1210	19
Future Volume (vph)	4	25	19	1056	1210	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	50			0
Storage Lanes	1	0	1			0
Taper Length (ft)	90		90			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.883				0.998	
Flt Protected	0.993		0.950			
Satd. Flow (prot)	1633	0	1770	3539	3532	0
Flt Permitted	0.993		0.950			
Satd. Flow (perm)	1633	0	1770	3539	3532	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	194			1156	303	
Travel Time (s)	5.3			22.5	5.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	4	26	20	1112	1274	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	0	20	1112	1294	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	44.1%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↗		↘	↑↑	↑↑	
Traffic Vol, veh/h	4	25	19	1056	1210	19
Future Vol, veh/h	4	25	19	1056	1210	19
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	-	50	-	-	-
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	4	26	20	1112	1274	20

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1880	647	1294	0	-	0
Stage 1	1284	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	63	414	531	-	-	-
Stage 1	224	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	61	414	531	-	-	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	215	-	-	-	-	-
Stage 2	513	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	531	-	340	-	-
HCM Lane V/C Ratio	0.038	-	0.09	-	-
HCM Control Delay (s)	12	-	16.6	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

APPENDIX G-II

**EXISTING PLUS PROJECT (OPTION 1)
TRAFFIC CONDITIONS –
SYNCHRO OPERATIONS METHOD OF ANALYSIS**

APPENDIX G-III

**EXISTING PLUS PROJECT (OPTION 1)
PLUS CUMULATIVE (YEAR 2022)
TRAFFIC CONDITIONS –
SYNCHRO OPERATIONS METHOD OF ANALYSIS**

APPENDIX G-IV

**EXISTING PLUS PROJECT (OPTION 2)
TRAFFIC CONDITIONS –
SYNCHRO OPERATIONS METHOD OF ANALYSIS**

APPENDIX G-V

**EXISTING PLUS PROJECT (OPTION 2)
PLUS CUMULATIVE (YEAR 2022)
TRAFFIC CONDITIONS –
SYNCHRO OPERATIONS METHOD OF ANALYSIS**