

APPENDIX K
SYNCHRO ANALYSIS WORKSHEETS (LONG-TERM)

APPENDIX K-1

**GENERAL PLAN BUILDOUT (OPTION 1)
TRAFFIC CONDITIONS –
SYNCHRO OPERATIONS METHOD OF ANALYSIS**

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

MD BO+P O1
MD Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	537	14	78	22	4	60	85	1157	52	34	1413	527
Future Volume (vph)	537	14	78	22	4	60	85	1157	52	34	1413	527
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		0.859			0.994				0.850
Flt Protected	0.950	0.955		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1690	1583	1770	1600	0	1770	5055	0	1770	3539	1583
Flt Permitted	0.950	0.955		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1690	1583	1770	1600	0	1770	5055	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		60			8				479
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	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. Flow (vph)	537	14	78	22	4	60	85	1157	52	34	1413	527
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	274	277	78	22	64	0	85	1209	0	34	1413	527
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 BO+P O1
MD Peak Hour

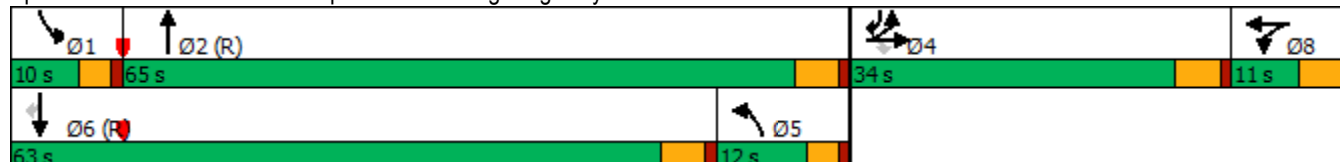


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		5	2		1	6	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	33.0	33.0	33.0	11.0	11.0		10.0	23.0		10.0	26.0	33.0
Total Split (s)	34.0	34.0	34.0	11.0	11.0		12.0	65.0		10.0	63.0	34.0
Total Split (%)	28.3%	28.3%	28.3%	9.2%	9.2%		10.0%	54.2%		8.3%	52.5%	28.3%
Maximum Green (s)	29.0	29.0	29.0	6.0	6.0		8.0	60.0		6.0	58.0	29.0
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)	26.2	26.2	26.2	6.0	6.0		8.0	69.0		6.1	63.0	90.2
Actuated g/C Ratio	0.22	0.22	0.22	0.05	0.05		0.07	0.58		0.05	0.52	0.75
v/c Ratio	0.75	0.75	0.17	0.25	0.47		0.72	0.42		0.38	0.76	0.40
Control Delay	56.5	56.8	0.8	62.0	26.9		59.9	7.0		67.5	27.4	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	56.5	56.8	0.8	62.0	26.9		59.9	7.0		67.5	27.4	1.3
LOS	E	E	A	E	C		E	A		E	C	A
Approach Delay		49.7			35.9			10.4			21.2	
Approach LOS		D			D			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	53 (44%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	22.5
Intersection LOS:	C
Intersection Capacity Utilization:	77.6%
ICU Level of Service:	D
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 BO+P O1
 MD Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↖	↘	↗	↖		↗	↑↑↑		↘	↑↑	↗
Traffic Volume (veh/h)	537	14	78	22	4	60	85	1157	52	34	1413	527
Future Volume (veh/h)	537	14	78	22	4	60	85	1157	52	34	1413	527
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	547	0	78	22	4	60	85	1157	52	34	1413	527
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	641	0	285	89	5	75	214	2895	130	60	1718	1051
Arrive On Green	0.18	0.00	0.18	0.05	0.05	0.05	0.12	0.58	0.58	0.03	0.48	0.48
Sat Flow, veh/h	3563	0	1585	1781	100	1500	1781	5009	225	1781	3554	1585
Grp Volume(v), veh/h	547	0	78	22	0	64	85	786	423	34	1413	527
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1600	1781	1702	1830	1781	1777	1585
Q Serve(g_s), s	17.9	0.0	5.1	1.4	0.0	4.7	5.3	15.2	15.2	2.3	40.9	20.1
Cycle Q Clear(g_c), s	17.9	0.0	5.1	1.4	0.0	4.7	5.3	15.2	15.2	2.3	40.9	20.1
Prop In Lane	1.00		1.00	1.00		0.94	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	641	0	285	89	0	80	214	1967	1058	60	1718	1051
V/C Ratio(X)	0.85	0.00	0.27	0.25	0.00	0.80	0.40	0.40	0.40	0.56	0.82	0.50
Avail Cap(c_a), veh/h	861	0	383	89	0	80	214	1967	1058	89	1718	1051
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	47.7	0.0	42.5	54.8	0.0	56.4	48.8	13.9	13.9	57.1	26.6	10.2
Incr Delay (d2), s/veh	6.4	0.0	0.5	1.4	0.0	42.1	1.2	0.6	1.1	8.0	4.6	1.7
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	8.5	0.0	2.1	0.7	0.0	2.9	2.4	5.8	6.4	1.1	17.6	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.1	0.0	43.0	56.3	0.0	98.5	50.0	14.5	15.0	65.1	31.2	11.9
LnGrp LOS	D	A	D	E	A	F	D	B	B	E	C	B
Approach Vol, veh/h		625			86			1294			1974	
Approach Delay, s/veh		52.7			87.7			17.0			26.6	
Approach LOS		D			F			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	74.4		26.6	19.4	63.0		11.0				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	60.0		29.0	8.0	* 58		6.0				
Max Q Clear Time (g_c+I1), s	4.3	17.2		19.9	7.3	42.9		6.7				
Green Ext Time (p_c), s	0.0	10.3		1.7	0.0	10.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	28.9
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 BO+P O1
MD Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	870	354	221	818	194	447	289	358	89	304	303
Future Volume (vph)	259	870	354	221	818	194	447	289	358	89	304	303
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		0.971				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3437	0	3433	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3437	0	3433	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			148		26				290			145
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	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. Flow (vph)	259	870	354	221	818	194	447	289	358	89	304	303
Shared Lane Traffic (%)												
Lane Group Flow (vph)	259	870	354	221	1012	0	447	289	358	89	304	303
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

MD BO+P O1
MD Peak Hour

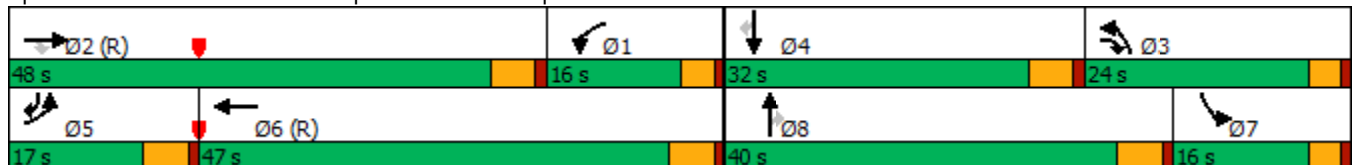


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	12.0	3.0	6.0	12.0		3.0	8.0	8.0	3.0	8.0	3.0
Minimum Split (s)	8.0	30.0	7.0	10.0	22.0		7.0	28.0	28.0	7.0	32.0	8.0
Total Split (s)	17.0	48.0	24.0	16.0	47.0		24.0	40.0	40.0	16.0	32.0	17.0
Total Split (%)	14.2%	40.0%	20.0%	13.3%	39.2%		20.0%	33.3%	33.3%	13.3%	26.7%	14.2%
Maximum Green (s)	12.0	43.0	20.0	12.0	42.0		20.0	35.0	35.0	12.0	27.0	12.0
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	Lag	Lag	Lag		Lag	Lead	Lead	Lag	Lead	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)	11.9	47.9	71.5	12.0	47.0		18.6	29.3	29.3	14.8	23.5	35.4
Actuated g/C Ratio	0.10	0.40	0.60	0.10	0.39		0.16	0.24	0.24	0.12	0.20	0.30
v/c Ratio	0.76	0.62	0.35	0.64	0.74		0.84	0.64	0.59	0.41	0.83	0.53
Control Delay	67.9	32.1	8.4	46.2	22.3		64.0	47.9	12.7	53.9	65.7	13.0
Queue Delay	0.0	0.1	0.0	0.0	0.8		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.9	32.2	8.4	46.2	23.1		64.0	47.9	12.7	53.9	65.7	13.0
LOS	E	C	A	D	C		E	D	B	D	E	B
Approach Delay		32.7			27.2			43.0			41.2	
Approach LOS		C			C			D			D	

Intersection Summary






























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 69 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 35.0
 Intersection LOS: D
 Intersection Capacity Utilization 80.8%
 ICU Level of Service D
 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 BO+P O1
MD Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 				 	
Traffic Volume (veh/h)	259	870	354	221	818	194	447	289	358	89	304	303
Future Volume (veh/h)	259	870	354	221	818	194	447	289	358	89	304	303
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	259	870	354	221	818	194	447	289	358	89	304	303
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	1273	800	517	1189	282	505	468	397	148	351	441
Arrive On Green	0.09	0.36	0.36	0.20	0.55	0.55	0.15	0.25	0.25	0.08	0.19	0.19
Sat Flow, veh/h	3456	3554	1585	3456	2850	676	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	259	870	354	221	510	502	447	289	358	89	304	303
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1749	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	8.8	25.0	0.0	6.7	24.8	24.8	15.2	16.4	26.3	5.8	18.9	13.0
Cycle Q Clear(g_c), s	8.8	25.0	0.0	6.7	24.8	24.8	15.2	16.4	26.3	5.8	18.9	13.0
Prop In Lane	1.00		1.00	1.00		0.39	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	314	1273	800	517	741	730	505	468	397	148	351	441
V/C Ratio(X)	0.82	0.68	0.44	0.43	0.69	0.69	0.89	0.62	0.90	0.60	0.87	0.69
Avail Cap(c_a), veh/h	346	1273	800	517	741	730	576	546	462	178	421	501
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	32.7	19.0	43.5	21.1	21.1	50.2	39.9	43.6	53.1	47.3	18.0
Incr Delay (d2), s/veh	12.6	3.0	1.8	0.2	4.1	4.2	12.9	1.6	19.0	1.4	15.1	3.3
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	4.4	11.2	6.6	2.8	9.9	9.8	7.5	7.8	12.3	2.7	10.3	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	35.7	20.7	43.7	25.2	25.3	63.2	41.5	62.5	54.5	62.4	21.3
LnGrp LOS	E	D	C	D	C	C	E	D	E	D	E	C
Approach Vol, veh/h		1483			1233			1094			696	
Approach Delay, s/veh		37.5			28.5			57.2			43.5	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	48.0	21.5	27.5	15.9	55.1	14.0	35.0				
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	12.0	* 43	20.0	27.0	12.0	42.0	12.0	35.0				
Max Q Clear Time (g_c+I1), s	8.7	27.0	17.2	20.9	10.8	26.8	7.8	28.3				
Green Ext Time (p_c), s	0.1	6.8	0.3	1.6	0.1	6.0	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			40.8									
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 BO+P O1
MD Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (vph)	0	1158	129	187	1172	18	87	8	124	26	10	31
Future Volume (vph)	0	1158	129	187	1172	18	87	8	124	26	10	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		0.998			0.859			0.938	
Flt Protected				0.950			0.950				0.981	
Satd. Flow (prot)	0	3539	1583	1770	3532	0	1770	1600	0	0	1714	0
Flt Permitted				0.950			0.950				0.816	
Satd. Flow (perm)	0	3539	1583	1770	3532	0	1770	1600	0	0	1426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		2			124			28	
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	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. Flow (vph)	0	1158	129	187	1172	18	87	8	124	26	10	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1158	129	187	1190	0	87	132	0	0	67	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 BO+P O1
MD Peak Hour

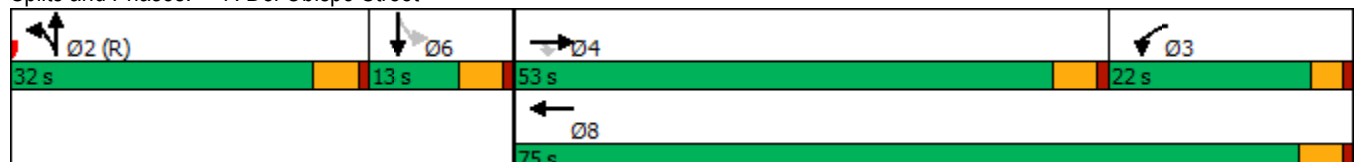


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		4	4	3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		23.0	23.0	10.0	19.0		30.0	30.0		11.0	11.0	
Total Split (s)		53.0	53.0	22.0	75.0		32.0	32.0		13.0	13.0	
Total Split (%)		44.2%	44.2%	18.3%	62.5%		26.7%	26.7%		10.8%	10.8%	
Maximum Green (s)		48.0	48.0	18.0	70.0		27.0	27.0		8.0	8.0	
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)		45.6	45.6	16.3	65.9		34.0	34.0				7.4
Actuated g/C Ratio		0.38	0.38	0.14	0.55		0.28	0.28				0.06
v/c Ratio		0.86	0.19	0.78	0.61		0.17	0.24				0.59
Control Delay		21.5	1.1	51.0	11.9		37.5	9.0				55.6
Queue Delay		0.4	0.0	0.0	0.0		0.0	0.0				0.0
Total Delay		21.9	1.1	51.0	11.9		37.5	9.0				55.6
LOS		C	A	D	B		D	A				E
Approach Delay		19.8			17.2			20.3				55.6
Approach LOS		B			B			C				E

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 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: 19.5
 Intersection LOS: B
 Intersection Capacity Utilization 71.3%
 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 BO+P O1
MD Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (veh/h)	0	1158	129	187	1172	18	87	8	124	26	10	31
Future Volume (veh/h)	0	1158	129	187	1172	18	87	8	124	26	10	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	1158	129	187	1172	18	87	8	124	26	10	31
Peak Hour 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
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1290	575	212	1876	29	537	29	453	33	13	39
Arrive On Green	0.00	0.48	0.48	0.24	1.00	1.00	0.30	0.30	0.30	0.05	0.05	0.05
Sat Flow, veh/h	0	3647	1585	1781	3582	55	1781	97	1503	658	253	785
Grp Volume(v), veh/h	0	1158	129	187	581	609	87	0	132	67	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	1860	1781	0	1600	1696	0	0
Q Serve(g_s), s	0.0	35.7	5.7	12.1	0.0	0.0	4.3	0.0	7.5	4.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	35.7	5.7	12.1	0.0	0.0	4.3	0.0	7.5	4.7	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.03	1.00		0.94	0.39		0.46
Lane Grp Cap(c), veh/h	0	1290	575	212	931	974	537	0	482	85	0	0
V/C Ratio(X)	0.00	0.90	0.22	0.88	0.62	0.62	0.16	0.00	0.27	0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1421	634	267	1036	1085	537	0	482	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	0.77	0.77	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	29.0	21.2	44.9	0.0	0.0	30.8	0.0	31.9	56.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.9	0.2	23.3	1.0	1.0	0.6	0.0	1.4	23.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	14.5	2.1	6.0	0.3	0.3	2.0	0.0	3.2	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.9	21.4	68.2	1.0	1.0	31.4	0.0	33.3	79.6	0.0	0.0
LnGrp LOS	A	C	C	E	A	A	C	A	C	E	A	A
Approach Vol, veh/h		1287			1377			219				67
Approach Delay, s/veh		33.6			10.1			32.6				79.6
Approach LOS		C			B			C				E
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		41.2	19.3	48.6		11.0		67.8				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0		5.0				
Max Green Setting (Gmax), s		27.0	18.0	* 48		8.0		70.0				
Max Q Clear Time (g_c+I1), s		9.5	14.1	37.7		6.7		2.0				
Green Ext Time (p_c), s		0.9	0.2	5.9		0.0		10.5				

Intersection Summary

HCM 6th Ctrl Delay	23.6
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 BO+P O1
MD Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↖	↑↑	↑↑	↗
Traffic Volume (vph)	0	196	87	1099	1440	117
Future Volume (vph)	0	196	87	1099	1440	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	50			0
Storage Lanes	0	1	1			1
Taper Length (ft)	90		90			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	1770	3539	3539	1583
Link Speed (mph)	25			35	35	
Link Distance (ft)	194			1156	303	
Travel Time (s)	5.3			22.5	5.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	196	87	1099	1440	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	196	87	1099	1440	117
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			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	58.6%
	ICU Level of Service B
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↕	↕	↗
Traffic Vol, veh/h	0	196	87	1099	1440	117
Future Vol, veh/h	0	196	87	1099	1440	117
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	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	196	87	1099	1440	117

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	720	1557	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	370	421	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	370	421	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.2	1.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	421	-	370	-	-
HCM Lane V/C Ratio	0.207	-	0.53	-	-
HCM Control Delay (s)	15.8	-	25.2	-	-
HCM Lane LOS	C	-	D	-	-
HCM 95th %tile Q(veh)	0.8	-	3	-	-

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

PM BO+P O1
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	481	7	86	6	4	20	94	974	24	19	1158	528
Future Volume (vph)	481	7	86	6	4	20	94	974	24	19	1158	528
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)			175		20			4				528
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	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. Flow (vph)	481	7	86	6	4	20	94	974	24	19	1158	528
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	245	243	86	6	24	0	94	998	0	19	1158	528
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 BO+P O1
PM Peak Hour

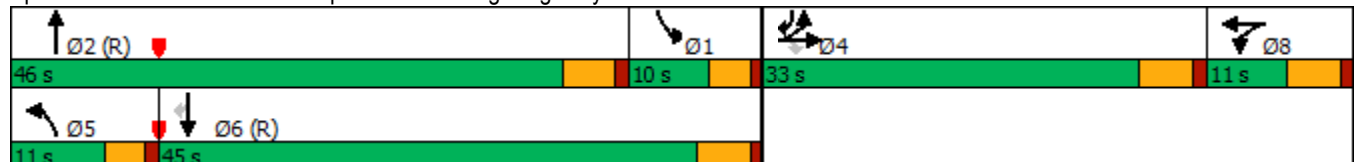


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		5	2		1	6	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	33.0	33.0	33.0	11.0	11.0		10.0	23.0		10.0	26.0	33.0
Total Split (s)	33.0	33.0	33.0	11.0	11.0		11.0	46.0		10.0	45.0	33.0
Total Split (%)	33.0%	33.0%	33.0%	11.0%	11.0%		11.0%	46.0%		10.0%	45.0%	33.0%
Maximum Green (s)	28.0	28.0	28.0	6.0	6.0		7.0	41.0		6.0	40.0	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)	23.3	23.3	23.3	6.0	6.0		8.1	56.1		6.0	48.0	76.3
Actuated g/C Ratio	0.23	0.23	0.23	0.06	0.06		0.08	0.56		0.06	0.48	0.76
v/c Ratio	0.63	0.62	0.17	0.06	0.21		0.66	0.35		0.18	0.68	0.40
Control Delay	41.0	40.7	0.7	45.7	25.9		61.5	6.4		48.8	24.9	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	41.0	40.7	0.7	45.7	25.9		61.5	6.4		48.8	24.9	1.3
LOS	D	D	A	D	C		E	A		D	C	A
Approach Delay		34.8			29.8			11.1			17.9	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 23 (23%), 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: 18.7
 Intersection LOS: B
 Intersection Capacity Utilization 69.1%
 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

PM BO+P O1
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↗	↖	↗		↖	↑↑↑		↖	↑↑	↗
Traffic Volume (veh/h)	481	7	86	6	4	20	94	974	24	19	1158	528
Future Volume (veh/h)	481	7	86	6	4	20	94	974	24	19	1158	528
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	486	0	86	6	4	20	94	974	24	19	1158	528
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	603	0	268	60	9	46	119	2101	52	333	1919	1124
Arrive On Green	0.17	0.00	0.17	0.03	0.03	0.03	0.07	0.41	0.41	0.19	0.54	0.54
Sat Flow, veh/h	3563	0	1585	1781	271	1355	1781	5126	126	1781	3554	1585
Grp Volume(v), veh/h	486	0	86	6	0	24	94	647	351	19	1158	528
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1626	1781	1702	1848	1781	1777	1585
Q Serve(g_s), s	13.1	0.0	4.8	0.3	0.0	1.4	5.2	13.8	13.9	0.9	22.2	14.5
Cycle Q Clear(g_c), s	13.1	0.0	4.8	0.3	0.0	1.4	5.2	13.8	13.9	0.9	22.2	14.5
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	603	0	268	60	0	55	119	1396	758	333	1919	1124
V/C Ratio(X)	0.81	0.00	0.32	0.10	0.00	0.43	0.79	0.46	0.46	0.06	0.60	0.47
Avail Cap(c_a), veh/h	998	0	444	107	0	98	125	1396	758	333	1919	1124
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	40.0	0.0	36.5	46.8	0.0	47.4	46.0	21.5	21.5	33.4	15.7	6.3
Incr Delay (d2), s/veh	2.6	0.0	0.7	0.7	0.0	5.3	27.3	1.1	2.0	0.1	1.4	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	6.0	0.0	1.9	0.2	0.0	0.7	3.2	5.5	6.2	0.4	8.7	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	0.0	37.2	47.5	0.0	52.7	73.3	22.6	23.5	33.5	17.1	7.7
LnGrp LOS	D	A	D	D	A	D	E	C	C	C	B	A
Approach Vol, veh/h		572			30			1092			1705	
Approach Delay, s/veh		41.7			51.6			27.3			14.4	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.7	46.0		21.9	10.7	59.0		8.4				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 41		28.0	7.0	40.0		6.0				
Max Q Clear Time (g_c+I1), s	2.9	15.9		15.1	7.2	24.2		3.4				
Green Ext Time (p_c), s	0.0	7.0		1.8	0.0	9.1		0.0				

Intersection Summary
























HCM 6th Ctrl Delay	23.5
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 BO+P O1
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	327	666	351	186	745	138	490	274	182	77	270	368
Future Volume (vph)	327	666	351	186	745	138	490	274	182	77	270	368
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		0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3458	0	3433	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3458	0	3433	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			245		21				182			109
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	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. Flow (vph)	327	666	351	186	745	138	490	274	182	77	270	368
Shared Lane Traffic (%)												
Lane Group Flow (vph)	327	666	351	186	883	0	490	274	182	77	270	368
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

PM BO+P O1
PM Peak Hour

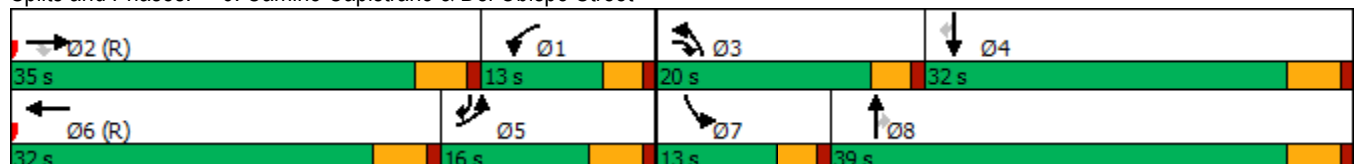


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	12.0	3.0	6.0	12.0		3.0	8.0	8.0	3.0	8.0	3.0
Minimum Split (s)	8.0	30.0	7.0	10.0	22.0		7.0	28.0	28.0	7.0	32.0	8.0
Total Split (s)	16.0	35.0	20.0	13.0	32.0		20.0	39.0	39.0	13.0	32.0	16.0
Total Split (%)	16.0%	35.0%	20.0%	13.0%	32.0%		20.0%	39.0%	39.0%	13.0%	32.0%	16.0%
Maximum Green (s)	11.0	30.0	16.0	9.0	27.0		16.0	34.0	34.0	9.0	27.0	11.0
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	Lag	Lead	Lead	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
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)	11.0	37.5	54.2	9.0	34.5		15.8	29.6	29.6	7.8	19.8	30.8
Actuated g/C Ratio	0.11	0.38	0.54	0.09	0.34		0.16	0.30	0.30	0.08	0.20	0.31
v/c Ratio	0.87	0.50	0.36	0.61	0.73		0.91	0.50	0.31	0.56	0.73	0.65
Control Delay	67.8	26.9	3.6	39.1	12.4		63.5	32.5	5.2	59.9	48.9	17.3
Queue Delay	0.0	0.3	0.0	0.0	0.8		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.8	27.2	3.6	39.1	13.2		63.5	32.5	5.2	59.9	48.9	17.3
LOS	E	C	A	D	B		E	C	A	E	D	B
Approach Delay		30.9			17.7			43.3			33.8	
Approach LOS		C			B			D			C	

Intersection Summary































Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 72 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 30.8
 Intersection LOS: C
 Intersection Capacity Utilization 78.3%
 ICU Level of Service D
 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 BO+P O1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 			 	 	
Traffic Volume (veh/h)	327	666	351	186	745	138	490	274	182	77	270	368
Future Volume (veh/h)	327	666	351	186	745	138	490	274	182	77	270	368
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	327	666	351	186	745	138	490	274	182	77	270	368
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	690	1066	728	586	808	150	550	533	452	99	339	604
Arrive On Green	0.20	0.30	0.30	0.34	0.54	0.54	0.16	0.28	0.28	0.06	0.18	0.18
Sat Flow, veh/h	3456	3554	1585	3456	2993	554	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	327	666	351	186	442	441	490	274	182	77	270	368
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1771	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	8.4	16.1	6.6	4.0	22.8	22.8	13.9	12.3	5.8	4.3	13.8	6.0
Cycle Q Clear(g_c), s	8.4	16.1	6.6	4.0	22.8	22.8	13.9	12.3	5.8	4.3	13.8	6.0
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	690	1066	728	586	480	478	550	533	452	99	339	604
V/C Ratio(X)	0.47	0.62	0.48	0.32	0.92	0.92	0.89	0.51	0.40	0.78	0.80	0.61
Avail Cap(c_a), veh/h	690	1066	728	586	480	478	553	636	539	160	505	744
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	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	30.2	6.5	28.8	22.0	22.0	41.2	30.0	11.2	46.6	39.2	9.2
Incr Delay (d2), s/veh	0.2	2.8	2.3	0.1	19.6	19.7	16.0	0.8	0.6	4.9	5.3	1.0
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	3.5	7.2	2.9	1.6	8.8	8.7	7.1	5.6	3.4	2.0	6.8	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	32.9	8.8	28.8	41.6	41.7	57.2	30.7	11.8	51.6	44.5	10.2
LnGrp LOS	D	C	A	C	D	D	E	C	B	D	D	B
Approach Vol, veh/h		1344			1069			946			715	
Approach Delay, s/veh		27.3			39.4			40.8			27.6	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	35.0	19.9	23.1	25.0	32.0	9.5	33.5				
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	9.0	* 30	16.0	27.0	11.0	27.0	9.0	34.0				
Max Q Clear Time (g_c+I1), s	6.0	18.1	15.9	15.8	10.4	24.8	6.3	14.3				
Green Ext Time (p_c), s	0.1	4.6	0.0	2.3	0.1	1.2	0.0	2.1				

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 BO+P O1
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (vph)	0	957	102	120	1184	8	71	9	116	20	9	23
Future Volume (vph)	0	957	102	120	1184	8	71	9	116	20	9	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			0.861			0.940	
Flt Protected				0.950			0.950				0.981	
Satd. Flow (prot)	0	3539	1583	1770	3536	0	1770	1604	0	0	1718	0
Flt Permitted				0.950			0.950				0.820	
Satd. Flow (perm)	0	3539	1583	1770	3536	0	1770	1604	0	0	1436	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			116			23	
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	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. Flow (vph)	0	957	102	120	1184	8	71	9	116	20	9	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	957	102	120	1192	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	
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		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 BO+P O1
PM Peak Hour

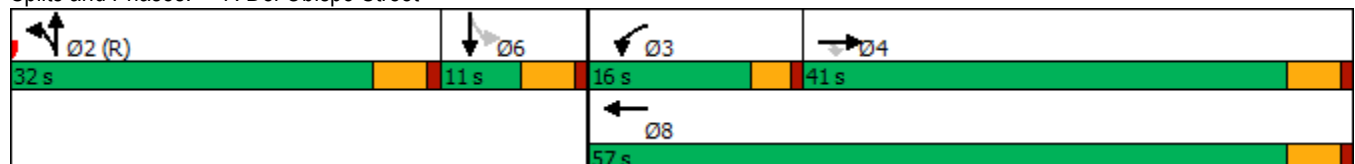


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		4	4	3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		23.0	23.0	10.0	19.0		30.0	30.0		11.0	11.0	
Total Split (s)		41.0	41.0	16.0	57.0		32.0	32.0		11.0	11.0	
Total Split (%)		41.0%	41.0%	16.0%	57.0%		32.0%	32.0%		11.0%	11.0%	
Maximum Green (s)		36.0	36.0	12.0	52.0		27.0	27.0		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)		33.2	33.2	10.7	47.9		33.3	33.3			6.0	
Actuated g/C Ratio		0.33	0.33	0.11	0.48		0.33	0.33			0.06	
v/c Ratio		0.81	0.17	0.63	0.70		0.12	0.20			0.49	
Control Delay		22.4	0.9	55.9	13.7		27.7	7.4			45.0	
Queue Delay		0.1	0.0	0.0	0.1		0.0	0.0			0.0	
Total Delay		22.6	0.9	55.9	13.8		27.7	7.4			45.0	
LOS		C	A	E	B		C	A			D	
Approach Delay		20.5			17.7			14.7			45.0	
Approach LOS		C			B			B			D	

Intersection Summary













Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	13 (13%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	19.1
Intersection LOS:	B
Intersection Capacity Utilization:	61.6%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 7: Del Obispo Street



HCM 6th Signalized Intersection Summary
7: Del Bispo Street

PM BO+P O1
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (veh/h)	0	957	102	120	1184	8	71	9	116	20	9	23
Future Volume (veh/h)	0	957	102	120	1184	8	71	9	116	20	9	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	957	102	120	1184	8	71	9	116	20	9	23
Peak Hour 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
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1072	478	151	1543	10	673	44	562	30	14	35
Arrive On Green	0.00	0.60	0.60	0.03	0.14	0.14	0.38	0.38	0.38	0.05	0.05	0.05
Sat Flow, veh/h	0	3647	1585	1781	3618	24	1781	115	1487	655	295	753
Grp Volume(v), veh/h	0	957	102	120	581	611	71	0	125	52	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	1866	1781	0	1603	1702	0	0
Q Serve(g_s), s	0.0	23.1	2.9	6.7	31.5	31.5	2.6	0.0	5.3	3.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	23.1	2.9	6.7	31.5	31.5	2.6	0.0	5.3	3.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.01	1.00		0.93	0.38		0.44
Lane Grp Cap(c), veh/h	0	1072	478	151	758	796	673	0	605	78	0	0
V/C Ratio(X)	0.00	0.89	0.21	0.80	0.77	0.77	0.11	0.00	0.21	0.67	0.00	0.00
Avail Cap(c_a), veh/h	0	1279	571	214	924	970	673	0	605	102	0	0
HCM Platoon Ratio	1.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.88	0.88	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	18.4	14.4	47.7	38.2	38.2	20.2	0.0	21.0	47.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.5	0.2	12.8	3.2	3.0	0.3	0.0	0.8	10.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.2	1.0	3.6	15.6	16.3	1.1	0.0	2.1	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.0	14.6	60.5	41.4	41.2	20.5	0.0	21.8	56.9	0.0	0.0
LnGrp LOS	A	C	B	E	D	D	C	A	C	E	A	A
Approach Vol, veh/h		1059			1312			196				52
Approach Delay, s/veh		24.0			43.1			21.3				56.9
Approach LOS		C			D			C				E
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		42.8	12.5	35.2		9.6		47.6				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0		5.0				
Max Green Setting (Gmax), s		27.0	12.0	36.0		6.0		52.0				
Max Q Clear Time (g_c+I1), s		7.3	8.7	25.1		5.0		33.5				
Green Ext Time (p_c), s		0.9	0.1	5.0		0.0		7.6				
Intersection Summary												
HCM 6th Ctrl Delay			34.0									
HCM 6th LOS			C									

Lanes, Volumes, Timings
8: Del Obispo Street

PM BO+P O1
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↖	↕↗	↕↗	↖
Traffic Volume (vph)	0	166	70	1104	1258	95
Future Volume (vph)	0	166	70	1104	1258	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	50			0
Storage Lanes	0	1	1			1
Taper Length (ft)	90		90			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	1770	3539	3539	1583
Link Speed (mph)	25			35	35	
Link Distance (ft)	194			1156	303	
Travel Time (s)	5.3			22.5	5.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	166	70	1104	1258	95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	166	70	1104	1258	95
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			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	51.7%
	ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↑↑	↑↑	↗
Traffic Vol, veh/h	0	166	70	1104	1258	95
Future Vol, veh/h	0	166	70	1104	1258	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	50	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	166	70	1104	1258	95

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	629	1353	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-
Pot Cap-1 Maneuver	0	425	504	-	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	425	504	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.8	0.8	0
HCM LOS	C		
























Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	504	-	425	-	-
HCM Lane V/C Ratio	0.139	-	0.391	-	-
HCM Control Delay (s)	13.3	-	18.8	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0.5	-	1.8	-	-

APPENDIX K-II

**GENERAL PLAN BUILDOUT (OPTION 2)
TRAFFIC CONDITIONS –
SYNCHRO OPERATIONS METHOD OF ANALYSIS**

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

MD BO+P O2
MD Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	494	14	120	22	4	60	85	1202	52	34	1413	527
Future Volume (vph)	494	14	120	22	4	60	85	1202	52	34	1413	527
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		0.859			0.994				0.850
Flt Protected	0.950	0.955		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1690	1583	1770	1600	0	1770	5055	0	1770	3539	1583
Flt Permitted	0.950	0.955		0.950			0.950			0.950		
Satd. Flow (perm)	1681	1690	1583	1770	1600	0	1770	5055	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		60			8				479
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	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. Flow (vph)	494	14	120	22	4	60	85	1202	52	34	1413	527
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	252	256	120	22	64	0	85	1254	0	34	1413	527
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 BO+P O2
MD Peak Hour

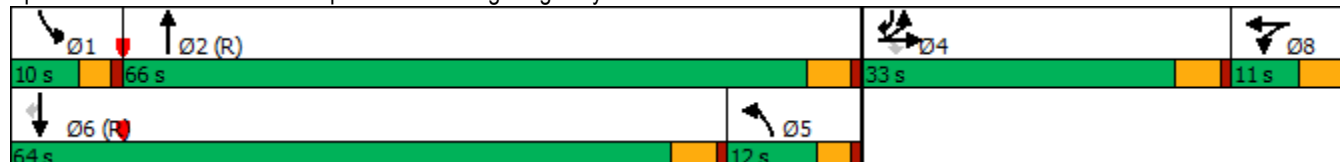


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		5	2		1	6	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	33.0	33.0	33.0	11.0	11.0		10.0	23.0		10.0	26.0	33.0
Total Split (s)	33.0	33.0	33.0	11.0	11.0		12.0	66.0		10.0	64.0	33.0
Total Split (%)	27.5%	27.5%	27.5%	9.2%	9.2%		10.0%	55.0%		8.3%	53.3%	27.5%
Maximum Green (s)	28.0	28.0	28.0	6.0	6.0		8.0	61.0		6.0	59.0	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)	25.1	25.1	25.1	6.0	6.0		8.0	70.1		6.1	64.1	90.2
Actuated g/C Ratio	0.21	0.21	0.21	0.05	0.05		0.07	0.58		0.05	0.53	0.75
v/c Ratio	0.72	0.72	0.27	0.25	0.47		0.72	0.42		0.38	0.75	0.40
Control Delay	55.7	56.1	5.0	62.0	26.9		59.6	6.7		67.5	26.3	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	55.7	56.1	5.0	62.0	26.9		59.6	6.7		67.5	26.3	1.3
LOS	E	E	A	E	C		E	A		E	C	A
Approach Delay		46.2			35.9			10.1			20.4	
Approach LOS		D			D			B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 53 (44%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 21.3
 Intersection LOS: C
 Intersection Capacity Utilization 76.4%
 ICU Level of Service D
 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 BO+P O2
 MD Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↖	↗	↗	↖		↗	↑↑↑		↗	↑↑	↗
Traffic Volume (veh/h)	494	14	120	22	4	60	85	1202	52	34	1413	527
Future Volume (veh/h)	494	14	120	22	4	60	85	1202	52	34	1413	527
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	504	0	120	22	4	60	85	1202	52	34	1413	527
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	599	0	267	89	5	75	220	2958	128	60	1747	1046
Arrive On Green	0.17	0.00	0.17	0.05	0.05	0.05	0.12	0.59	0.59	0.03	0.49	0.49
Sat Flow, veh/h	3563	0	1585	1781	100	1500	1781	5018	217	1781	3554	1585
Grp Volume(v), veh/h	504	0	120	22	0	64	85	815	439	34	1413	527
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1600	1781	1702	1831	1781	1777	1585
Q Serve(g_s), s	16.4	0.0	8.2	1.4	0.0	4.7	5.3	15.5	15.5	2.3	40.3	20.3
Cycle Q Clear(g_c), s	16.4	0.0	8.2	1.4	0.0	4.7	5.3	15.5	15.5	2.3	40.3	20.3
Prop In Lane	1.00		1.00	1.00		0.94	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	599	0	267	89	0	80	220	2007	1080	60	1747	1046
V/C Ratio(X)	0.84	0.00	0.45	0.25	0.00	0.80	0.39	0.41	0.41	0.56	0.81	0.50
Avail Cap(c_a), veh/h	831	0	370	89	0	80	220	2007	1080	89	1747	1046
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	48.3	0.0	44.9	54.8	0.0	56.4	48.4	13.3	13.3	57.1	25.7	10.4
Incr Delay (d2), s/veh	5.6	0.0	1.2	1.4	0.0	42.1	1.1	0.6	1.1	8.0	4.2	1.7
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	7.8	0.0	3.3	0.7	0.0	2.9	2.4	5.8	6.4	1.1	17.2	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	0.0	46.1	56.3	0.0	98.5	49.5	13.9	14.4	65.1	29.9	12.1
LnGrp LOS	D	A	D	E	A	F	D	B	B	E	C	B
Approach Vol, veh/h		624			86			1339			1974	
Approach Delay, s/veh		52.5			87.7			16.3			25.8	
Approach LOS		D			F			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	75.7		25.2	19.8	64.0		11.0				
Change Period (Y+Rc), s	4.0	5.0		5.0	5.0	* 5		5.0				
Max Green Setting (Gmax), s	6.0	61.0		28.0	8.0	* 59		6.0				
Max Q Clear Time (g_c+I1), s	4.3	17.5		18.4	7.3	42.3		6.7				
Green Ext Time (p_c), s	0.0	10.9		1.7	0.0	11.1		0.0				

Intersection Summary

HCM 6th Ctrl Delay	28.1
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 BO+P O2
MD Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	280	849	354	221	818	151	447	310	337	89	304	303
Future Volume (vph)	280	849	354	221	818	151	447	310	337	89	304	303
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		0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3458	0	3433	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3458	0	3433	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			148		19				293			145
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	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. Flow (vph)	280	849	354	221	818	151	447	310	337	89	304	303
Shared Lane Traffic (%)												
Lane Group Flow (vph)	280	849	354	221	969	0	447	310	337	89	304	303
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

MD BO+P O2
MD Peak Hour

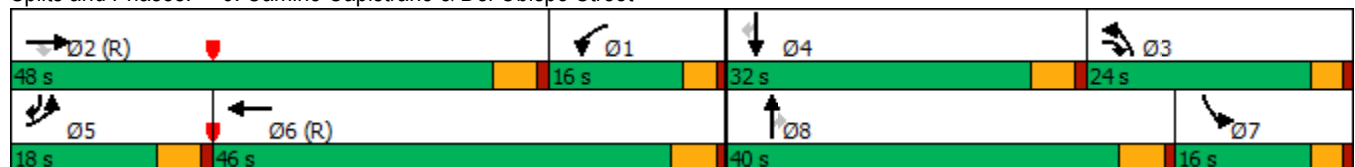


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	12.0	3.0	6.0	12.0		3.0	8.0	8.0	3.0	8.0	3.0
Minimum Split (s)	8.0	30.0	7.0	10.0	22.0		7.0	28.0	28.0	7.0	32.0	8.0
Total Split (s)	18.0	48.0	24.0	16.0	46.0		24.0	40.0	40.0	16.0	32.0	18.0
Total Split (%)	15.0%	40.0%	20.0%	13.3%	38.3%		20.0%	33.3%	33.3%	13.3%	26.7%	15.0%
Maximum Green (s)	13.0	43.0	20.0	12.0	41.0		20.0	35.0	35.0	12.0	27.0	13.0
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	Lag	Lag	Lag		Lag	Lead	Lead	Lag	Lead	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)	12.7	47.9	71.5	12.0	46.2		18.6	30.2	30.2	13.9	23.5	36.2
Actuated g/C Ratio	0.11	0.40	0.60	0.10	0.38		0.16	0.25	0.25	0.12	0.20	0.30
v/c Ratio	0.77	0.60	0.35	0.64	0.72		0.84	0.66	0.55	0.43	0.83	0.52
Control Delay	67.3	31.8	8.4	46.1	22.0		64.0	48.1	10.1	55.8	65.7	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.7		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.3	31.8	8.4	46.1	22.7		64.0	48.1	10.1	55.8	65.7	12.6
LOS	E	C	A	D	C		E	D	B	E	E	B
Approach Delay		32.9			27.0			42.9			41.3	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 72 (60%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 35.1
 Intersection LOS: D
 Intersection Capacity Utilization 80.0%
 ICU Level of Service D
 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 BO+P O2
MD Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑	↖	↖	↑	↖
Traffic Volume (veh/h)	280	849	354	221	818	151	447	310	337	89	304	303
Future Volume (veh/h)	280	849	354	221	818	151	447	310	337	89	304	303
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	280	849	354	221	818	151	447	310	337	89	304	303
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	335	1273	800	517	1231	227	505	448	379	168	351	451
Arrive On Green	0.10	0.36	0.36	0.20	0.55	0.55	0.15	0.24	0.24	0.09	0.19	0.19
Sat Flow, veh/h	3456	3554	1585	3456	2995	553	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	280	849	354	221	485	484	447	310	337	89	304	303
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1771	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	9.6	24.2	0.0	6.7	23.3	23.3	15.2	18.1	24.6	5.7	18.9	12.8
Cycle Q Clear(g_c), s	9.6	24.2	0.0	6.7	23.3	23.3	15.2	18.1	24.6	5.7	18.9	12.8
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	335	1273	800	517	730	728	505	448	379	168	351	451
V/C Ratio(X)	0.83	0.67	0.44	0.43	0.66	0.66	0.89	0.69	0.89	0.53	0.87	0.67
Avail Cap(c_a), veh/h	374	1273	800	517	730	728	576	546	462	178	421	510
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	32.5	19.0	43.5	21.3	21.3	50.2	41.6	44.1	51.8	47.3	17.6
Incr Delay (d2), s/veh	12.5	2.8	1.8	0.2	3.8	3.8	12.9	2.9	16.4	1.0	15.1	2.9
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	4.7	10.8	6.6	2.8	9.4	9.3	7.5	8.7	11.3	2.6	10.3	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.7	35.2	20.7	43.7	25.1	25.1	63.2	44.5	60.5	52.8	62.4	20.5
LnGrp LOS	E	D	C	D	C	C	E	D	E	D	E	C
Approach Vol, veh/h		1483			1190			1094			696	
Approach Delay, s/veh		37.5			28.6			57.1			42.9	
Approach LOS		D			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	48.0	21.5	27.5	16.6	54.3	15.3	33.7				
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	12.0	* 43	20.0	27.0	13.0	41.0	12.0	35.0				
Max Q Clear Time (g_c+I1), s	8.7	26.2	17.2	20.9	11.6	25.3	7.7	26.6				
Green Ext Time (p_c), s	0.1	6.9	0.3	1.6	0.1	5.8	0.0	2.1				

Intersection Summary













HCM 6th Ctrl Delay	40.8
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 BO+P O2
MD Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (vph)	0	1116	129	187	1129	18	87	8	124	26	10	31
Future Volume (vph)	0	1116	129	187	1129	18	87	8	124	26	10	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		0.998				0.859			0.938
Flt Protected				0.950			0.950					0.981
Satd. Flow (prot)	0	3539	1583	1770	3532	0	1770	1600	0	0	1714	0
Flt Permitted				0.950			0.950					0.816
Satd. Flow (perm)	0	3539	1583	1770	3532	0	1770	1600	0	0	1426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109		2				124			28
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	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. Flow (vph)	0	1116	129	187	1129	18	87	8	124	26	10	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1116	129	187	1147	0	87	132	0	0	67	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
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		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 BO+P O2
MD Peak Hour

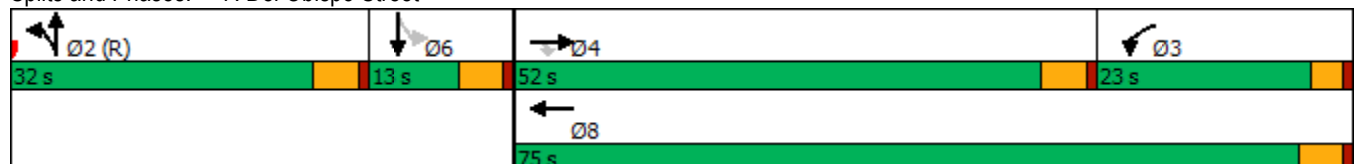


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		4	4	3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)		6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)		23.0	23.0	10.0	19.0		30.0	30.0		11.0	11.0	
Total Split (s)		52.0	52.0	23.0	75.0		32.0	32.0		13.0	13.0	
Total Split (%)		43.3%	43.3%	19.2%	62.5%		26.7%	26.7%		10.8%	10.8%	
Maximum Green (s)		47.0	47.0	19.0	70.0		27.0	27.0		8.0	8.0	
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)		44.4	44.4	16.5	64.9		34.9	34.9				7.4
Actuated g/C Ratio		0.37	0.37	0.14	0.54		0.29	0.29				0.06
v/c Ratio		0.85	0.20	0.77	0.60		0.17	0.24				0.59
Control Delay		21.4	1.0	49.6	11.6		37.0	8.9				55.6
Queue Delay		0.4	0.0	0.0	0.2		0.0	0.0				0.1
Total Delay		21.8	1.0	49.6	11.8		37.0	8.9				55.8
LOS		C	A	D	B		D	A				E
Approach Delay		19.6			17.1			20.1				55.8
Approach LOS		B			B			C				E

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 2 (2%), Referenced to phase 2:NBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 19.3
 Intersection LOS: B
 Intersection Capacity Utilization 70.1%
 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 BO+P O2
MD Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (veh/h)	0	1116	129	187	1129	18	87	8	124	26	10	31
Future Volume (veh/h)	0	1116	129	187	1129	18	87	8	124	26	10	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	1116	129	187	1129	18	87	8	124	26	10	31
Peak Hour 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
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1267	565	213	1852	30	548	30	462	33	13	39
Arrive On Green	0.00	0.36	0.36	0.24	1.00	1.00	0.31	0.31	0.31	0.05	0.05	0.05
Sat Flow, veh/h	0	3647	1585	1781	3580	57	1781	97	1503	658	253	785
Grp Volume(v), veh/h	0	1116	129	187	560	587	87	0	132	67	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	1860	1781	0	1600	1696	0	0
Q Serve(g_s), s	0.0	35.4	6.8	12.1	0.0	0.0	4.3	0.0	7.5	4.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	35.4	6.8	12.1	0.0	0.0	4.3	0.0	7.5	4.7	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.03	1.00		0.94	0.39		0.46
Lane Grp Cap(c), veh/h	0	1267	565	213	919	962	548	0	492	85	0	0
V/C Ratio(X)	0.00	0.88	0.23	0.88	0.61	0.61	0.16	0.00	0.27	0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1392	621	282	1036	1085	548	0	492	113	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	0.79	0.79	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	36.2	27.1	44.9	0.0	0.0	30.2	0.0	31.3	56.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.2	0.2	21.1	0.9	0.8	0.6	0.0	1.3	23.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.8	2.6	5.9	0.2	0.2	2.0	0.0	3.1	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	41.5	27.2	65.9	0.9	0.8	30.9	0.0	32.7	79.6	0.0	0.0
LnGrp LOS	A	D	C	E	A	A	C	A	C	E	A	A
Approach Vol, veh/h		1245			1334			219				67
Approach Delay, s/veh		40.0			10.0			32.0				79.6
Approach LOS		D			A			C				E
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		41.9	19.3	47.8		11.0		67.1				
Change Period (Y+Rc), s		5.0	5.0	* 5		5.0		5.0				
Max Green Setting (Gmax), s		27.0	19.0	* 47		8.0		70.0				
Max Q Clear Time (g_c+I1), s		9.5	14.1	37.4		6.7		2.0				
Green Ext Time (p_c), s		0.9	0.2	5.4		0.0		9.8				
Intersection Summary												
HCM 6th Ctrl Delay				26.3								
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 BO+P O2
MD Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Volume (vph)	0	196	0	1144	1395	204
Future Volume (vph)	0	196	0	1144	1395	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	50			0
Storage Lanes	0	1	0			1
Taper Length (ft)	90		90			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			35	35	
Link Distance (ft)	194			1156	303	
Travel Time (s)	5.3			22.5	5.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	196	0	1144	1395	204
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	196	0	1144	1395	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			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	57.4%
ICU Level of Service	B
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	196	0	1144	1395	204
Future Vol, veh/h	0	196	0	1144	1395	204
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	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	196	0	1144	1395	204

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	698	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	383	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	383	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 383	-	-
HCM Lane V/C Ratio	- 0.512	-	-
HCM Control Delay (s)	- 23.8	-	-
HCM Lane LOS	- C	-	-
HCM 95th %tile Q(veh)	- 2.8	-	-

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

PM BO+P O2
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	444	7	120	6	4	20	94	1010	24	19	1158	528
Future Volume (vph)	444	7	120	6	4	20	94	1010	24	19	1158	528
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			0.997				0.850
Flt Protected	0.950	0.954		0.950			0.950			0.950		
Satd. Flow (prot)	1681	1688	1583	1770	1630	0	1770	5070	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	5070	0	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			175		20			4				528
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	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. Flow (vph)	444	7	120	6	4	20	94	1010	24	19	1158	528
Shared Lane Traffic (%)	49%											
Lane Group Flow (vph)	226	225	120	6	24	0	94	1034	0	19	1158	528
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 BO+P O2
PM Peak Hour

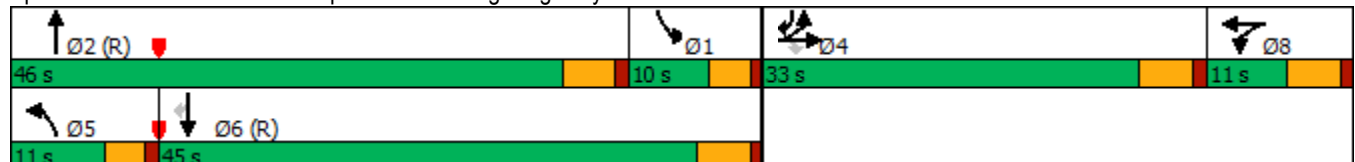


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8		5	2		1	6	4
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0	6.0	6.0
Minimum Split (s)	33.0	33.0	33.0	11.0	11.0		10.0	23.0		10.0	26.0	33.0
Total Split (s)	33.0	33.0	33.0	11.0	11.0		11.0	46.0		10.0	45.0	33.0
Total Split (%)	33.0%	33.0%	33.0%	11.0%	11.0%		11.0%	46.0%		10.0%	45.0%	33.0%
Maximum Green (s)	28.0	28.0	28.0	6.0	6.0		7.0	41.0		6.0	40.0	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)	22.8	22.8	22.8	6.0	6.0		8.3	56.6		6.0	48.3	76.1
Actuated g/C Ratio	0.23	0.23	0.23	0.06	0.06		0.08	0.57		0.06	0.48	0.76
v/c Ratio	0.59	0.59	0.24	0.06	0.21		0.64	0.36		0.18	0.68	0.40
Control Delay	40.1	39.9	2.4	45.7	25.9		63.7	5.2		48.8	24.7	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	40.1	39.9	2.4	45.7	25.9		63.7	5.2		48.8	24.7	1.3
LOS	D	D	A	D	C		E	A		D	C	A
Approach Delay		32.1			29.8			10.1			17.7	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 16 (16%), 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: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 68.0%
 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

PM BO+P O2
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↗	↖	↗		↖	↑↑↑		↖	↑↑	↗
Traffic Volume (veh/h)	444	7	120	6	4	20	94	1010	24	19	1158	528
Future Volume (veh/h)	444	7	120	6	4	20	94	1010	24	19	1158	528
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	449	0	120	6	4	20	94	1010	24	19	1158	528
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	569	0	253	60	9	46	119	2104	50	350	1954	1124
Arrive On Green	0.16	0.00	0.16	0.03	0.03	0.03	0.07	0.41	0.41	0.20	0.55	0.55
Sat Flow, veh/h	3563	0	1585	1781	271	1355	1781	5131	122	1781	3554	1585
Grp Volume(v), veh/h	449	0	120	6	0	24	94	670	364	19	1158	528
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1626	1781	1702	1848	1781	1777	1585
Q Serve(g_s), s	12.1	0.0	6.9	0.3	0.0	1.4	5.2	14.5	14.5	0.9	21.8	14.5
Cycle Q Clear(g_c), s	12.1	0.0	6.9	0.3	0.0	1.4	5.2	14.5	14.5	0.9	21.8	14.5
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	569	0	253	60	0	55	119	1396	758	350	1954	1124
V/C Ratio(X)	0.79	0.00	0.47	0.10	0.00	0.43	0.79	0.48	0.48	0.05	0.59	0.47
Avail Cap(c_a), veh/h	998	0	444	107	0	98	125	1396	758	350	1954	1124
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	40.4	0.0	38.2	46.8	0.0	47.4	46.0	21.7	21.7	32.6	15.0	6.3
Incr Delay (d2), s/veh	2.5	0.0	1.4	0.7	0.0	5.3	27.3	1.2	2.2	0.1	1.3	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	5.5	0.0	2.8	0.2	0.0	0.7	3.2	5.8	6.5	0.4	8.4	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.0	39.6	47.5	0.0	52.7	73.3	22.9	23.9	32.7	16.4	7.7
LnGrp LOS	D	A	D	D	A	D	E	C	C	C	B	A
Approach Vol, veh/h		569			30			1128			1705	
Approach Delay, s/veh		42.2			51.6			27.4			13.9	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.6	46.0		21.0	10.7	60.0		8.4				
Change Period (Y+Rc), s	5.0	* 5		5.0	4.0	5.0		5.0				
Max Green Setting (Gmax), s	6.0	* 41		28.0	7.0	40.0		6.0				
Max Q Clear Time (g_c+I1), s	2.9	16.5		14.1	7.2	23.8		3.4				
Green Ext Time (p_c), s	0.0	7.3		1.8	0.0	9.3		0.0				

Intersection Summary

HCM 6th Ctrl Delay	23.3
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 BO+P O2
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖	↗↗	↘	↖↖	↗↗		↖↖	↗	↘	↖	↗	↘
Traffic Volume (vph)	344	649	351	186	745	101	490	291	165	77	270	368
Future Volume (vph)	344	649	351	186	745	101	490	291	165	77	270	368
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		0.982				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	3539	1583	3433	3476	0	3433	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	3539	1583	3433	3476	0	3433	1863	1583	1770	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			245		14				165			109
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	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. Flow (vph)	344	649	351	186	745	101	490	291	165	77	270	368
Shared Lane Traffic (%)												
Lane Group Flow (vph)	344	649	351	186	846	0	490	291	165	77	270	368
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

PM BO+P O2
PM Peak Hour

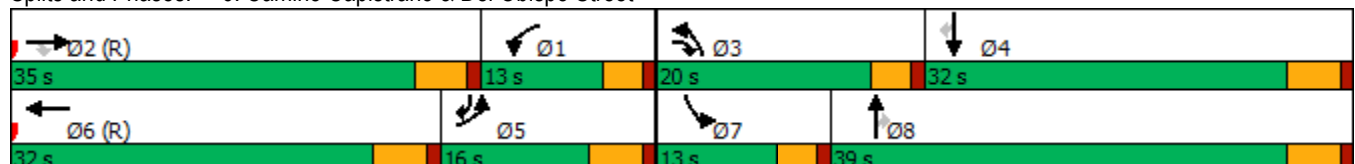


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	3	1	6		3	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	3.0	12.0	3.0	6.0	12.0		3.0	8.0	8.0	3.0	8.0	3.0
Minimum Split (s)	8.0	30.0	7.0	10.0	22.0		7.0	28.0	28.0	7.0	32.0	8.0
Total Split (s)	16.0	35.0	20.0	13.0	32.0		20.0	39.0	39.0	13.0	32.0	16.0
Total Split (%)	16.0%	35.0%	20.0%	13.0%	32.0%		20.0%	39.0%	39.0%	13.0%	32.0%	16.0%
Maximum Green (s)	11.0	30.0	16.0	9.0	27.0		16.0	34.0	34.0	9.0	27.0	11.0
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	Lag	Lead	Lead	Lag	Lead		Lead	Lag	Lag	Lead	Lag	Lag
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)	11.0	37.4	54.2	9.0	34.4		15.8	29.6	29.6	7.8	19.8	30.8
Actuated g/C Ratio	0.11	0.37	0.54	0.09	0.34		0.16	0.30	0.30	0.08	0.20	0.31
v/c Ratio	0.91	0.49	0.36	0.60	0.70		0.91	0.53	0.28	0.56	0.73	0.65
Control Delay	73.9	26.7	3.6	43.8	13.1		63.5	33.3	5.3	59.9	48.9	17.2
Queue Delay	0.0	0.1	0.0	0.0	0.7		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.9	26.8	3.6	43.8	13.7		63.5	33.3	5.3	59.9	48.9	17.2
LOS	E	C	A	D	B		E	C	A	E	D	B
Approach Delay		32.8			19.1			44.0			33.8	
Approach LOS		C			B			D			C	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 72 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 32.1
 Intersection LOS: C
 Intersection Capacity Utilization 77.6%
 ICU Level of Service D
 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 BO+P O2
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑	↖	↖	↑	↖
Traffic Volume (veh/h)	344	649	351	186	745	101	490	291	165	77	270	368
Future Volume (veh/h)	344	649	351	186	745	101	490	291	165	77	270	368
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	344	649	351	186	745	101	490	291	165	77	270	368
Peak Hour 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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	690	1066	728	586	849	115	550	533	452	99	339	604
Arrive On Green	0.20	0.30	0.30	0.34	0.54	0.54	0.16	0.28	0.28	0.06	0.18	0.18
Sat Flow, veh/h	3456	3554	1585	3456	3144	426	3456	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	344	649	351	186	421	425	490	291	165	77	270	368
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1794	1728	1870	1585	1781	1870	1585
Q Serve(g_s), s	8.8	15.6	6.6	4.0	20.7	20.7	13.9	13.2	5.2	4.3	13.8	6.0
Cycle Q Clear(g_c), s	8.8	15.6	6.6	4.0	20.7	20.7	13.9	13.2	5.2	4.3	13.8	6.0
Prop In Lane	1.00		1.00	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	690	1066	728	586	480	484	550	533	452	99	339	604
V/C Ratio(X)	0.50	0.61	0.48	0.32	0.88	0.88	0.89	0.55	0.37	0.78	0.80	0.61
Avail Cap(c_a), veh/h	690	1066	728	586	480	484	553	636	539	160	505	744
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	0.71	0.71	0.71	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	30.0	6.5	28.8	21.6	21.6	41.2	30.3	11.1	46.6	39.2	9.2
Incr Delay (d2), s/veh	0.2	2.6	2.3	0.1	15.0	14.9	16.0	0.9	0.5	4.9	5.3	1.0
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	3.7	7.0	2.9	1.6	7.6	7.7	7.1	6.0	3.0	2.0	6.8	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	32.6	8.8	28.8	36.5	36.5	57.2	31.1	11.6	51.6	44.5	10.2
LnGrp LOS	D	C	A	C	D	D	E	C	B	D	D	B
Approach Vol, veh/h		1344			1032			946			715	
Approach Delay, s/veh		27.2			35.1			41.2			27.6	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	35.0	19.9	23.1	25.0	32.0	9.5	33.5				
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	9.0	* 30	16.0	27.0	11.0	27.0	9.0	34.0				
Max Q Clear Time (g_c+I1), s	6.0	17.6	15.9	15.8	10.8	22.7	6.3	15.2				
Green Ext Time (p_c), s	0.1	4.6	0.0	2.3	0.0	2.1	0.0	2.2				

Intersection Summary













HCM 6th Ctrl Delay	32.6
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 BO+P O2
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (vph)	0	923	102	120	1147	8	71	9	116	20	9	23
Future Volume (vph)	0	923	102	120	1147	8	71	9	116	20	9	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			0.861			0.940	
Flt Protected				0.950			0.950				0.981	
Satd. Flow (prot)	0	3539	1583	1770	3536	0	1770	1604	0	0	1718	0
Flt Permitted				0.950			0.950				0.820	
Satd. Flow (perm)	0	3539	1583	1770	3536	0	1770	1604	0	0	1436	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		1			116			23	
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	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. Flow (vph)	0	923	102	120	1147	8	71	9	116	20	9	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	923	102	120	1155	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	
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		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

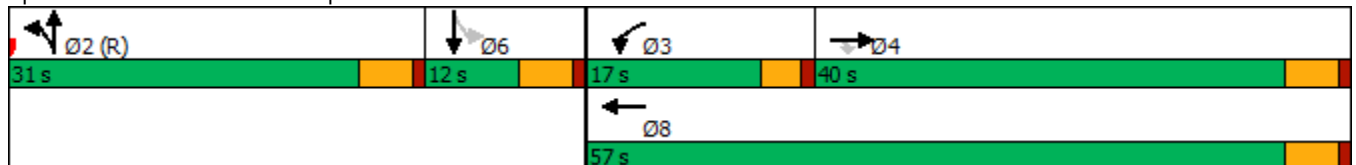
PM BO+P O2
PM Peak Hour

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)		40.0	40.0	17.0	57.0		31.0	31.0		12.0	12.0	
Total Split (%)		40.0%	40.0%	17.0%	57.0%		31.0%	31.0%		12.0%	12.0%	
Maximum Green (s)		35.0	35.0	13.0	52.0		26.0	26.0		7.0	7.0	
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)		32.3	32.3	11.1	47.4		33.2	33.2			6.6	
Actuated g/C Ratio		0.32	0.32	0.11	0.47		0.33	0.33			0.07	
v/c Ratio		0.81	0.17	0.61	0.69		0.12	0.20			0.45	
Control Delay		22.5	1.0	51.4	14.7		28.1	7.6			41.6	
Queue Delay		0.2	0.0	0.0	0.1		0.0	0.0			0.0	
Total Delay		22.7	1.0	51.4	14.8		28.1	7.6			41.6	
LOS		C	A	D	B		C	A			D	
Approach Delay		20.5			18.2			15.0			41.6	
Approach LOS		C			B			B			D	

Intersection Summary













Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 8 (8%), Referenced to phase 2:NBTL, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 19.4
 Intersection LOS: B
 Intersection Capacity Utilization 60.6%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 7: Del Obispo Street



HCM 6th Signalized Intersection Summary
7: Del Bispo Street

PM BO+P O2
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑		↖	↗			↕	
Traffic Volume (veh/h)	0	923	102	120	1147	8	71	9	116	20	9	23
Future Volume (veh/h)	0	923	102	120	1147	8	71	9	116	20	9	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	923	102	120	1147	8	71	9	116	20	9	23
Peak Hour 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
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1039	463	151	1509	11	689	45	576	30	14	35
Arrive On Green	0.00	0.58	0.58	0.03	0.14	0.14	0.39	0.39	0.39	0.05	0.05	0.05
Sat Flow, veh/h	0	3647	1585	1781	3617	25	1781	115	1487	655	295	753
Grp Volume(v), veh/h	0	923	102	120	563	592	71	0	125	52	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	1866	1781	0	1603	1702	0	0
Q Serve(g_s), s	0.0	22.5	3.1	6.7	30.5	30.5	2.5	0.0	5.2	3.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	22.5	3.1	6.7	30.5	30.5	2.5	0.0	5.2	3.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.01	1.00		0.93	0.38		0.44
Lane Grp Cap(c), veh/h	0	1039	463	151	741	778	689	0	620	78	0	0
V/C Ratio(X)	0.00	0.89	0.22	0.79	0.76	0.76	0.10	0.00	0.20	0.67	0.00	0.00
Avail Cap(c_a), veh/h	0	1244	555	232	924	970	689	0	620	119	0	0
HCM Platoon Ratio	1.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.89	0.89	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	19.4	15.3	47.7	38.3	38.3	19.6	0.0	20.4	47.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.5	0.2	10.2	2.9	2.8	0.3	0.0	0.7	9.4	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	6.2	1.1	3.5	15.0	15.8	1.1	0.0	2.1	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	25.8	15.5	57.9	41.2	41.1	19.9	0.0	21.1	56.3	0.0	0.0
LnGrp LOS	A	C	B	E	D	D	B	A	C	E	A	A
Approach Vol, veh/h		1025			1275			196			52	
Approach Delay, s/veh		24.8			42.7			20.7			56.3	
Approach LOS		C			D			C			E	
Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		43.7	12.5	34.2		9.6		46.7				
Change Period (Y+Rc), s		5.0	4.0	5.0		5.0		5.0				
Max Green Setting (Gmax), s		26.0	13.0	35.0		7.0		52.0				
Max Q Clear Time (g_c+I1), s		7.2	8.7	24.5		5.0		32.5				
Green Ext Time (p_c), s		0.9	0.1	4.8		0.0		7.5				
Intersection Summary												
HCM 6th Ctrl Delay			34.1									
HCM 6th LOS			C									

Lanes, Volumes, Timings
8: Del Obispo Street

PM BO+P O2
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↖
Traffic Volume (vph)	0	166	0	1140	1222	165
Future Volume (vph)	0	166	0	1140	1222	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	50			0
Storage Lanes	0	1	0			1
Taper Length (ft)	90		90			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			35	35	
Link Distance (ft)	194			1156	303	
Travel Time (s)	5.3			22.5	5.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	166	0	1140	1222	165
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	166	0	1140	1222	165
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			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	50.7%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↗
Traffic Vol, veh/h	0	166	0	1140	1222	165
Future Vol, veh/h	0	166	0	1140	1222	165
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	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	166	0	1140	1222	165

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	611	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	437	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	437	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	437	-	-
HCM Lane V/C Ratio	-	0.38	-	-
HCM Control Delay (s)	-	18.2	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	1.7	-	-