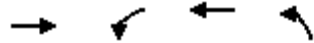


Queues

1: Highland Avenue South & El Cajon Blvd

8/17/2016

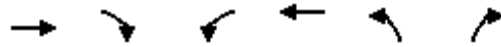


Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	835	67	1119	191
v/c Ratio	0.35	0.16	0.46	0.57
Control Delay	5.3	6.1	6.4	28.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.3	6.1	6.4	28.2
Queue Length 50th (ft)	59	8	93	64
Queue Length 95th (ft)	107	28	168	103
Internal Link Dist (ft)	381		853	1327
Turn Bay Length (ft)		100		
Base Capacity (vph)	2375	407	2410	664
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.16	0.46	0.29

Intersection Summary

HCM 2010 Signalized Intersection Summary
 1: Highland Avenue South & El Cajon Blvd

8/17/2016



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	
Volume (veh/h)	640	95	65	1085	115	45
Number	2	12	1	6	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900
Adj Flow Rate, veh/h	727	108	67	1119	137	54
Adj No. of Lanes	2	0	1	2	0	0
Peak Hour Factor	0.88	0.88	0.97	0.97	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	2227	331	518	2549	171	67
Arrive On Green	0.72	0.72	0.24	0.24	0.14	0.14
Sat Flow, veh/h	3185	459	655	3632	1225	483
Grp Volume(v), veh/h	416	419	67	1119	192	0
Grp Sat Flow(s),veh/h/ln	1770	1782	655	1770	1716	0
Q Serve(g_s), s	6.0	6.0	5.9	18.8	7.6	0.0
Cycle Q Clear(g_c), s	6.0	6.0	11.9	18.8	7.6	0.0
Prop In Lane		0.26	1.00		0.71	0.28
Lane Grp Cap(c), veh/h	1274	1283	518	2549	240	0
V/C Ratio(X)	0.33	0.33	0.13	0.44	0.80	0.00
Avail Cap(c_a), veh/h	1274	1283	518	2549	640	0
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	3.6	3.6	14.5	14.6	29.2	0.0
Incr Delay (d2), s/veh	0.7	0.7	0.5	0.6	5.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.2	1.1	9.4	3.9	0.0
LnGrp Delay(d),s/veh	4.3	4.3	15.0	15.2	34.7	0.0
LnGrp LOS	A	A	B	B	C	
Approach Vol, veh/h	835			1186	192	
Approach Delay, s/veh	4.3			15.2	34.7	
Approach LOS	A			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		55.3				55.3		14.7
Change Period (Y+Rc), s		4.9				4.9		4.9
Max Green Setting (Gmax), s		34.1				34.1		26.1
Max Q Clear Time (g_c+I1), s		8.0				20.8		9.6
Green Ext Time (p_c), s		13.0				8.6		0.4

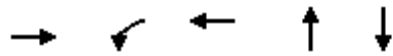
Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Notes
 User approved volume balancing among the lanes for turning movement.

Queues

2: Chamoune Avenue & El Cajon Blvd

8/17/2016




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	693	49	989	323	302
v/c Ratio	0.39	0.15	0.55	0.87	0.55
Control Delay	11.8	12.6	14.2	44.7	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	12.6	14.2	44.7	21.0
Queue Length 50th (ft)	92	11	154	114	94
Queue Length 95th (ft)	105	32	215	126	53
Internal Link Dist (ft)	243		560	1355	111
Turn Bay Length (ft)		45			
Base Capacity (vph)	1830	336	1844	406	603
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.15	0.54	0.80	0.50

Intersection Summary

HCM 2010 Signalized Intersection Summary

2: Chamoune Avenue & El Cajon Blvd

8/17/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	450	70	45	875	35	165	10	35	35	70	10
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	600	93	49	951	38	254	15	54	92	184	26
Adj No. of Lanes	0	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.65	0.65	0.65	0.38	0.38	0.38
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	1660	257	507	1874	75	379	20	62	200	373	48
Arrive On Green	0.00	1.00	1.00	0.54	0.54	0.54	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	0	3166	475	748	3469	139	897	62	193	416	1167	149
Grp Volume(v), veh/h	0	345	348	49	485	504	323	0	0	302	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1779	748	1770	1838	1152	0	0	1731	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.3	12.2	12.2	9.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.3	12.2	12.2	18.9	0.0	0.0	9.8	0.0	0.0
Prop In Lane	0.00		0.27	1.00		0.08	0.79		0.17	0.30		0.09
Lane Grp Cap(c), veh/h	0	956	961	507	956	993	460	0	0	621	0	0
V/C Ratio(X)	0.00	0.36	0.36	0.10	0.51	0.51	0.70	0.00	0.00	0.49	0.00	0.00
Avail Cap(c_a), veh/h	0	956	961	507	956	993	526	0	0	708	0	0
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	7.9	10.2	10.2	23.0	0.0	0.0	19.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	1.1	0.4	1.9	1.9	2.6	0.0	0.0	0.2	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	0.3	0.3	0.5	6.3	6.5	6.3	0.0	0.0	4.8	0.0	0.0
LnGrp Delay(d),s/veh	0.0	1.1	1.1	8.3	12.1	12.0	25.6	0.0	0.0	19.7	0.0	0.0
LnGrp LOS		A	A	A	B	B	C			B		
Approach Vol, veh/h		693			1038			323				302
Approach Delay, s/veh		1.1			11.9			25.6				19.7
Approach LOS		A			B			C				B
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.7		27.3		42.7		27.3				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		34.1		26.1		34.1		26.1				
Max Q Clear Time (g_c+I1), s		2.0		11.8		14.2		20.9				
Green Ext Time (p_c), s		8.6		2.6		7.5		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				11.6								
HCM 2010 LOS				B								

Queues

3: Menlo Avenue & El Cajon Blvd

8/17/2016





















Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	67	634	64	962	159	98
v/c Ratio	0.51	0.26	0.50	0.40	0.79	0.46
Control Delay	66.3	8.4	66.2	7.3	70.9	41.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	8.4	66.2	7.3	70.9	41.5
Queue Length 50th (ft)	51	89	50	106	110	54
Queue Length 95th (ft)	87	138	97	154	156	90
Internal Link Dist (ft)		861		851	1224	1176
Turn Bay Length (ft)	100		100			
Base Capacity (vph)	230	2411	230	2384	306	321
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.26	0.28	0.40	0.52	0.31

Intersection Summary

HCM 2010 Signalized Intersection Summary

3: Menlo Avenue & El Cajon Blvd

8/17/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	55	455	65	60	805	100	65	30	35	30	20	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	67	555	79	64	856	106	79	37	43	37	24	37
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.82	0.82	0.82	0.94	0.94	0.94	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	2216	314	82	2249	279	132	52	51	96	65	73
Arrive On Green	0.05	0.71	0.71	0.09	1.00	1.00	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1774	3113	442	1774	3170	393	702	421	416	446	523	588
Grp Volume(v), veh/h	67	315	319	64	478	484	159	0	0	98	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1785	1774	1770	1793	1538	0	0	1557	0	0
Q Serve(g_s), s	4.5	7.5	7.5	4.2	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.5	7.5	7.5	4.2	0.0	0.0	12.0	0.0	0.0	6.8	0.0	0.0
Prop In Lane	1.00		0.25	1.00		0.22	0.50		0.27	0.38		0.38
Lane Grp Cap(c), veh/h	86	1260	1271	82	1255	1272	235	0	0	234	0	0
V/C Ratio(X)	0.78	0.25	0.25	0.78	0.38	0.38	0.68	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	231	1260	1271	231	1255	1272	376	0	0	377	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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.5	6.1	6.1	53.9	0.0	0.0	51.2	0.0	0.0	48.9	0.0	0.0
Incr Delay (d2), s/veh	5.6	0.5	0.5	6.0	0.9	0.9	1.3	0.0	0.0	0.4	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	2.3	3.8	3.8	2.2	0.3	0.3	5.3	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	62.0	6.5	6.5	59.9	0.9	0.9	52.5	0.0	0.0	49.4	0.0	0.0
LnGrp LOS	E	A	A	E	A	A	D			D		
Approach Vol, veh/h		701			1026			159				98
Approach Delay, s/veh		11.8			4.6			52.5				49.4
Approach LOS		B			A			D				D
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	90.3		19.7	10.2	90.0		19.7				
Change Period (Y+Rc), s	4.4	* 4.9		4.9	4.4	4.9		4.9				
Max Green Setting (Gmax), s	15.6	* 65		26.1	15.6	64.1		26.1				
Max Q Clear Time (g_c+I1), s	6.2	9.5		8.8	6.5	2.0		14.0				
Green Ext Time (p_c), s	0.0	13.2		1.0	0.0	13.3		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			13.2									
HCM 2010 LOS			B									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Queues

4: Euclid Avenue & El Cajon Blvd

8/17/2016



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	135	653	158	929	146	317	28	108
v/c Ratio	0.68	0.35	0.71	0.48	0.57	0.82	0.33	0.28
Control Delay	64.8	17.4	66.0	16.2	50.4	60.7	48.4	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	17.4	66.0	16.2	50.4	60.7	48.4	34.2
Queue Length 50th (ft)	102	121	105	234	102	232	19	61
Queue Length 95th (ft)	154	223	m160	354	141	272	45	100
Internal Link Dist (ft)		549		828		769		951
Turn Bay Length (ft)	90		100		150		80	
Base Capacity (vph)	289	1890	318	1948	367	553	123	548
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.35	0.50	0.48	0.40	0.57	0.23	0.20























Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 2010 Signalized Intersection Summary

4: Euclid Avenue & El Cajon Blvd

8/17/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Volume (veh/h)	115	435	120	155	780	130	120	225	35	25	70	25
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	135	512	141	158	796	133	146	274	43	28	80	28
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.85	0.85	0.85	0.98	0.98	0.98	0.82	0.82	0.82	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	1529	419	186	1729	289	278	346	54	119	291	102
Arrive On Green	0.06	0.37	0.37	0.10	0.57	0.57	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1774	2747	753	1774	3036	507	1280	1572	247	1058	1319	462
Grp Volume(v), veh/h	135	329	324	158	464	465	146	0	317	28	0	108
Grp Sat Flow(s),veh/h/ln	1774	1770	1730	1774	1770	1773	1280	0	1819	1058	0	1781
Q Serve(g_s), s	9.0	16.0	16.1	10.5	18.4	18.4	12.8	0.0	19.7	3.1	0.0	6.0
Cycle Q Clear(g_c), s	9.0	16.0	16.1	10.5	18.4	18.4	18.9	0.0	19.7	22.8	0.0	6.0
Prop In Lane	1.00		0.44	1.00		0.29	1.00		0.14	1.00		0.26
Lane Grp Cap(c), veh/h	163	985	963	186	1008	1010	278	0	401	119	0	393
V/C Ratio(X)	0.83	0.33	0.34	0.85	0.46	0.46	0.53	0.00	0.79	0.24	0.00	0.28
Avail Cap(c_a), veh/h	290	985	963	319	1008	1010	381	0	547	204	0	536
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	55.4	21.7	21.7	52.8	15.1	15.1	46.7	0.0	44.2	54.9	0.0	38.8
Incr Delay (d2), s/veh	4.1	0.9	0.9	4.2	1.5	1.5	0.6	0.0	3.7	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	8.1	8.0	5.3	9.3	9.3	4.6	0.0	10.4	0.9	0.0	3.0
LnGrp Delay(d),s/veh	59.5	22.6	22.7	56.9	16.6	16.6	47.2	0.0	47.9	55.3	0.0	39.0
LnGrp LOS	E	C	C	E	B	B	D		D	E		D
Approach Vol, veh/h		788			1087			463			136	
Approach Delay, s/veh		29.0			22.4			47.7			42.3	
Approach LOS		C			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.0	71.7		31.3	15.4	73.2		31.3				
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9				
Max Green Setting (Gmax), s	21.6	48.1		36.1	19.6	50.1		36.1				
Max Q Clear Time (g_c+I1), s	12.5	18.1		24.8	11.0	20.4		21.7				
Green Ext Time (p_c), s	0.1	13.7		1.6	0.1	13.6		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			30.3									
HCM 2010 LOS			C									

Queues

6: Winona Avenue & El Cajon Blvd

8/17/2016





















Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	108	614	133	1322	236	87
v/c Ratio	0.45	0.24	0.23	0.51	0.85	0.37
Control Delay	14.7	5.6	6.8	7.6	70.5	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	5.6	6.8	7.6	70.5	37.8
Queue Length 50th (ft)	32	72	28	193	169	48
Queue Length 95th (ft)	61	95	64	288	174	93
Internal Link Dist (ft)		865		843	1217	898
Turn Bay Length (ft)	110		110			
Base Capacity (vph)	240	2586	569	2595	357	302
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.24	0.23	0.51	0.66	0.29

Intersection Summary

HCM 2010 Signalized Intersection Summary
6: Winona Avenue & El Cajon Blvd

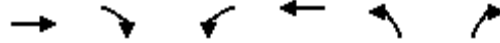
8/17/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	105	510	85	120	1075	115	50	70	40	30	25	25
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	108	526	88	133	1194	128	74	103	59	33	27	27
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.97	0.97	0.97	0.90	0.90	0.90	0.68	0.68	0.68	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	2296	383	627	2439	261	113	128	67	106	86	68
Arrive On Green	0.76	0.76	0.76	0.76	0.76	0.76	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	413	3037	506	805	3226	345	457	792	416	400	531	419
Grp Volume(v), veh/h	108	306	308	133	654	668	236	0	0	87	0	0
Grp Sat Flow(s),veh/h/ln	413	1770	1773	805	1770	1802	1666	0	0	1351	0	0
Q Serve(g_s), s	16.5	6.1	6.2	7.0	17.1	17.3	10.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	33.7	6.1	6.2	13.2	17.1	17.3	16.5	0.0	0.0	6.2	0.0	0.0
Prop In Lane	1.00		0.29	1.00		0.19	0.31		0.25	0.38		0.31
Lane Grp Cap(c), veh/h	313	1338	1341	627	1338	1362	308	0	0	259	0	0
V/C Ratio(X)	0.34	0.23	0.23	0.21	0.49	0.49	0.77	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	313	1338	1341	627	1338	1362	411	0	0	355	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.2	4.3	4.3	6.3	5.7	5.7	48.9	0.0	0.0	44.5	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.4	0.4	0.8	1.3	1.3	4.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.1	3.1	1.7	8.6	8.8	8.0	0.0	0.0	2.6	0.0	0.0
LnGrp Delay(d),s/veh	15.2	4.7	4.7	7.0	6.9	6.9	52.8	0.0	0.0	44.8	0.0	0.0
LnGrp LOS	B	A	A	A	A	A	D			D		
Approach Vol, veh/h		722			1455			236				87
Approach Delay, s/veh		6.3			6.9			52.8				44.8
Approach LOS		A			A			D				D
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		95.7		24.3		95.7		24.3				
Change Period (Y+Rc), s		* 5		4.9		5.0		4.9				
Max Green Setting (Gmax), s		* 83		27.1		83.0		27.1				
Max Q Clear Time (g_c+I1), s		35.7		8.2		19.3		18.5				
Green Ext Time (p_c), s		40.2		1.3		51.4		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			12.4									
HCM 2010 LOS			B									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Future AM

1: Highland Avenue South & El Cajon Blvd

11/17/2015



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↘	
Volume (vph)	640	155	330	1085	115	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9		4.9	4.9	4.9	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.97		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3436		1770	3539	1730	
Flt Permitted	1.00		0.30	1.00	0.97	
Satd. Flow (perm)	3436		550	3539	1730	
Peak-hour factor, PHF	0.88	0.88	0.97	0.97	0.84	0.84
Adj. Flow (vph)	727	176	340	1119	137	54
RTOR Reduction (vph)	19	0	0	0	26	0
Lane Group Flow (vph)	884	0	340	1119	165	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	47.7		47.7	47.7	12.5	
Effective Green, g (s)	47.7		47.7	47.7	12.5	
Actuated g/C Ratio	0.68		0.68	0.68	0.18	
Clearance Time (s)	4.9		4.9	4.9	4.9	
Vehicle Extension (s)	2.8		2.0	2.0	2.8	
Lane Grp Cap (vph)	2341		374	2411	308	
v/s Ratio Prot	0.26			0.32	c0.10	
v/s Ratio Perm			c0.62			
v/c Ratio	0.38		0.91	0.46	0.53	
Uniform Delay, d1	4.8		9.3	5.2	26.1	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.5		28.4	0.6	1.6	
Delay (s)	5.2		37.7	5.8	27.7	
Level of Service	A		D	A	C	
Approach Delay (s)	5.2			13.3	27.7	
Approach LOS	A			B	C	

Intersection Summary

HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Future AM

2: Chamoune Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑			↑↓			↑↓	
Volume (vph)	0	450	70	45	875	35	165	10	35	35	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		4.9	4.9			4.9			4.9	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Frt		0.98		1.00	0.99			0.98			0.99	
Flt Protected		1.00		0.95	1.00			0.96			0.98	
Satd. Flow (prot)		3468		1770	3519			1752			1813	
Flt Permitted		1.00		0.35	1.00			0.56			0.83	
Satd. Flow (perm)		3468		643	3519			1017			1533	
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.65	0.65	0.65	0.38	0.38	0.38
Adj. Flow (vph)	0	600	93	49	951	38	254	15	54	92	184	26
RTOR Reduction (vph)	0	17	0	0	4	0	0	10	0	0	5	0
Lane Group Flow (vph)	0	676	0	49	985	0	0	313	0	0	297	0
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		35.4		35.4	35.4			24.8			24.8	
Effective Green, g (s)		35.4		35.4	35.4			24.8			24.8	
Actuated g/C Ratio		0.51		0.51	0.51			0.35			0.35	
Clearance Time (s)		4.9		4.9	4.9			4.9			4.9	
Vehicle Extension (s)		2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)		1753		325	1779			360			543	
v/s Ratio Prot		0.19			c0.28							
v/s Ratio Perm				0.08				c0.31			0.19	
v/c Ratio		0.39		0.15	0.55			0.87			0.55	
Uniform Delay, d1		10.6		9.3	11.9			21.1			18.1	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.6		1.0	1.2			18.8			0.6	
Delay (s)		11.3		10.2	13.1			39.8			18.7	
Level of Service		B		B	B			D			B	
Approach Delay (s)		11.3			13.0			39.8			18.7	
Approach LOS		B			B			D			B	

Intersection Summary

HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Future AM
3: Menlo Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	455	65	60	805	100	65	30	35	30	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.0		4.4	4.9			4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.98		1.00	0.98			0.96			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3473		1770	3481			1751			1735	
Flt Permitted	0.95	1.00		0.95	1.00			0.76			0.79	
Satd. Flow (perm)	1770	3473		1770	3481			1358			1395	
Peak-hour factor, PHF	0.82	0.82	0.82	0.94	0.94	0.94	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	49	555	79	64	856	106	79	37	43	37	24	37
RTOR Reduction (vph)	0	6	0	0	5	0	0	12	0	0	20	0
Lane Group Flow (vph)	49	628	0	64	957	0	0	147	0	0	78	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	6.8	82.4		7.7	82.4			16.6			16.6	
Effective Green, g (s)	6.8	82.4		7.7	82.4			16.6			16.6	
Actuated g/C Ratio	0.06	0.69		0.06	0.69			0.14			0.14	
Clearance Time (s)	4.4	4.0		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	2.8		2.0	2.8			2.0			2.0	
Lane Grp Cap (vph)	100	2384		113	2390			187			192	
v/s Ratio Prot	0.03	0.18		c0.04	c0.27							
v/s Ratio Perm								c0.11			0.06	
v/c Ratio	0.49	0.26		0.57	0.40			0.79			0.41	
Uniform Delay, d1	54.9	7.2		54.5	8.1			50.0			47.2	
Progression Factor	1.00	1.00		0.98	0.80			1.00			1.00	
Incremental Delay, d2	1.4	0.3		3.7	0.5			17.9			0.5	
Delay (s)	56.3	7.5		57.2	7.0			67.9			47.7	
Level of Service	E	A		E	A			E			D	
Approach Delay (s)		11.0			10.1			67.9			47.7	
Approach LOS		B			B			E			D	

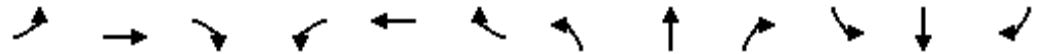
Intersection Summary

HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Future AM

4: Euclid Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	
Volume (vph)	65	435	120	95	780	130	120	225	35	25	70	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3425		1770	3463		1770	1825		1770	1790	
Flt Permitted	0.95	1.00		0.95	1.00		0.66	1.00		0.23	1.00	
Satd. Flow (perm)	1770	3425		1770	3463		1225	1825		430	1790	
Peak-hour factor, PHF	0.85	0.85	0.85	0.98	0.98	0.98	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	76	512	141	97	796	133	146	274	43	28	80	28
RTOR Reduction (vph)	0	14	0	0	8	0	0	6	0	0	14	0
Lane Group Flow (vph)	76	639	0	97	921	0	146	311	0	28	94	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8			4		
Actuated Green, G (s)	8.7	69.1		11.0	71.4		25.7	25.7		25.7	25.7	
Effective Green, g (s)	8.7	69.1		11.0	71.4		25.7	25.7		25.7	25.7	
Actuated g/C Ratio	0.07	0.58		0.09	0.60		0.21	0.21		0.21	0.21	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.4		2.0	3.2		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	128	1972		162	2060		262	390		92	383	
v/s Ratio Prot	0.04	0.19		c0.05	c0.27			c0.17			0.05	
v/s Ratio Perm							0.12			0.07		
v/c Ratio	0.59	0.32		0.60	0.45		0.56	0.80		0.30	0.25	
Uniform Delay, d1	53.9	13.3		52.4	13.4		42.1	44.7		39.6	39.1	
Progression Factor	1.00	0.86		0.92	1.03		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.8	0.4		3.7	0.7		1.5	10.1		0.7	0.1	
Delay (s)	58.8	11.8		51.9	14.5		43.5	54.8		40.3	39.2	
Level of Service	E	B		D	B		D	D		D	D	
Approach Delay (s)		16.7			18.1			51.2			39.5	
Approach LOS		B			B			D			D	

Intersection Summary

HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Future AM

5: Estrella Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	520	80	75	1115	80	10	15	25	5	10	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.73	0.73	0.73	0.67	0.67	0.67
Hourly flow rate (vph)	53	547	84	82	1225	88	14	21	34	7	15	30
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1313			632			1510	2173	316	1858	2171	657
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1313			632			1510	2173	316	1858	2171	657
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			91			70	46	95	65	61	93
cM capacity (veh/h)	523			947			46	38	680	22	38	408

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	53	365	267	82	817	496	68	52
Volume Left	53	0	0	82	0	0	14	7
Volume Right	0	0	84	0	0	88	34	30
cSH	523	1700	1700	947	1700	1700	77	64
Volume to Capacity	0.10	0.21	0.16	0.09	0.48	0.29	0.89	0.81
Queue Length 95th (ft)	8	0	0	7	0	0	114	94
Control Delay (s)	12.7	0.0	0.0	9.2	0.0	0.0	165.8	168.6
Lane LOS	B			A			F	F
Approach Delay (s)	1.0			0.5			165.8	168.6
Approach LOS							F	F

Intersection Summary

Average Delay	9.8
Intersection Capacity Utilization	51.0%
ICU Level of Service	A
Analysis Period (min)	15

Future AM

6: Winona Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Volume (vph)	40	510	85	75	1075	115	50	70	40	30	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.0	5.0			4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.98		1.00	0.99			0.97			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3463		1770	3488			1772			1751	
Flt Permitted	0.17	1.00		0.41	1.00			0.86			0.73	
Satd. Flow (perm)	322	3463		764	3488			1541			1300	
Peak-hour factor, PHF	0.97	0.97	0.97	0.90	0.90	0.90	0.68	0.68	0.68	0.92	0.92	0.92
Adj. Flow (vph)	41	526	88	83	1194	128	74	103	59	33	27	27
RTOR Reduction (vph)	0	7	0	0	4	0	0	12	0	0	16	0
Lane Group Flow (vph)	41	607	0	83	1318	0	0	224	0	0	71	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	88.6	88.6		88.5	88.5			21.6			21.6	
Effective Green, g (s)	88.6	88.6		88.5	88.5			21.6			21.6	
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.18			0.18	
Clearance Time (s)	4.9	4.9		5.0	5.0			4.9			4.9	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			2.0			2.0	
Lane Grp Cap (vph)	237	2556		563	2572			277			234	
v/s Ratio Prot		0.18			c0.38							
v/s Ratio Perm	0.13			0.11				c0.15			0.05	
v/c Ratio	0.17	0.24		0.15	0.51			0.81			0.30	
Uniform Delay, d1	4.7	5.0		4.6	6.6			47.2			42.7	
Progression Factor	1.47	1.46		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.6	0.2		0.6	0.7			14.9			0.3	
Delay (s)	8.5	7.5		5.2	7.4			62.1			42.9	
Level of Service	A	A		A	A			E			D	
Approach Delay (s)		7.6			7.2			62.1			42.9	
Approach LOS		A			A			E			D	

Intersection Summary

HCM 2000 Control Delay	14.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Future AM - Road Diet
 1: Highland Avenue South & El Cajon Blvd

11/17/2015



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	↖
Volume (vph)	640	155	330	1085	115	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9		4.9	4.9	4.9	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.96	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1814		1770	1863	1730	
Flt Permitted	1.00		0.21	1.00	0.97	
Satd. Flow (perm)	1814		389	1863	1730	
Peak-hour factor, PHF	0.88	0.88	0.97	0.97	0.84	0.84
Adj. Flow (vph)	727	176	340	1119	137	54
RTOR Reduction (vph)	8	0	0	0	26	0
Lane Group Flow (vph)	895	0	340	1119	165	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	47.7		47.7	47.7	12.5	
Effective Green, g (s)	47.7		47.7	47.7	12.5	
Actuated g/C Ratio	0.68		0.68	0.68	0.18	
Clearance Time (s)	4.9		4.9	4.9	4.9	
Vehicle Extension (s)	2.8		2.0	2.0	2.8	
Lane Grp Cap (vph)	1236		265	1269	308	
v/s Ratio Prot	0.49			0.60	c0.10	
v/s Ratio Perm			c0.88			
v/c Ratio	0.72		1.28	0.88	0.53	
Uniform Delay, d1	7.0		11.1	8.9	26.1	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	3.7		153.0	9.0	1.6	
Delay (s)	10.7		164.1	17.9	27.7	
Level of Service	B		F	B	C	
Approach Delay (s)	10.7			52.0	27.7	
Approach LOS	B			D	C	

Intersection Summary

HCM 2000 Control Delay	35.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Future AM - Road Diet
2: Chamoune Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕			↕			↕	
Volume (vph)	0	450	70	45	875	35	165	10	35	35	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		4.9	4.9			4.9			4.9	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		0.98		1.00	0.99			0.98			0.99	
Flt Protected		1.00		0.95	1.00			0.96			0.98	
Satd. Flow (prot)		1829		1770	1852			1752			1813	
Flt Permitted		1.00		0.23	1.00			0.55			0.84	
Satd. Flow (perm)		1829		429	1852			1002			1541	
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.65	0.65	0.65	0.38	0.38	0.38
Adj. Flow (vph)	0	600	93	49	951	38	254	15	54	92	184	26
RTOR Reduction (vph)	0	8	0	0	2	0	0	11	0	0	5	0
Lane Group Flow (vph)	0	685	0	49	987	0	0	312	0	0	297	0
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases				6			8			4		
Actuated Green, G (s)		37.0		37.0	37.0			23.2			23.2	
Effective Green, g (s)		37.0		37.0	37.0			23.2			23.2	
Actuated g/C Ratio		0.53		0.53	0.53			0.33			0.33	
Clearance Time (s)		4.9		4.9	4.9			4.9			4.9	
Vehicle Extension (s)		2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)		966		226	978			332			510	
v/s Ratio Prot		0.37			c0.53							
v/s Ratio Perm				0.11				c0.31			0.19	
v/c Ratio		0.71		0.22	1.01			0.94			0.58	
Uniform Delay, d1		12.4		8.8	16.5			22.7			19.4	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		4.4		2.2	31.1			33.8			1.1	
Delay (s)		16.9		11.0	47.6			56.6			20.5	
Level of Service		B		B	D			E			C	
Approach Delay (s)		16.9			45.9			56.6			20.5	
Approach LOS		B			D			E			C	

Intersection Summary

HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Future AM - Road Diet
3: Menlo Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	455	65	60	805	100	65	30	35	30	20	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.0		4.4	4.9			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.98			0.96			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	1828		1770	1832			1751			1735	
Flt Permitted	0.95	1.00		0.95	1.00			0.76			0.79	
Satd. Flow (perm)	1770	1828		1770	1832			1358			1395	
Peak-hour factor, PHF	0.82	0.82	0.82	0.94	0.94	0.94	0.82	0.82	0.82	0.82	0.82	0.82
Adj. Flow (vph)	49	555	79	64	856	106	79	37	43	37	24	37
RTOR Reduction (vph)	0	3	0	0	3	0	0	12	0	0	20	0
Lane Group Flow (vph)	49	631	0	64	959	0	0	147	0	0	78	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	6.8	82.4		7.7	82.4			16.6			16.6	
Effective Green, g (s)	6.8	82.4		7.7	82.4			16.6			16.6	
Actuated g/C Ratio	0.06	0.69		0.06	0.69			0.14			0.14	
Clearance Time (s)	4.4	4.0		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	2.8		2.0	2.8			2.0			2.0	
Lane Grp Cap (vph)	100	1255		113	1257			187			192	
v/s Ratio Prot	0.03	0.35		c0.04	c0.52							
v/s Ratio Perm								c0.11			0.06	
v/c Ratio	0.49	0.50		0.57	0.76			0.79			0.41	
Uniform Delay, d1	54.9	9.0		54.5	12.4			50.0			47.2	
Progression Factor	1.00	1.00		0.95	0.67			1.00			1.00	
Incremental Delay, d2	1.4	1.4		3.3	3.8			17.9			0.5	
Delay (s)	56.3	10.4		55.1	12.1			67.9			47.7	
Level of Service	E	B		E	B			E			D	
Approach Delay (s)		13.7			14.8			67.9			47.7	
Approach LOS		B			B			E			D	

Intersection Summary

HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Future AM - Road Diet
4: Euclid Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	435	120	95	780	130	120	225	35	25	70	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1802		1770	1823		1770	1825		1770	1790	
Flt Permitted	0.95	1.00		0.95	1.00		0.66	1.00		0.23	1.00	
Satd. Flow (perm)	1770	1802		1770	1823		1225	1825		430	1790	
Peak-hour factor, PHF	0.85	0.85	0.85	0.98	0.98	0.98	0.82	0.82	0.82	0.88	0.88	0.88
Adj. Flow (vph)	76	512	141	97	796	133	146	274	43	28	80	28
RTOR Reduction (vph)	0	6	0	0	3	0	0	6	0	0	14	0
Lane Group Flow (vph)	76	647	0	97	926	0	146	311	0	28	94	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	8.7	69.1		11.0	71.4		25.7	25.7		25.7	25.7	
Effective Green, g (s)	8.7	69.1		11.0	71.4		25.7	25.7		25.7	25.7	
Actuated g/C Ratio	0.07	0.58		0.09	0.60		0.21	0.21		0.21	0.21	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.4		2.0	3.2		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	128	1037		162	1084		262	390		92	383	
v/s Ratio Prot	0.04	0.36		c0.05	c0.51			c0.17			0.05	
v/s Ratio Perm							0.12			0.07		
v/c Ratio	0.59	0.62		0.60	0.85		0.56	0.80		0.30	0.25	
Uniform Delay, d1	53.9	16.9		52.4	20.0		42.1	44.7		39.6	39.1	
Progression Factor	0.90	1.25		1.05	0.91		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.6	2.7		2.7	6.1		1.5	10.1		0.7	0.1	
Delay (s)	53.0	23.7		58.0	24.4		43.5	54.8		40.3	39.2	
Level of Service	D	C		E	C		D	D		D	D	
Approach Delay (s)		26.7			27.5			51.2			39.5	
Approach LOS		C			C			D			D	

Intersection Summary

HCM 2000 Control Delay	32.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Future AM - Road Diet
5: Estrella Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	50	520	80	75	1115	80	10	15	25	5	10	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.73	0.73	0.73	0.67	0.67	0.67
Hourly flow rate (vph)	53	547	84	82	1225	88	14	21	34	7	15	30
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1313			632			2122	2173	589	2131	2171	1269
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1313			632			2122	2173	589	2131	2171	1269
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			91			28	46	93	56	61	85
cM capacity (veh/h)	527			951			19	38	508	17	38	205

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	53	632	82	1313	68	52
Volume Left	53	0	82	0	14	7
Volume Right	0	84	0	88	34	30
cSH	527	1700	951	1700	52	54
Volume to Capacity	0.10	0.37	0.09	0.77	1.33	0.97
Queue Length 95th (ft)	8	0	7	0	156	109
Control Delay (s)	12.6	0.0	9.1	0.0	364.6	238.1
Lane LOS	B		A		F	F
Approach Delay (s)	1.0		0.5		364.6	238.1
Approach LOS					F	F

Intersection Summary		
Average Delay		17.6
Intersection Capacity Utilization	74.5%	ICU Level of Service
Analysis Period (min)		15
		D

Future AM - Road Diet
6: Winona Avenue & El Cajon Blvd

11/17/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	510	85	75	1075	115	50	70	40	30	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.0	5.0			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.99			0.97			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	1823		1770	1836			1772			1751	
Flt Permitted	0.05	1.00		0.38	1.00			0.86			0.73	
Satd. Flow (perm)	84	1823		702	1836			1541			1300	
Peak-hour factor, PHF	0.97	0.97	0.97	0.90	0.90	0.90	0.68	0.68	0.68	0.92	0.92	0.92
Adj. Flow (vph)	41	526	88	83	1194	128	74	103	59	33	27	27
RTOR Reduction (vph)	0	3	0	0	2	0	0	12	0	0	16	0
Lane Group Flow (vph)	41	611	0	83	1320	0	0	224	0	0	71	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	88.6	88.6		88.5	88.5			21.6			21.6	
Effective Green, g (s)	88.6	88.6		88.5	88.5			21.6			21.6	
Actuated g/C Ratio	0.74	0.74		0.74	0.74			0.18			0.18	
Clearance Time (s)	4.9	4.9		5.0	5.0			4.9			4.9	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			2.0			2.0	
Lane Grp Cap (vph)	62	1345		517	1354			277			234	
v/s Ratio Prot		0.34			c0.72							
v/s Ratio Perm	0.49			0.12				c0.15			0.05	
v/c Ratio	0.66	0.45		0.16	0.97			0.81			0.30	
Uniform Delay, d1	8.0	6.2		4.7	14.7			47.2			42.7	
Progression Factor	1.26	1.29		1.00	1.00			1.00			1.00	
Incremental Delay, d2	42.4	1.1		0.7	19.1			14.9			0.3	
Delay (s)	52.5	9.0		5.4	33.8			62.1			42.9	
Level of Service	D	A		A	C			E			D	
Approach Delay (s)		11.8			32.2			62.1			42.9	
Approach LOS		B			C			E			D	

Intersection Summary

HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
 1: Highland Avenue South & El Cajon Blvd

8/17/2016



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↘	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	0
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	35			35	25	
Link Distance (ft)	461			933	1407	
Travel Time (s)	9.0			18.2	38.4	
Lane Group Flow (vph)	1430	0	54	1038	149	0
v/c Ratio	0.51		0.22	0.37	0.66	
Control Delay	5.2		6.3	4.2	55.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.2		6.3	4.2	55.6	
Queue Length 50th (ft)	155		8	95	94	
Queue Length 95th (ft)	251		28	156	150	
Internal Link Dist (ft)	381			853	1327	
Turn Bay Length (ft)			100			
Base Capacity (vph)	2800		241	2825	391	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.51		0.22	0.37	0.38	

Intersection Summary

Area Type: Other

HCM 2010 Computation does not support turning movement with Shared and Exclusive lanes.

Lanes, Volumes, Timings
 2: Chamoune Avenue & El Cajon Blvd

8/17/2016




















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↓		↑	↑↓			↑↓			↑↓	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	45		0	0		0	0		0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25				25
Link Distance (ft)		323			640			1435				191
Travel Time (s)		6.3			12.5			39.1				5.2
Lane Group Flow (vph)	0	1269	0	82	940	0	0	152	0	0	43	0
v/c Ratio		0.46		0.28	0.34			0.73				0.21
Control Delay		5.2		4.0	2.1			61.2				39.1
Queue Delay		0.0		0.0	0.0			0.0				0.0
Total Delay		5.2		4.0	2.1			61.2				39.1
Queue Length 50th (ft)		137		2	12			97				24
Queue Length 95th (ft)		231		9	35			112				33
Internal Link Dist (ft)		243			560			1355				111
Turn Bay Length (ft)				45								
Base Capacity (vph)		2765		288	2780			338				340
Starvation Cap Reductn		0		0	0			0				0
Spillback Cap Reductn		0		0	0			0				0
Storage Cap Reductn		0		0	0			0				0
Reduced v/c Ratio		0.46		0.28	0.34			0.45				0.13

Intersection Summary

Area Type: Other

HCM 2010 Signalized Intersection Summary
 2: Chamoune Avenue & El Cajon Blvd

8/17/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1080	100	75	815	40	60	5	40	10	10	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	1161	108	82	896	44	87	7	58	17	17	9
Adj No. of Lanes	0	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.69	0.69	0.69	0.58	0.58	0.58
Percent Heavy Veh, %	0	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	2621	243	408	2749	135	145	14	69	99	92	39
Arrive On Green	0.00	1.00	1.00	0.26	0.26	0.26	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	0	3368	304	435	3434	169	830	115	583	484	782	335
Grp Volume(v), veh/h	0	627	642	82	462	478	152	0	0	43	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1809	435	1770	1833	1529	0	0	1601	0	0
Q Serve(g_s), s	0.0	0.0	0.0	17.8	25.2	25.2	9.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	17.8	25.2	25.2	11.6	0.0	0.0	2.6	0.0	0.0
Prop In Lane	0.00		0.17	1.00		0.09	0.57		0.38	0.40		0.21
Lane Grp Cap(c), veh/h	0	1417	1448	408	1417	1467	227	0	0	231	0	0
V/C Ratio(X)	0.00	0.44	0.44	0.20	0.33	0.33	0.67	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	0	1417	1448	408	1417	1467	374	0	0	386	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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	15.3	18.1	18.1	51.6	0.0	0.0	47.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	1.0	1.1	0.6	0.6	1.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.4	2.3	12.7	13.1	5.0	0.0	0.0	1.3	0.0	0.0
LnGrp Delay(d),s/veh	0.0	1.0	1.0	16.4	18.7	18.7	52.9	0.0	0.0	48.0	0.0	0.0
LnGrp LOS		A	A	B	B	B	D			D		
Approach Vol, veh/h		1269			1022			152				43
Approach Delay, s/veh		1.0			18.5			52.9				48.0
Approach LOS		A			B			D				D
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		101.0		19.0		101.0		19.0				
Change Period (Y+Rc), s		4.9		4.9		4.9		4.9				
Max Green Setting (Gmax), s		84.1		26.1		84.1		26.1				
Max Q Clear Time (g_c+I1), s		2.0		4.6		27.2		13.6				
Green Ext Time (p_c), s		17.3		0.7		16.6		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				12.2								
HCM 2010 LOS				B								

Lanes, Volumes, Timings
 3: Menlo Avenue & El Cajon Blvd

8/17/2016





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25				25
Link Distance (ft)		941			931			1304				1256
Travel Time (s)		18.3			18.1			35.6				34.3
Lane Group Flow (vph)	81	1107	0	87	945	0	0	119	0	0	132	0
v/c Ratio	0.56	0.46		0.58	0.39			0.63			0.81	
Control Delay	60.8	18.6		60.6	9.5			51.6			79.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	60.8	18.6		60.6	9.5			51.6			79.2	
Queue Length 50th (ft)	62	258		64	131			67			91	
Queue Length 95th (ft)	111	471		122	235			120			140	
Internal Link Dist (ft)		861			851			1224			1176	
Turn Bay Length (ft)	100			100								
Base Capacity (vph)	230	2393		230	2435			322			286	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.35	0.46		0.38	0.39			0.37			0.46	

Intersection Summary

Area Type: Other

HCM 2010 Signalized Intersection Summary
 3: Menlo Avenue & El Cajon Blvd

8/17/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	75	935	95	80	785	85	35	25	45	50	30	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	81	1005	102	87	853	92	40	28	51	60	36	36
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	2307	234	109	2302	248	85	54	75	108	55	45
Arrive On Green	0.06	0.71	0.71	0.12	1.00	1.00	0.11	0.11	0.11	0.11	0.11	0.11
Sat Flow, veh/h	1774	3245	329	1774	3223	348	414	493	680	592	500	410
Grp Volume(v), veh/h	81	548	559	87	468	477	119	0	0	132	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1805	1774	1770	1801	1587	0	0	1502	0	0
Q Serve(g_s), s	5.4	15.6	15.6	5.7	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	5.4	15.6	15.6	5.7	0.0	0.0	8.5	0.0	0.0	10.3	0.0	0.0
Prop In Lane	1.00		0.18	1.00		0.19	0.34		0.43	0.45		0.27
Lane Grp Cap(c), veh/h	103	1258	1283	109	1264	1287	214	0	0	208	0	0
V/C Ratio(X)	0.79	0.44	0.44	0.80	0.37	0.37	0.56	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	231	1258	1283	231	1264	1287	380	0	0	371	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)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	55.8	7.3	7.3	51.9	0.0	0.0	51.3	0.0	0.0	52.1	0.0	0.0
Incr Delay (d2), s/veh	5.0	1.1	1.1	5.1	0.8	0.8	0.8	0.0	0.0	1.2	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	2.8	7.8	8.0	3.0	0.3	0.3	3.9	0.0	0.0	4.4	0.0	0.0
LnGrp Delay(d),s/veh	60.8	8.4	8.3	57.0	0.8	0.8	52.1	0.0	0.0	53.2	0.0	0.0
LnGrp LOS	E	A	A	E	A	A	D			D		
Approach Vol, veh/h		1188			1032			119			132	
Approach Delay, s/veh		11.9			5.6			52.1			53.2	
Approach LOS		B			A			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.7	90.2		18.0	11.4	90.6		18.0				
Change Period (Y+Rc), s	4.4	* 4.9		4.9	4.4	4.9		4.9				
Max Green Setting (Gmax), s	15.6	* 65		26.1	15.6	64.1		26.1				
Max Q Clear Time (g_c+I1), s	7.7	17.6		12.3	7.4	2.0		10.5				
Green Ext Time (p_c), s	0.0	19.5		0.8	0.0	21.0		0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			13.4									
HCM 2010 LOS			B									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Lanes, Volumes, Timings
4: Euclid Avenue & El Cajon Blvd

8/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90		0	100		0	150		0	80		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			30				30
Link Distance (ft)		629			908			849				1031
Travel Time (s)		12.3			17.7			19.3				23.4
Lane Group Flow (vph)	115	1094	0	141	924	0	101	280	0	91	305	0
v/c Ratio	0.53	0.57		0.62	0.48		1.11	0.73		0.83	0.80	
Control Delay	61.2	13.4		60.2	19.6		171.5	49.9		93.3	58.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	61.2	13.4		60.2	19.6		171.5	49.9		93.3	58.1	
Queue Length 50th (ft)	87	147		105	198		-90	184		68	217	
Queue Length 95th (ft)	151	245		169	386		#158	231		110	257	
Internal Link Dist (ft)		549			828			769			951	
Turn Bay Length (ft)	90			100			150			80		
Base Capacity (vph)	218	1904		227	1922		181	738		219	747	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.57		0.62	0.48		0.56	0.38		0.42	0.41	





















Intersection Summary

- Area Type: Other
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
 - # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 Signalized Intersection Summary

4: Euclid Avenue & El Cajon Blvd

8/17/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	110	910	140	130	735	115	85	150	85	75	200	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	115	948	146	141	799	125	101	179	101	91	244	61
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1585	244	157	1658	259	200	311	176	214	400	100
Arrive On Green	0.13	1.00	1.00	0.09	0.54	0.54	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1774	3075	473	1774	3068	480	1070	1120	632	1095	1439	360
Grp Volume(v), veh/h	115	545	549	141	461	463	101	0	280	91	0	305
Grp Sat Flow(s),veh/h/ln	1774	1770	1779	1774	1770	1778	1070	0	1751	1095	0	1799
Q Serve(g_s), s	7.6	0.0	0.0	9.4	19.4	19.4	10.9	0.0	16.5	9.4	0.0	17.7
Cycle Q Clear(g_c), s	7.6	0.0	0.0	9.4	19.4	19.4	28.6	0.0	16.5	25.8	0.0	17.7
Prop In Lane	1.00		0.27	1.00		0.27	1.00		0.36	1.00		0.20
Lane Grp Cap(c), veh/h	112	912	917	157	956	961	200	0	487	214	0	500
V/C Ratio(X)	1.02	0.60	0.60	0.90	0.48	0.48	0.51	0.00	0.58	0.43	0.00	0.61
Avail Cap(c_a), veh/h	112	912	917	157	956	961	340	0	717	357	0	736
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.4	0.0	0.0	54.2	17.1	17.1	50.1	0.0	37.2	48.3	0.0	37.7
Incr Delay (d2), s/veh	91.4	2.9	2.9	43.0	1.7	1.7	0.7	0.0	0.4	0.5	0.0	0.5
Initial Q Delay(d3),s/veh	0.3	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	6.5	0.7	0.7	6.5	9.9	10.0	3.3	0.0	8.1	2.9	0.0	8.9
LnGrp Delay(d),s/veh	144.0	2.9	2.9	97.2	18.9	18.9	50.8	0.0	37.6	48.8	0.0	38.1
LnGrp LOS	F	A	A	F	B	B	D		D	D		D
Approach Vol, veh/h		1209			1065			381			396	
Approach Delay, s/veh		16.3			29.2			41.1			40.6	
Approach LOS		B			C			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	66.7		38.3	12.0	69.7		38.3				
Change Period (Y+Rc), s	4.4	4.9		4.9	4.4	4.9		4.9				
Max Green Setting (Gmax), s	10.6	46.1		49.1	7.6	49.1		49.1				
Max Q Clear Time (g_c+I1), s	11.4	2.0		27.8	9.6	21.4		30.6				
Green Ext Time (p_c), s	0.0	23.1		2.9	0.0	17.6		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay				27.1								
HCM 2010 LOS				C								

Lanes, Volumes, Timings
 5: Estrella Avenue & El Cajon Blvd

8/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Link Speed (mph)		35			35			25				25
Link Distance (ft)		928			941			1177				1153
Travel Time (s)		18.1			18.3			32.1				31.4
Lane Group Flow (vph)	82	1082	0	59	844	0	0	51	0	0	43	0

Intersection Summary

Area Type: Other

Lanes, Volumes, Timings
6: Winona Avenue & El Cajon Blvd

8/17/2016



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	110		0	110		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			25				25
Link Distance (ft)		945			923			1297				978
Travel Time (s)		18.4			18.0			35.4				26.7
Lane Group Flow (vph)	74	1064	0	120	831	0	0	147	0	0	156	0
v/c Ratio	0.15	0.38		0.33	0.30			0.88			0.82	
Control Delay	7.0	8.1		7.2	4.1			87.7			76.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	7.0	8.1		7.2	4.1			87.7			76.9	
Queue Length 50th (ft)	15	192		22	75			102			110	
Queue Length 95th (ft)	m57	381		62	127			140			159	
Internal Link Dist (ft)		865			843			1217			898	
Turn Bay Length (ft)	110			110								
Base Capacity (vph)	483	2769		369	2759			405			466	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.15	0.38		0.33	0.30			0.36			0.33	

Intersection Summary



















Area Type: Other

m Volume for 95th percentile queue is metered by upstream signal.

HCM 2010 Signalized Intersection Summary

6: Winona Avenue & El Cajon Blvd

8/17/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	70	925	75	110	695	70	40	45	30	35	65	30
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	74	984	80	120	755	76	51	58	38	42	78	36
Adj No. of Lanes	1	2	0	1	2	0	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.78	0.78	0.78	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	540	2629	214	433	2576	259	92	86	48	79	112	46
Arrive On Green	0.79	0.79	0.79	0.79	0.79	0.79	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	658	3315	270	528	3248	327	413	690	385	328	901	369
Grp Volume(v), veh/h	74	525	539	120	411	420	147	0	0	156	0	0
Grp Sat Flow(s),veh/h/ln	658	1770	1815	528	1770	1805	1488	0	0	1598	0	0
Q Serve(g_s), s	4.1	10.5	10.5	10.4	7.5	7.5	0.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.6	10.5	10.5	20.9	7.5	7.5	11.7	0.0	0.0	11.4	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.18	0.35		0.26	0.27		0.23
Lane Grp Cap(c), veh/h	540	1403	1440	433	1403	1431	226	0	0	237	0	0
V/C Ratio(X)	0.14	0.37	0.37	0.28	0.29	0.29	0.65	0.00	0.00	0.66	0.00	0.00
Avail Cap(c_a), veh/h	540	1403	1440	433	1403	1431	537	0	0	561	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.9	3.7	3.7	6.7	3.3	3.3	50.9	0.0	0.0	50.8	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.8	0.7	1.6	0.5	0.5	1.2	0.0	0.0	1.2	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	0.8	5.3	5.4	1.7	3.9	3.9	4.8	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	5.4	4.4	4.4	8.3	3.9	3.9	52.0	0.0	0.0	52.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D			D		
Approach Vol, veh/h		1138			951			147			156	
Approach Delay, s/veh		4.5			4.4			52.0			52.0	
Approach LOS		A			A			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		100.2		19.8		100.2		19.8				
Change Period (Y+Rc), s		* 5		4.9		5.0		4.9				
Max Green Setting (Gmax), s		* 71		39.1		71.0		39.1				
Max Q Clear Time (g_c+I1), s		13.6		13.4		22.9		13.7				
Green Ext Time (p_c), s		44.8		1.3		38.8		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			10.5									
HCM 2010 LOS			B									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Future PM
1: Highland Avenue South & El Cajon Blvd

12/15/2015



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	
Volume (vph)	1225	160	325	955	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9		4.9	4.9	4.9	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.98		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	3478		1770	3539	1714	
Flt Permitted	1.00		0.15	1.00	0.97	
Satd. Flow (perm)	3478		274	3539	1714	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.87	0.87
Adj. Flow (vph)	1332	174	353	1038	92	57
RTOR Reduction (vph)	6	0	0	0	21	0
Lane Group Flow (vph)	1500	0	353	1038	128	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	95.8		95.8	95.8	14.4	
Effective Green, g (s)	95.8		95.8	95.8	14.4	
Actuated g/C Ratio	0.80		0.80	0.80	0.12	
Clearance Time (s)	4.9		4.9	4.9	4.9	
Vehicle Extension (s)	2.8		2.0	2.0	2.8	
Lane Grp Cap (vph)	2776		218	2825	205	
v/s Ratio Prot	0.43			0.29	c0.07	
v/s Ratio Perm			c1.29			
v/c Ratio	0.54		1.62	0.37	0.62	
Uniform Delay, d1	4.3		12.1	3.5	50.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.8		298.8	0.4	5.5	
Delay (s)	5.1		310.9	3.8	55.7	
Level of Service	A		F	A	E	
Approach Delay (s)	5.1			81.8	55.7	
Approach LOS	A			F	E	

Intersection Summary

HCM 2000 Control Delay	42.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Future PM
2: Chamoune Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑			↑↓			↑↓	
Volume (vph)	0	1080	100	75	815	40	60	5	40	10	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		4.9	4.9			4.9			4.9	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.97	
Flt Protected		1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)		3494		1770	3514			1718			1775	
Flt Permitted		1.00		0.20	1.00			0.83			0.85	
Satd. Flow (perm)		3494		365	3514			1470			1534	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.69	0.69	0.69	0.58	0.58	0.58
Adj. Flow (vph)	0	1161	108	82	896	44	87	7	58	17	17	9
RTOR Reduction (vph)	0	4	0	0	2	0	0	21	0	0	8	0
Lane Group Flow (vph)	0	1265	0	82	938	0	0	131	0	0	35	0
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		94.9		94.9	94.9			15.3			15.3	
Effective Green, g (s)		94.9		94.9	94.9			15.3			15.3	
Actuated g/C Ratio		0.79		0.79	0.79			0.13			0.13	
Clearance Time (s)		4.9		4.9	4.9			4.9			4.9	
Vehicle Extension (s)		2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)		2763		288	2778			187			195	
v/s Ratio Prot		c0.36			0.27							
v/s Ratio Perm				0.22				c0.09			0.02	
v/c Ratio		0.46		0.28	0.34			0.70			0.18	
Uniform Delay, d1		4.1		3.4	3.6			50.2			46.7	
Progression Factor		1.00		0.36	0.47			1.00			1.00	
Incremental Delay, d2		0.5		2.4	0.3			9.3			0.2	
Delay (s)		4.7		3.6	2.0			59.4			46.9	
Level of Service		A		A	A			E			D	
Approach Delay (s)		4.7			2.1			59.4			46.9	
Approach LOS		A			A			E			D	

Intersection Summary

HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Future PM
3: Menlo Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	935	95	80	785	85	35	25	45	50	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.0		4.4	4.9			4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.94			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3490		1770	3488			1726			1754	
Flt Permitted	0.95	1.00		0.95	1.00			0.79			0.71	
Satd. Flow (perm)	1770	3490		1770	3488			1379			1268	
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84
Adj. Flow (vph)	75	1005	102	87	853	92	40	28	51	60	36	36
RTOR Reduction (vph)	0	4	0	0	5	0	0	26	0	0	12	0
Lane Group Flow (vph)	75	1103	0	87	940	0	0	93	0	0	120	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	8.4	82.1		10.3	83.1			14.3			14.3	
Effective Green, g (s)	8.4	82.1		10.3	83.1			14.3			14.3	
Actuated g/C Ratio	0.07	0.68		0.09	0.69			0.12			0.12	
Clearance Time (s)	4.4	4.0		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	2.8		2.0	2.8			2.0			2.0	
Lane Grp Cap (vph)	123	2387		151	2415			164			151	
v/s Ratio Prot	0.04	c0.32		c0.05	0.27							
v/s Ratio Perm								0.07			c0.09	
v/c Ratio	0.61	0.46		0.58	0.39			0.57			0.79	
Uniform Delay, d1	54.2	8.8		52.8	7.8			49.9			51.4	
Progression Factor	0.91	1.84		0.91	0.94			1.00			1.00	
Incremental Delay, d2	5.3	0.6		3.1	0.5			2.7			22.7	
Delay (s)	54.5	16.7		51.0	7.8			52.6			74.1	
Level of Service	D	B		D	A			D			E	
Approach Delay (s)		19.1			11.4			52.6			74.1	
Approach LOS		B			B			D			E	

Intersection Summary

HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Future PM
4: Euclid Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	910	140	110	735	115	85	150	85	75	200	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3468		1770	3467		1770	1762		1770	1807	
Flt Permitted	0.95	1.00		0.95	1.00		0.24	1.00		0.29	1.00	
Satd. Flow (perm)	1770	3468		1770	3467		443	1762		537	1807	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84	0.82	0.82	0.82
Adj. Flow (vph)	94	948	146	120	799	125	101	179	101	91	244	61
RTOR Reduction (vph)	0	7	0	0	8	0	0	23	0	0	10	0
Lane Group Flow (vph)	94	1087	0	120	916	0	101	257	0	91	295	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8			4		
Actuated Green, G (s)	11.7	67.9		13.1	69.3		24.8	24.8		24.8	24.8	
Effective Green, g (s)	11.7	67.9		13.1	69.3		24.8	24.8		24.8	24.8	
Actuated g/C Ratio	0.10	0.57		0.11	0.58		0.21	0.21		0.21	0.21	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.4		2.0	3.2		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	172	1962		193	2002		91	364		110	373	
v/s Ratio Prot	0.05	c0.31		c0.07	0.26			0.15			0.16	
v/s Ratio Perm							c0.23			0.17		
v/c Ratio	0.55	0.55		0.62	0.46		1.11	0.71		0.83	0.79	
Uniform Delay, d1	51.6	16.5		51.1	14.6		47.6	44.2		45.6	45.1	
Progression Factor	1.05	0.64		0.98	1.05		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	1.1		4.4	0.8		127.1	5.0		36.2	10.2	
Delay (s)	56.0	11.5		54.6	16.0		174.7	49.2		81.7	55.3	
Level of Service	E	B		D	B		F	D		F	E	
Approach Delay (s)		15.0			20.4			82.5			61.4	
Approach LOS		B			C			F			E	

Intersection Summary

HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Future PM

5: Estrella Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	80	985	65	55	735	50	10	5	25	5	5	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.78	0.78	0.78	0.69	0.69	0.69
Hourly flow rate (vph)	82	1015	67	59	790	54	13	6	32	7	7	29
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	844			1082			1760	2176	541	1643	2183	422
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	844			1082			1760	2176	541	1643	2183	422
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			91			66	83	93	84	80	95
cM capacity (veh/h)	788			640			37	37	485	46	37	580

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	82	677	405	59	527	317	51	43
Volume Left	82	0	0	59	0	0	13	7
Volume Right	0	0	67	0	0	54	32	29
cSH	788	1700	1700	640	1700	1700	88	107
Volume to Capacity	0.10	0.40	0.24	0.09	0.31	0.19	0.58	0.40
Queue Length 95th (ft)	9	0	0	8	0	0	66	42
Control Delay (s)	10.1	0.0	0.0	11.2	0.0	0.0	91.7	59.6
Lane LOS	B			B			F	F
Approach Delay (s)	0.7			0.7			91.7	59.6
Approach LOS							F	F

Intersection Summary

Average Delay	4.1
Intersection Capacity Utilization	46.3%
ICU Level of Service	A
Analysis Period (min)	15

Future PM
6: Winona Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	925	75	70	695	70	40	45	30	35	65	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.0	5.0			4.9			4.9	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3499		1770	3491			1767			1781	
Flt Permitted	0.33	1.00		0.25	1.00			0.67			0.78	
Satd. Flow (perm)	611	3499		467	3491			1209			1405	
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.78	0.78	0.78	0.83	0.83	0.83
Adj. Flow (vph)	74	984	80	76	755	76	51	58	38	42	78	36
RTOR Reduction (vph)	0	3	0	0	3	0	0	14	0	0	11	0
Lane Group Flow (vph)	74	1061	0	76	828	0	0	133	0	0	145	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	94.9	94.9		94.8	94.8			15.3			15.3	
Effective Green, g (s)	94.9	94.9		94.8	94.8			15.3			15.3	
Actuated g/C Ratio	0.79	0.79		0.79	0.79			0.13			0.13	
Clearance Time (s)	4.9	4.9		5.0	5.0			4.9			4.9	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			2.0			2.0	
Lane Grp Cap (vph)	483	2767		368	2757			154			179	
v/s Ratio Prot		c0.30			0.24							
v/s Ratio Perm	0.12			0.16				c0.11			0.10	
v/c Ratio	0.15	0.38		0.21	0.30			0.86			0.81	
Uniform Delay, d1	3.0	3.8		3.2	3.5			51.3			50.9	
Progression Factor	1.36	1.58		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	0.4		1.3	0.3			35.2			21.7	
Delay (s)	4.7	6.3		4.4	3.7			86.6			72.6	
Level of Service	A	A		A	A			F			E	
Approach Delay (s)		6.2			3.8			86.6			72.6	
Approach LOS		A			A			F			E	

Intersection Summary

HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Future PM - Road Diet
 1: Highland Avenue South & El Cajon Blvd

12/15/2015



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↖	↗	↖	
Volume (vph)	1225	160	325	955	80	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9		4.9	4.9	4.9	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1834		1770	1863	1714	
Flt Permitted	1.00		0.04	1.00	0.97	
Satd. Flow (perm)	1834		78	1863	1714	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.87	0.87
Adj. Flow (vph)	1332	174	353	1038	92	57
RTOR Reduction (vph)	3	0	0	0	21	0
Lane Group Flow (vph)	1503	0	353	1038	128	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	95.8		95.8	95.8	14.4	
Effective Green, g (s)	95.8		95.8	95.8	14.4	
Actuated g/C Ratio	0.80		0.80	0.80	0.12	
Clearance Time (s)	4.9		4.9	4.9	4.9	
Vehicle Extension (s)	2.8		2.0	2.0	2.8	
Lane Grp Cap (vph)	1464		62	1487	205	
v/s Ratio Prot	0.82			0.56	c0.07	
v/s Ratio Perm			c4.54			
v/c Ratio	1.03		5.69	0.70	0.62	
Uniform Delay, d1	12.1		12.1	5.5	50.2	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	30.6		2146.7	2.7	5.5	
Delay (s)	42.7		2158.8	8.3	55.7	
Level of Service	D		F	A	E	
Approach Delay (s)	42.7			554.0	55.7	
Approach LOS	D			F	E	

Intersection Summary

HCM 2000 Control Delay	276.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	5.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	112.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Future PM - Road Diet
2: Chamoune Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1080	100	75	815	40	60	5	40	10	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.9		4.9	4.9			4.9			4.9	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.97	
Flt Protected		1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)		1841		1770	1850			1718			1775	
Flt Permitted		1.00		0.10	1.00			0.83			0.85	
Satd. Flow (perm)		1841		182	1850			1470			1534	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.69	0.69	0.69	0.58	0.58	0.58
Adj. Flow (vph)	0	1161	108	82	896	44	87	7	58	17	17	9
RTOR Reduction (vph)	0	2	0	0	1	0	0	21	0	0	8	0
Lane Group Flow (vph)	0	1267	0	82	939	0	0	131	0	0	35	0
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases				6			8			4		
Actuated Green, G (s)		94.9		94.9	94.9			15.3			15.3	
Effective Green, g (s)		94.9		94.9	94.9			15.3			15.3	
Actuated g/C Ratio		0.79		0.79	0.79			0.13			0.13	
Clearance Time (s)		4.9		4.9	4.9			4.9			4.9	
Vehicle Extension (s)		2.0		2.0	2.0			2.0			2.0	
Lane Grp Cap (vph)		1455		143	1463			187			195	
v/s Ratio Prot		c0.69			0.51							
v/s Ratio Perm				0.45				c0.09			0.02	
v/c Ratio		0.87		0.57	0.64			0.70			0.18	
Uniform Delay, d1		8.4		4.8	5.3			50.2			46.7	
Progression Factor		1.00		1.77	1.83			1.00			1.00	
Incremental Delay, d2		7.4		12.8	1.8			9.3			0.2	
Delay (s)		15.8		21.2	11.5			59.4			46.9	
Level of Service		B		C	B			E			D	
Approach Delay (s)		15.8			12.3			59.4			46.9	
Approach LOS		B			B			E			D	

Intersection Summary

HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Future PM - Road Diet
3: Menlo Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	935	95	80	785	85	35	25	45	50	30	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.0		4.4	4.9			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.94			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	1837		1770	1836			1726			1754	
Flt Permitted	0.95	1.00		0.95	1.00			0.79			0.71	
Satd. Flow (perm)	1770	1837		1770	1836			1379			1268	
Peak-hour factor, PHF	0.93	0.93	0.93	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84
Adj. Flow (vph)	75	1005	102	87	853	92	40	28	51	60	36	36
RTOR Reduction (vph)	0	2	0	0	2	0	0	26	0	0	12	0
Lane Group Flow (vph)	75	1105	0	87	943	0	0	93	0	0	120	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	8.4	82.1		10.3	83.1			14.3			14.3	
Effective Green, g (s)	8.4	82.1		10.3	83.1			14.3			14.3	
Actuated g/C Ratio	0.07	0.68		0.09	0.69			0.12			0.12	
Clearance Time (s)	4.4	4.0		4.4	4.9			4.9			4.9	
Vehicle Extension (s)	2.0	2.8		2.0	2.8			2.0			2.0	
Lane Grp Cap (vph)	123	1256		151	1271			164			151	
v/s Ratio Prot	0.04	c0.60		c0.05	0.51							
v/s Ratio Perm								0.07			c0.09	
v/c Ratio	0.61	0.88		0.58	0.74			0.57			0.79	
Uniform Delay, d1	54.2	15.0		52.8	11.7			49.9			51.4	
Progression Factor	1.14	0.87		0.95	0.64			1.00			1.00	
Incremental Delay, d2	3.2	5.2		2.6	3.1			2.7			22.7	
Delay (s)	65.0	18.3		52.6	10.5			52.6			74.1	
Level of Service	E	B		D	B			D			E	
Approach Delay (s)		21.2			14.1			52.6			74.1	
Approach LOS		C			B			D			E	

Intersection Summary

HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Future PM - Road Diet
4: Euclid Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	910	140	110	735	115	85	150	85	75	200	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1825		1770	1825		1770	1762		1770	1807	
Flt Permitted	0.95	1.00		0.95	1.00		0.24	1.00		0.29	1.00	
Satd. Flow (perm)	1770	1825		1770	1825		443	1762		537	1807	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.84	0.84	0.84	0.82	0.82	0.82
Adj. Flow (vph)	94	948	146	120	799	125	101	179	101	91	244	61
RTOR Reduction (vph)	0	3	0	0	3	0	0	23	0	0	10	0
Lane Group Flow (vph)	94	1091	0	120	921	0	101	257	0	91	295	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8				4
Permitted Phases							8			4		
Actuated Green, G (s)	11.7	67.9		13.1	69.3		24.8	24.8		24.8	24.8	
Effective Green, g (s)	11.7	67.9		13.1	69.3		24.8	24.8		24.8	24.8	
Actuated g/C Ratio	0.10	0.57		0.11	0.58		0.21	0.21		0.21	0.21	
Clearance Time (s)	4.4	4.9		4.4	4.9		4.9	4.9		4.9	4.9	
Vehicle Extension (s)	2.0	3.4		2.0	3.2		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)	172	1032		193	1053		91	364		110	373	
v/s Ratio Prot	0.05	c0.60		c0.07	0.50			0.15			0.16	
v/s Ratio Perm							c0.23			0.17		
v/c Ratio	0.55	1.06		0.62	0.87		1.11	0.71		0.83	0.79	
Uniform Delay, d1	51.6	26.0		51.1	21.6		47.6	44.2		45.6	45.1	
Progression Factor	0.79	1.30		0.93	1.13		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	39.2		4.3	9.8		127.1	5.0		36.2	10.2	
Delay (s)	42.0	73.2		51.8	34.2		174.7	49.2		81.7	55.3	
Level of Service	D	E		D	C		F	D		F	E	
Approach Delay (s)		70.7			36.2			82.5			61.4	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	59.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Future PM - Road Diet
5: Estrella Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	80	985	65	55	735	50	10	5	25	5	5	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.93	0.93	0.93	0.78	0.78	0.78	0.69	0.69	0.69
Hourly flow rate (vph)	82	1015	67	59	790	54	13	6	32	7	7	29
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	844			1082			2155	2176	1049	2151	2183	817
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	844			1082			2155	2176	1049	2151	2183	817
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	90			91			45	83	88	69	81	92
cM capacity (veh/h)	792			644			23	38	276	23	37	376

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	82	1082	59	844	51	43
Volume Left	82	0	59	0	13	7
Volume Right	0	67	0	54	32	29
cSH	792	1700	644	1700	61	74
Volume to Capacity	0.10	0.64	0.09	0.50	0.83	0.59
Queue Length 95th (ft)	9	0	8	0	95	64
Control Delay (s)	10.1	0.0	11.2	0.0	179.2	106.9
Lane LOS	B		B		F	F
Approach Delay (s)	0.7		0.7		179.2	106.9
Approach LOS					F	F

Intersection Summary		
Average Delay		7.1
Intersection Capacity Utilization	72.8%	ICU Level of Service
Analysis Period (min)		15
		C

Future PM - Road Diet
6: Winona Avenue & El Cajon Blvd

12/15/2015



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	925	75	70	695	70	40	45	30	35	65	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.9	4.9		5.0	5.0			4.9			4.9	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	1842		1770	1837			1767			1781	
Flt Permitted	0.29	1.00		0.19	1.00			0.67			0.78	
Satd. Flow (perm)	542	1842		353	1837			1209			1405	
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.78	0.78	0.78	0.83	0.83	0.83
Adj. Flow (vph)	74	984	80	76	755	76	51	58	38	42	78	36
RTOR Reduction (vph)	0	1	0	0	1	0	0	14	0	0	11	0
Lane Group Flow (vph)	74	1063	0	76	830	0	0	133	0	0	145	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	94.9	94.9		94.8	94.8			15.3			15.3	
Effective Green, g (s)	94.9	94.9		94.8	94.8			15.3			15.3	
Actuated g/C Ratio	0.79	0.79		0.79	0.79			0.13			0.13	
Clearance Time (s)	4.9	4.9		5.0	5.0			4.9			4.9	
Vehicle Extension (s)	5.0	5.0		5.0	5.0			2.0			2.0	
Lane Grp Cap (vph)	428	1456		278	1451			154			179	
v/s Ratio Prot		c0.58			0.45							
v/s Ratio Perm	0.14			0.22				c0.11			0.10	
v/c Ratio	0.17	0.73		0.27	0.57			0.86			0.81	
Uniform Delay, d1	3.0	6.2		3.4	4.8			51.3			50.9	
Progression Factor	1.65	1.63		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.7	2.5		2.4	1.6			35.2			21.7	
Delay (s)	5.7	12.6		5.8	6.5			86.6			72.6	
Level of Service	A	B		A	A			F			E	
Approach Delay (s)		12.2			6.4			86.6			72.6	
Approach LOS		B			A			F			E	

Intersection Summary

HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.9
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			