

TECHNICAL APPENDICES
661 BEAR VALLEY PARKWAY
Escondido, California
September 1, 2015

LLG Ref. 3-13-2299

**Linscott, Law &
Greenspan, Engineers**

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APPENDIX A
INTERSECTION AND SEGMENT MANUAL COUNT SHEETS

Turn Count Summary

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136



Location: SR 78 @ Bear Valley Parkway

Date of Count: Wednesday, February 26, 2014

Analysts: LV/CD

Weather: Sunny

AVC Proj No: 14-0168



Vehicular Count

Accurate Video Counts Inc
info@accuratevideocounts.com
(619) 987-5136



Location: SR 78 @ Bear Valley Parkway

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:00 AM	3	186	31	16	102	36	25	72	15	19	78	1	584
7:15 AM	5	141	28	16	124	28	25	67	20	22	77	1	554
7:30 AM	8	171	15	30	141	47	29	76	20	45	84	5	671
7:45 AM	4	187	29	18	118	45	29	78	26	28	85	4	651
8:00 AM	2	143	18	21	132	35	18	79	27	16	96	6	593
8:15 AM	4	158	22	13	117	27	23	90	31	37	93	3	618
8:30 AM	10	109	10	17	161	31	8	67	18	26	86	3	546
8:45 AM	3	135	5	9	111	27	13	62	15	25	85	3	493
Total	39	1,230	158	140	1,006	276	170	591	172	218	684	26	4,710

AM Intersection Peak Hour : **7:30 AM - 8:30 AM**

Intersection PHF : **0.94**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	18	659	84	82	508	154	99	323	104	126	358	18	2,533
PHF	0.56	0.88	0.72	0.68	0.90	0.82	0.85	0.90	0.84	0.70	0.93	0.75	0.94
Movement PHF		0.86			0.85			0.91			0.94		0.94

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
4:00 PM	11	114	15	21	107	27	36	178	40	26	127	5	707
4:15 PM	7	116	20	15	117	13	39	177	29	21	114	7	675
4:30 PM	6	129	22	11	102	23	33	151	34	17	127	6	661
4:45 PM	5	128	16	8	105	34	47	192	39	27	114	5	720
5:00 PM	4	84	17	19	113	19	44	170	29	37	133	8	677
5:15 PM	10	105	19	24	117	25	72	226	13	18	130	8	767
5:30 PM	10	101	11	14	113	33	48	210	24	24	121	5	714
5:45 PM	8	121	15	13	77	25	55	229	29	23	116	5	716
Total	61	898	135	125	851	199	374	1,533	237	193	982	49	5,637

PM Intersection Peak Hour : **4:45 PM - 5:45 PM**

Intersection PHF : **0.94**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	29	418	63	65	448	111	211	798	105	106	498	26	2878
PHF	0.73	0.816	0.829	0.677	0.957	0.816	0.733	0.883	0.673	0.716	0.936	0.813	0.94
Movement PHF		0.86			0.94			0.90			0.88		0.94

Turn Count Summary

Accurate Video Counts Inc
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Location: Encino Drive @ Bear Valley Parkway

Date of Count: Wednesday, February 26, 2014

Analysts: LV/CD

Weather: Sunny

AVC Proj No: 14-0168



Vehicular Count

Accurate Video Counts Inc
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Location: Encino Drive @ Bear Valley Parkway

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:00 AM	2	233	0	0	0	0	0	105	11	30	0	1	382
7:15 AM	4	214	0	0	0	0	0	113	12	27	0	0	370
7:30 AM	1	250	0	0	0	0	0	123	23	20	0	1	418
7:45 AM	3	199	0	0	0	0	0	131	19	41	0	0	393
8:00 AM	8	228	0	0	0	0	0	103	24	28	0	1	392
8:15 AM	0	215	0	0	0	0	0	137	24	12	0	0	388
8:30 AM	1	187	0	0	0	0	0	89	7	8	0	0	292
8:45 AM	7	170	0	0	0	0	0	88	5	7	0	1	278
Total	26	1,696	0	0	0	0	0	889	125	173	0	4	2,913

AM Intersection Peak Hour : **7:30 AM - 8:30 AM**

Intersection PHF : **0.95**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	12	892	0	0	0	0	0	494	90	101	0	2	1,591
PHF	0.38	0.89	#####	#####	#####	#####	#####	0.90	0.94	0.62	#####	0.50	0.95
Movement PHF		0.90		#DIV/0!				0.91			0.63		0.95

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
4:00 PM	1	166	0	0	0	0	0	261	10	14	0	0	452
4:15 PM	0	144	0	0	0	0	0	231	12	9	0	0	396
4:30 PM	1	166	0	0	0	0	0	233	11	12	0	1	424
4:45 PM	3	172	0	0	0	0	0	267	18	14	0	3	477
5:00 PM	0	162	0	0	0	0	0	256	19	3	0	0	440
5:15 PM	1	141	0	0	0	0	0	292	15	10	0	0	459
5:30 PM	1	149	0	0	0	0	0	293	17	8	0	1	469
5:45 PM	0	168	0	0	0	0	0	290	11	6	0	0	475
Total	7	1268	0	0	0	0	0	2,123	113	76	0	5	3,592

PM Intersection Peak Hour : **4:45 PM - 5:45 PM**

Intersection PHF : **0.97**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	5	624	0	0	0	0	0	1108	69	35	0	4	1845
PHF	0.42	0.907	#####	#####	#####	#####	#####	0.945	0.908	0.625	#####	0.333	0.97
Movement PHF		0.90		#DIV/0!				0.95			0.57		0.97

Turn Count Summary

Accurate Video Counts Inc
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Location: Sunset Drive @ Bear Valley Parkway

Date of Count: Wednesday, February 26, 2014

Analysts: LV/CD

Weather: Sunny

AVC Proj No: 14-0168



Vehicular Count

Accurate Video Counts Inc
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Location: Sunset Drive @ Bear Valley Parkway

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:00 AM	2	272	0	2	2	3	1	118	77	187	1	2	667
7:15 AM	3	250	0	3	12	3	1	123	113	197	2	1	708
7:30 AM	1	256	1	7	13	5	1	118	109	128	1	6	646
7:45 AM	1	245	2	5	6	2	1	144	99	162	0	3	670
8:00 AM	0	244	2	2	6	0	0	120	126	156	3	2	661
8:15 AM	5	283	2	2	6	4	0	160	112	44	1	2	621
8:30 AM	0	198	1	1	3	1	0	95	37	40	2	1	379
8:45 AM	3	164	1	1	2	0	1	95	36	40	6	3	352
Total	15	1,912	9	23	50	18	5	973	709	954	16	20	4,704

AM Intersection Peak Hour : **7:00 AM - 8:00 AM**

Intersection PHF : **0.95**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	7	1,023	3	17	33	13	4	503	398	674	4	12	2,691
PHF	0.58	0.94	0.38	0.61	0.63	0.65	1.00	0.87	0.88	0.86	0.50	0.50	0.95
Movement PHF		0.94			0.63			0.93			0.86		0.95

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
4:00 PM	2	180	1	0	4	2	4	270	80	63	4	2	612
4:15 PM	0	142	4	1	2	0	1	240	74	58	2	5	529
4:30 PM	0	190	3	2	2	0	1	243	61	71	3	0	576
4:45 PM	2	190	2	4	6	0	1	272	65	76	4	5	627
5:00 PM	1	160	1	1	5	1	1	276	49	72	12	1	580
5:15 PM	3	149	0	6	7	1	1	308	42	71	3	1	592
5:30 PM	5	155	1	7	5	2	1	294	39	61	6	5	581
5:45 PM	4	172	0	1	5	0	2	295	36	52	4	7	578
Total	17	1,338	12	22	36	6	12	2,198	446	524	38	26	4,675

PM Intersection Peak Hour : **4:45 PM - 5:45 PM**

Intersection PHF : **0.95**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	11	654	4	18	23	4	4	1150	195	280	25	12	2380
PHF	0.55	0.861	0.5	0.643	0.821	0.5	1	0.933	0.75	0.921	0.521	0.6	0.95
Movement PHF		0.86			0.80			0.96			0.93		0.95

Turn Count Summary

Accurate Video Counts Inc
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Location: Las Palmas Avenue @ Bear Valley Parkway

Date of Count: Wednesday, February 26, 2014

Analysts: LV/CD

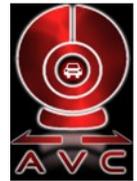
Weather: Sunny

AVC Proj No: 14-0168



Vehicular Count

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Location: Las Palmas Avenue @ Bear Valley Parkway

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:00 AM	25	468	0	1	1	10	3	215	6	5	1	4	739
7:15 AM	36	448	0	0	1	11	12	287	21	10	1	25	852
7:30 AM	86	313	1	0	1	3	2	152	38	29	2	41	668
7:45 AM	112	303	1	2	2	4	2	175	44	43	2	85	775
8:00 AM	107	309	3	3	6	11	0	181	37	57	12	68	794
8:15 AM	21	324	2	1	0	7	5	155	5	26	17	35	598
8:30 AM	7	214	3	1	1	5	6	114	3	6	0	16	376
8:45 AM	8	195	3	0	0	4	2	99	5	9	0	13	338
Total	402	2,574	13	8	12	55	32	1,378	159	185	35	287	5,140

AM Intersection Peak Hour : **7:15 AM - 8:15 AM**

Intersection PHF : **0.91**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	341	1,373	5	5	10	29	16	795	140	139	17	219	3,089
PHF	0.76	0.77	0.42	0.42	0.42	0.66	0.33	0.69	0.80	0.61	0.35	0.64	0.91
Movement PHF		0.89			0.55			0.74			0.68		0.91

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
4:00 PM	14	192	0	1	0	6	3	328	8	15	1	16	584
4:15 PM	16	212	0	0	1	3	10	295	5	7	0	7	556
4:30 PM	10	222	0	1	0	4	9	321	4	7	1	17	596
4:45 PM	19	190	2	0	0	3	8	361	7	4	0	10	604
5:00 PM	7	208	1	0	0	7	2	275	3	5	2	9	519
5:15 PM	11	236	1	0	0	3	7	342	7	7	0	13	627
5:30 PM	9	187	1	1	0	1	10	327	7	11	2	10	566
5:45 PM	5	245	1	0	0	2	9	336	3	4	0	8	613
Total	91	1692	6	3	1	29	58	2,585	44	60	6	90	4,665

PM Intersection Peak Hour : **4:30 PM - 5:30 PM**

Intersection PHF : **0.94**

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	47	856	4	1	0	17	26	1299	21	23	3	49	2346
PHF	0.62	0.907	0.5	0.25	#####	0.607	0.722	0.9	0.75	0.821	0.375	0.721	0.94
Movement PHF		0.91			0.64			0.89			0.75		0.94

Vehicular Count

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Location: San Pasqual Road @ Bear Valley Parkway

AM Period (7:00 AM - 9:00 AM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:00 AM	0	301	88	17	0	177	99	169	0	0	0	0	851
7:15 AM	0	332	71	13	0	232	119	316	0	0	0	0	1,083
7:30 AM	0	382	13	10	0	130	47	176	0	0	0	0	758
7:45 AM	0	368	23	27	0	94	56	229	0	0	0	0	797
8:00 AM	0	381	17	22	0	111	54	167	0	0	0	0	752
8:15 AM	0	432	22	13	0	103	71	142	0	0	0	0	783
8:30 AM	0	292	13	10	0	113	85	119	0	0	0	0	632
8:45 AM	0	248	12	6	0	78	73	117	0	0	0	0	534
Total	0	2,736	259	118	0	1,038	604	1,435	0	0	0	0	6,190

AM Intersection Peak Hour : 7:00 AM - 8:00 AM

Intersection PHF : 0.81

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	1,383	195	67	0	633	321	890	0	0	0	0	3,489
PHF	#####	0.91	0.55	0.62	#####	0.68	0.67	0.70	#####	#####	#####	#####	0.81
Movement PHF		0.98			0.71			0.70		#DIV/0!			0.81

PM Period (4:00 PM - 6:00 PM)													
	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
4:00 PM	0	235	17	15	0	90	96	322	0	0	0	0	775
4:15 PM	0	198	23	15	0	115	112	292	0	0	0	0	755
4:30 PM	0	183	40	11	0	113	121	323	0	0	0	0	791
4:45 PM	0	209	37	21	0	132	142	339	0	0	0	0	880
5:00 PM	0	212	47	8	0	102	149	344	0	0	0	0	862
5:15 PM	0	191	41	25	0	104	140	363	0	0	0	0	864
5:30 PM	0	184	21	23	0	109	112	351	0	0	0	0	800
5:45 PM	0	178	28	14	0	86	139	357	0	0	0	0	802
Total	0	1590	254	132	0	851	1,011	2,691	0	0	0	0	6,529

PM Intersection Peak Hour : 4:45 PM - 5:45 PM

Intersection PHF : 0.97

	Southbound			Westbound			Northbound			Eastbound			TOTAL
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
Volume	0	796	146	77	0	447	543	1397	0	0	0	0	3406
PHF	#####	0.939	0.777	0.77	#####	0.847	0.911	0.962	#####	#####	#####	#####	0.97
Movement PHF		0.91			0.86			0.96		#DIV/0!			0.97

24 Hour Segment Count

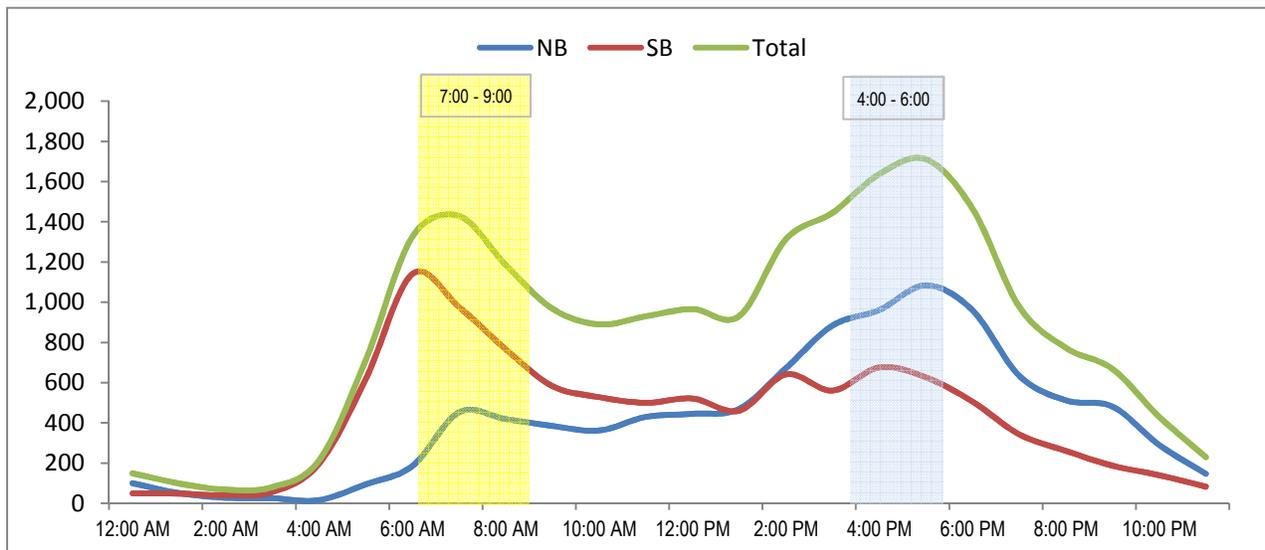
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Location: 1. Bear Valley Parkway btw Zlatibor Ranch Rd to Eldorado Rd
Orientation: North-South
Date of Count: Wednesday, February 26, 2014
Analysts: DASH
Weather: Sunny
AVC Proj. No: 14-0168

24 Hour Segment Volume					20,601			
Time	Hourly Volume			Total	Time	Hourly Volume		
	NB	SB	Total			NB	SB	Total
12:00 AM - 1:00 AM	100	49	149	12:00 PM - 1:00 PM	445	521	966	
1:00 AM - 2:00 AM	51	48	99	1:00 PM - 2:00 PM	470	461	931	
2:00 AM - 3:00 AM	28	40	68	2:00 PM - 3:00 PM	672	641	1,313	
3:00 AM - 4:00 AM	25	56	81	3:00 PM - 4:00 PM	884	561	1,445	
4:00 AM - 5:00 AM	16	198	214	4:00 PM - 5:00 PM	961	676	1,637	
5:00 AM - 6:00 AM	95	618	713	5:00 PM - 6:00 PM	1,084	627	1,711	
6:00 AM - 7:00 AM	186	1,141	1,327	6:00 PM - 7:00 PM	960	506	1,466	
7:00 AM - 8:00 AM	453	976	1,429	7:00 PM - 8:00 PM	635	343	978	
8:00 AM - 9:00 AM	419	766	1,185	8:00 PM - 9:00 PM	512	261	773	
9:00 AM - 10:00 AM	385	583	968	9:00 PM - 10:00 PM	481	187	668	
10:00 AM - 11:00 AM	362	528	890	10:00 PM - 11:00 PM	290	140	430	
11:00 AM - 12:00 PM	430	500	930	11:00 PM - 12:00 AM	147	83	230	
Total	2,550	5,503	8,053	Total	7,541	5,007	12,548	

24-Hour NB Volume 10,091 **24-Hour SB Volume 10,510**



24 Hour Segment Count

Accurate Video Counts Inc
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Location: 2. Bear Valley Parkway btw Encino Dr to Zlatibor Ranch Rd

Orientation: North-South

Date of Count: Wednesday, February 26, 2014

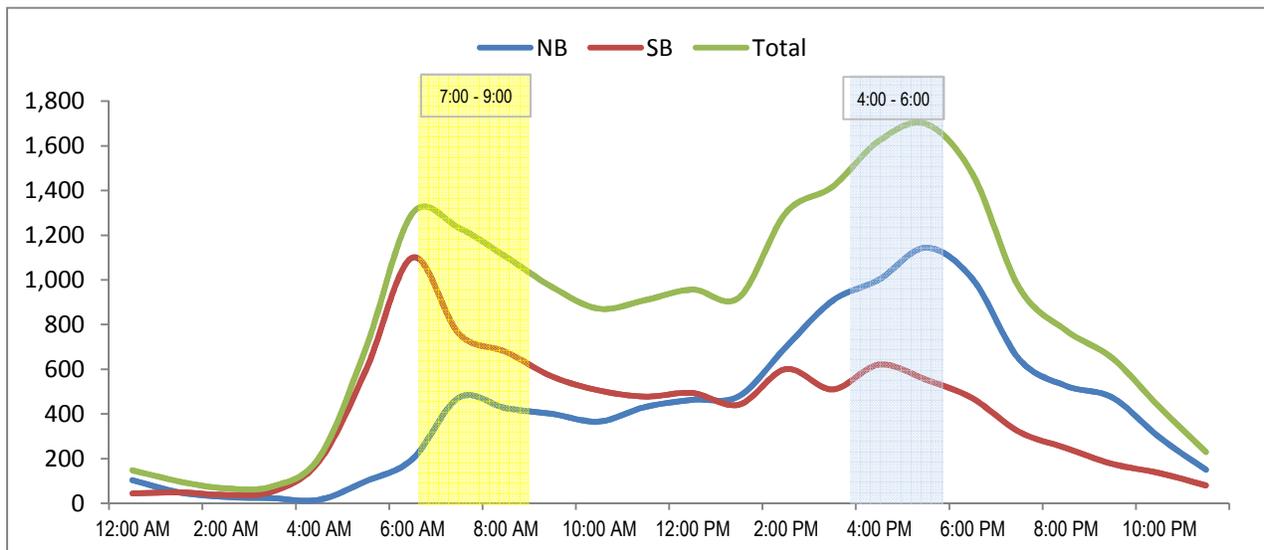
Analysts: DASH

Weather: Sunny

AVC Proj. No: 14-0168

24 Hour Segment Volume					20,111		
Time	Hourly Volume			Time	Hourly Volume		
	NB	SB	Total		NB	SB	Total
12:00 AM - 1:00 AM	104	44	148	12:00 PM - 1:00 PM	463	494	957
1:00 AM - 2:00 AM	49	49	98	1:00 PM - 2:00 PM	480	442	922
2:00 AM - 3:00 AM	29	38	67	2:00 PM - 3:00 PM	699	601	1,300
3:00 AM - 4:00 AM	23	53	76	3:00 PM - 4:00 PM	907	510	1,417
4:00 AM - 5:00 AM	16	189	205	4:00 PM - 5:00 PM	1,002	621	1,623
5:00 AM - 6:00 AM	99	595	694	5:00 PM - 6:00 PM	1,144	554	1,698
6:00 AM - 7:00 AM	198	1,100	1,298	6:00 PM - 7:00 PM	1,004	470	1,474
7:00 AM - 8:00 AM	474	758	1,232	7:00 PM - 8:00 PM	645	320	965
8:00 AM - 9:00 AM	426	678	1,104	8:00 PM - 9:00 PM	526	248	774
9:00 AM - 10:00 AM	400	567	967	9:00 PM - 10:00 PM	473	176	649
10:00 AM - 11:00 AM	366	505	871	10:00 PM - 11:00 PM	296	136	432
11:00 AM - 12:00 PM	432	478	910	11:00 PM - 12:00 AM	150	80	230
Total	2,616	5,054	7,670	Total	7,789	4,652	12,441

24-Hour NB Volume 10,405 **24-Hour SB Volume 9,706**



24 Hour Segment Count

Accurate Video Counts Inc
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(619) 987-5136



Location: 3. Bear Valley Parkway btw Sunset Dr to Encino Dr

Orientation: North-South

Date of Count: Wednesday, February 26, 2014

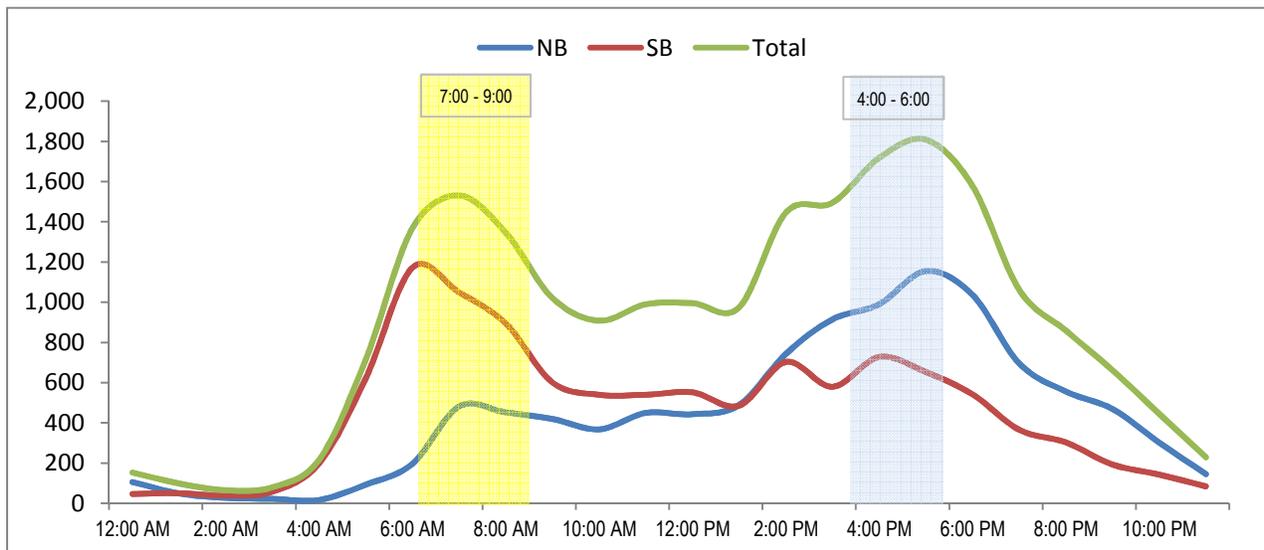
Analysts: DASH

Weather: Sunny

AVC Proj. No: 14-0168

24 Hour Segment Volume					21,766			
Time	Hourly Volume			Total	Time	Hourly Volume		
	NB	SB	Total			NB	SB	Total
12:00 AM - 1:00 AM	106	47	153	12:00 PM - 1:00 PM	443	552	995	
1:00 AM - 2:00 AM	49	50	99	1:00 PM - 2:00 PM	489	486	975	
2:00 AM - 3:00 AM	27	38	65	2:00 PM - 3:00 PM	743	703	1,446	
3:00 AM - 4:00 AM	22	58	80	3:00 PM - 4:00 PM	915	580	1,495	
4:00 AM - 5:00 AM	17	200	217	4:00 PM - 5:00 PM	990	728	1,718	
5:00 AM - 6:00 AM	93	622	715	5:00 PM - 6:00 PM	1,155	653	1,808	
6:00 AM - 7:00 AM	197	1,172	1,369	6:00 PM - 7:00 PM	1,036	542	1,578	
7:00 AM - 8:00 AM	482	1,049	1,531	7:00 PM - 8:00 PM	696	366	1,062	
8:00 AM - 9:00 AM	452	894	1,346	8:00 PM - 9:00 PM	556	303	859	
9:00 AM - 10:00 AM	420	601	1,021	9:00 PM - 10:00 PM	469	193	662	
10:00 AM - 11:00 AM	368	540	908	10:00 PM - 11:00 PM	302	143	445	
11:00 AM - 12:00 PM	450	540	990	11:00 PM - 12:00 AM	145	84	229	
Total	2,683	5,811	8,494	Total	7,939	5,333	13,272	

24-Hour NB Volume 10,622 **24-Hour SB Volume 11,144**



24 Hour Segment Count

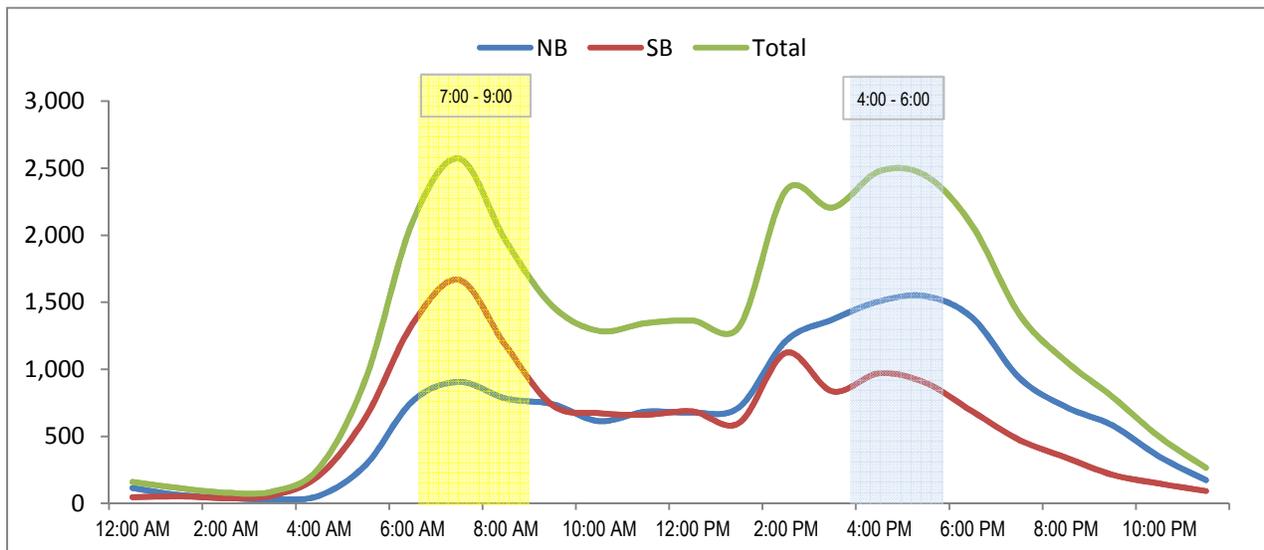
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info@accuratevideocounts.com
(619) 987-5136



Location: 4. Bear Valley Parkway btw Royal Crest Dr to Old Spanish Trail
Orientation: North-South
Date of Count: Wednesday, February 26, 2014
Analysts: DASH
Weather: Sunny
AVC Proj. No: 14-0168

24 Hour Segment Volume					30,600			
Time	Hourly Volume			Time	Hourly Volume			
	NB	SB	Total		NB	SB	Total	
12:00 AM - 1:00 AM	115	45	160	12:00 PM - 1:00 PM	677	686	1,363	
1:00 AM - 2:00 AM	62	52	114	1:00 PM - 2:00 PM	717	600	1,317	
2:00 AM - 3:00 AM	41	39	80	2:00 PM - 3:00 PM	1,211	1,123	2,334	
3:00 AM - 4:00 AM	30	58	88	3:00 PM - 4:00 PM	1,371	835	2,206	
4:00 AM - 5:00 AM	57	208	265	4:00 PM - 5:00 PM	1,507	970	2,477	
5:00 AM - 6:00 AM	287	644	931	5:00 PM - 6:00 PM	1,545	898	2,443	
6:00 AM - 7:00 AM	762	1,336	2,098	6:00 PM - 7:00 PM	1,383	685	2,068	
7:00 AM - 8:00 AM	905	1,666	2,571	7:00 PM - 8:00 PM	937	474	1,411	
8:00 AM - 9:00 AM	782	1,176	1,958	8:00 PM - 9:00 PM	719	341	1,060	
9:00 AM - 10:00 AM	740	731	1,471	9:00 PM - 10:00 PM	581	213	794	
10:00 AM - 11:00 AM	613	673	1,286	10:00 PM - 11:00 PM	349	147	496	
11:00 AM - 12:00 PM	684	660	1,344	11:00 PM - 12:00 AM	173	92	265	
Total	5,078	7,288	12,366	Total	11,170	7,064	18,234	

24-Hour NB Volume 16,248 **24-Hour SB Volume 14,352**



24 Hour Segment Count

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Location: 5. Bear Valley Parkway btw Mary Ln to Alamo Ln

Orientation: North-South

Date of Count: Wednesday, February 26, 2014

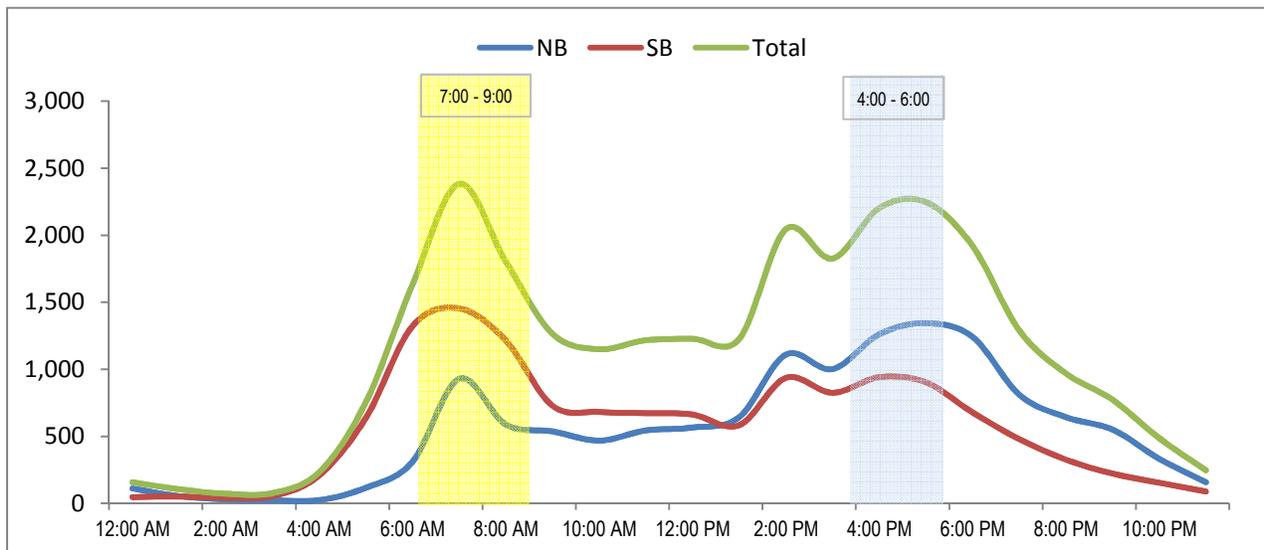
Analysts: DASH

Weather: Sunny

AVC Proj. No: 14-0168

24 Hour Segment Volume					27,301		
Time	Hourly Volume			Time	Hourly Volume		
	NB	SB	Total		NB	SB	Total
12:00 AM - 1:00 AM	111	46	157	12:00 PM - 1:00 PM	565	662	1,227
1:00 AM - 2:00 AM	54	51	105	1:00 PM - 2:00 PM	643	583	1,226
2:00 AM - 3:00 AM	30	42	72	2:00 PM - 3:00 PM	1,109	936	2,045
3:00 AM - 4:00 AM	23	54	77	3:00 PM - 4:00 PM	1,001	825	1,826
4:00 AM - 5:00 AM	24	208	232	4:00 PM - 5:00 PM	1,261	941	2,202
5:00 AM - 6:00 AM	116	637	753	5:00 PM - 6:00 PM	1,344	903	2,247
6:00 AM - 7:00 AM	310	1,321	1,631	6:00 PM - 7:00 PM	1,242	678	1,920
7:00 AM - 8:00 AM	929	1,454	2,383	7:00 PM - 8:00 PM	811	479	1,290
8:00 AM - 9:00 AM	588	1,215	1,803	8:00 PM - 9:00 PM	643	326	969
9:00 AM - 10:00 AM	537	728	1,265	9:00 PM - 10:00 PM	550	222	772
10:00 AM - 11:00 AM	468	682	1,150	10:00 PM - 11:00 PM	332	154	486
11:00 AM - 12:00 PM	544	673	1,217	11:00 PM - 12:00 AM	158	88	246
Total	3,734	7,111	10,845	Total	9,659	6,797	16,456

24-Hour NB Volume 13,393 **24-Hour SB Volume 13,908**



24 Hour Segment Count

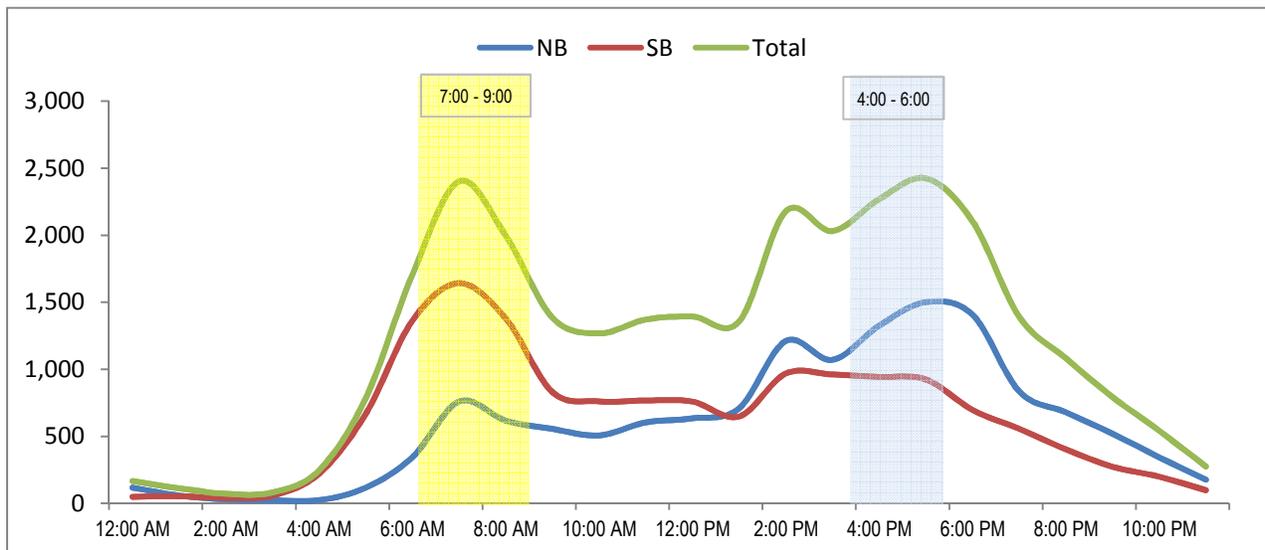
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(619) 987-5136



Location: 6. Bear Valley Parkway btw San Pasqual Rd to Mary Ln
Orientation: North-South
Date of Count: Wednesday, February 26, 2014
Analysts: DASH
Weather: Sunny
AVC Proj. No: 14-0168

24 Hour Segment Volume					29,428			
Time	Hourly Volume			Time	Hourly Volume			
	NB	SB	Total		NB	SB	Total	
12:00 AM - 1:00 AM	117	49	166	12:00 PM - 1:00 PM	634	759	1,393	
1:00 AM - 2:00 AM	58	54	112	1:00 PM - 2:00 PM	709	648	1,357	
2:00 AM - 3:00 AM	30	41	71	2:00 PM - 3:00 PM	1,211	968	2,179	
3:00 AM - 4:00 AM	23	58	81	3:00 PM - 4:00 PM	1,070	961	2,031	
4:00 AM - 5:00 AM	24	222	246	4:00 PM - 5:00 PM	1,326	943	2,269	
5:00 AM - 6:00 AM	117	668	785	5:00 PM - 6:00 PM	1,500	924	2,424	
6:00 AM - 7:00 AM	344	1,363	1,707	6:00 PM - 7:00 PM	1,407	697	2,104	
7:00 AM - 8:00 AM	760	1,642	2,402	7:00 PM - 8:00 PM	836	556	1,392	
8:00 AM - 9:00 AM	617	1,378	1,995	8:00 PM - 9:00 PM	679	403	1,082	
9:00 AM - 10:00 AM	555	829	1,384	9:00 PM - 10:00 PM	519	273	792	
10:00 AM - 11:00 AM	507	761	1,268	10:00 PM - 11:00 PM	343	199	542	
11:00 AM - 12:00 PM	604	767	1,371	11:00 PM - 12:00 AM	177	98	275	
Total	3,756	7,832	11,588	Total	10,411	7,429	17,840	

24-Hour NB Volume 14,167 **24-Hour SB Volume 15,261**



24 Hour Segment Count

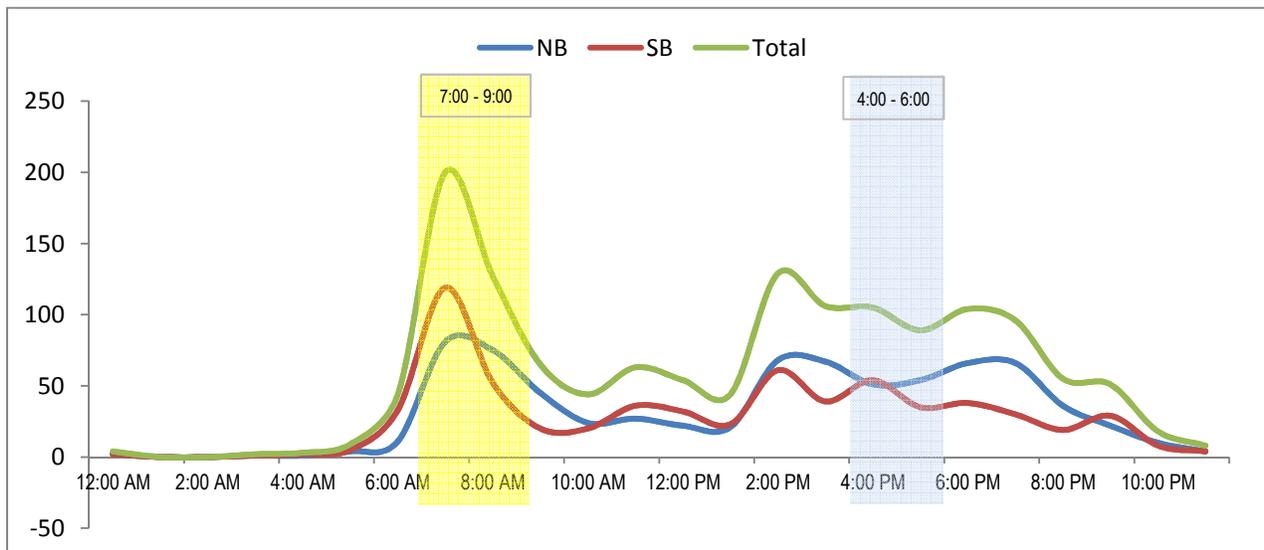
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(619) 987-5136



Location: 7. Encino Drive btw Rancho Verde Drive to Amparo Drive
Orientation: North-South
Date of Count: Wednesday, February 26, 2014
Analysts: DASH
Weather: Sunny
AVC Proj. No: 14-0168

24 Hour Segment Volume					1,420				
Time	Hourly Volume			Time	Hourly Volume				
	NB	SB	Total		NB	SB	Total		
12:00 AM - 1:00 AM	2	2	4	12:00 PM - 1:00 PM	22	32	54		
1:00 AM - 2:00 AM	0	0	0	1:00 PM - 2:00 PM	21	23	44		
2:00 AM - 3:00 AM	0	0	0	2:00 PM - 3:00 PM	68	61	129		
3:00 AM - 4:00 AM	1	1	2	3:00 PM - 4:00 PM	67	39	106		
4:00 AM - 5:00 AM	1	2	3	4:00 PM - 5:00 PM	51	54	105		
5:00 AM - 6:00 AM	4	5	9	5:00 PM - 6:00 PM	54	35	89		
6:00 AM - 7:00 AM	11	33	44	6:00 PM - 7:00 PM	66	38	104		
7:00 AM - 8:00 AM	81	119	200	7:00 PM - 8:00 PM	66	30	96		
8:00 AM - 9:00 AM	75	52	127	8:00 PM - 9:00 PM	36	19	55		
9:00 AM - 10:00 AM	45	20	65	9:00 PM - 10:00 PM	22	29	51		
10:00 AM - 11:00 AM	24	20	44	10:00 PM - 11:00 PM	10	8	18		
11:00 AM - 12:00 PM	27	36	63	11:00 PM - 12:00 AM	4	4	8		
Total	271	290	561	Total	487	372	859		

24-Hour NB Volume 758 **24-Hour SB Volume 662**



24 Hour Segment Count

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Location: 8. Sunset Drive btw Bear Valley Parkway to Reill View Dr

Orientation: East-West

Date of Count: Wednesday, February 26, 2014

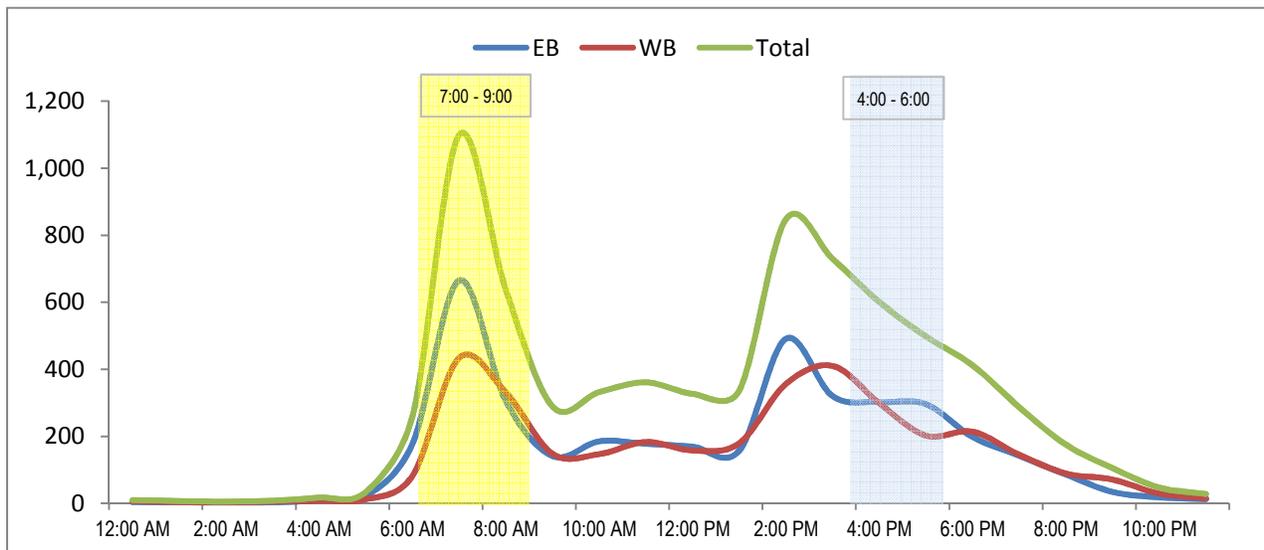
Analysts: DASH

Weather: Sunny

AVC Proj. No: 14-0168

24 Hour Segment Volume					7,452			
Time	Hourly Volume			Time	Hourly Volume			
	EB	WB	Total		EB	WB	Total	
12:00 AM - 1:00 AM	4	6	10	12:00 PM - 1:00 PM	169	158	327	
1:00 AM - 2:00 AM	3	4	7	1:00 PM - 2:00 PM	157	179	336	
2:00 AM - 3:00 AM	2	3	5	2:00 PM - 3:00 PM	491	356	847	
3:00 AM - 4:00 AM	3	5	8	3:00 PM - 4:00 PM	320	410	730	
4:00 AM - 5:00 AM	9	8	17	4:00 PM - 5:00 PM	302	299	601	
5:00 AM - 6:00 AM	22	12	34	5:00 PM - 6:00 PM	296	202	498	
6:00 AM - 7:00 AM	178	82	260	6:00 PM - 7:00 PM	198	214	412	
7:00 AM - 8:00 AM	665	434	1,099	7:00 PM - 8:00 PM	142	145	287	
8:00 AM - 9:00 AM	306	331	637	8:00 PM - 9:00 PM	86	89	175	
9:00 AM - 10:00 AM	141	148	289	9:00 PM - 10:00 PM	34	71	105	
10:00 AM - 11:00 AM	185	147	332	10:00 PM - 11:00 PM	18	29	47	
11:00 AM - 12:00 PM	178	183	361	11:00 PM - 12:00 AM	13	15	28	
Total	1,696	1,363	3,059	Total	2,226	2,167	4,393	

24-Hour EB Volume 3,922 **24-Hour WB Volume 3,530**



APPENDIX B

PEAK HOUR INTERSECTION ANALYSIS WORKSHEETS

HCM 2010 Signalized Intersection Summary
 1: Bear Valley Parkway & San Pasqual Valley Rd (SR 78)

Existing AM
 3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	18	358	126	154	508	82	104	323	99	84	659	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	381	134	181	598	96	114	355	109	98	766	21
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	977	437	212	1097	176	346	775	235	159	978	27
Arrive On Green	0.04	0.28	0.28	0.12	0.36	0.36	0.10	0.29	0.29	0.09	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3056	490	3442	2678	811	1774	3519	96
Grp Volume(v), veh/h	19	381	134	181	346	348	114	233	231	98	385	402
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1776	1721	1770	1720	1774	1770	1846
Q Serve(g_s), s	1.1	9.2	7.1	10.5	16.4	16.5	3.2	11.3	11.6	5.6	21.2	21.2
Cycle Q Clear(g_c), s	1.1	9.2	7.1	10.5	16.4	16.5	3.2	11.3	11.6	5.6	21.2	21.2
Prop In Lane	1.00		1.00	1.00		0.28	1.00		0.47	1.00		0.05
Lane Grp Cap(c), veh/h	65	977	437	212	635	638	346	512	497	159	492	513
V/C Ratio(X)	0.29	0.39	0.31	0.86	0.54	0.55	0.33	0.45	0.46	0.62	0.78	0.78
Avail Cap(c_a), veh/h	152	977	437	283	635	638	359	512	497	212	492	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	30.9	30.2	45.5	26.9	26.9	44.1	30.7	30.8	46.2	35.1	35.1
Incr Delay (d2), s/veh	0.9	1.2	1.8	14.0	3.3	3.3	0.2	2.9	3.1	1.5	11.8	11.3
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	0.6	4.7	3.3	6.0	8.6	8.6	1.6	6.0	6.0	2.8	11.9	12.4
LnGrp Delay(d),s/veh	50.4	32.1	32.0	59.5	30.2	30.3	44.3	33.6	33.9	47.7	46.9	46.4
LnGrp LOS	D	C	C	E	C	C	D	C	C	D	D	D
Approach Vol, veh/h		534			875			578			885	
Approach Delay, s/veh		32.7			36.3			35.8			46.8	
Approach LOS		C			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	35.8	15.8	36.0	9.0	44.5	14.6	37.2				
Change Period (Y+Rc), s	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7				
Max Green Setting (Gmax), s	* 17	29.1	* 11	29.3	* 9	36.9	* 13	27.7				
Max Q Clear Time (g_c+I1), s	12.5	11.2	5.2	23.2	3.1	18.5	7.6	13.6				
Green Ext Time (p_c), s	0.1	12.7	0.1	5.1	0.0	12.9	0.0	10.7				
Intersection Summary												
HCM 2010 Ctrl Delay			38.8									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	9	3	493	895	0
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	-	30	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	10	3	536	973	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1515	973	973
Stage 1	973	-	-
Stage 2	542	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	132	306	709
Stage 1	366	-	-
Stage 2	583	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	131	306	709
Mov Cap-2 Maneuver	260	-	-
Stage 1	366	-	-
Stage 2	581	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	709	-	296	-	-
HCM Lane V/C Ratio	0.005	-	0.04	-	-
HCM Control Delay (s)	10.1	-	17.7	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	101	90	494	892	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	160	99	543	991	13

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1732	991	991
Stage 1	991	-	-
Stage 2	741	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	97	299	698
Stage 1	359	-	-
Stage 2	471	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	83	299	698
Mov Cap-2 Maneuver	83	-	-
Stage 1	359	-	-
Stage 2	404	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.5	1.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	698	-	83	299	-	-
HCM Lane V/C Ratio	0.142	-	0.038	0.536	-	-
HCM Control Delay (s)	11	-	50.1	30.1	-	-
HCM Lane LOS	B	-	F	D	-	-
HCM 95th %tile Q(veh)	0.5	-	0.1	3	-	-

HCM 2010 Signalized Intersection Summary
4: Bear Valley Parkway & Sunset Drive

Existing AM
3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	12	4	674	13	33	17	398	575	4	3	1023	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	14	5	784	21	52	27	428	618	4	3	1088	7
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	0
Peak Hour Factor	0.86	0.86	0.86	0.63	0.63	0.63	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	423	3	472	72	347	180	444	1074	913	6	1190	8
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.25	0.58	0.58	0.00	0.33	0.33
Sat Flow, veh/h	1314	10	1575	684	1156	600	1774	1863	1583	1774	3605	23
Grp Volume(v), veh/h	14	0	789	21	0	79	428	618	4	3	534	561
Grp Sat Flow(s),veh/h/ln	1314	0	1585	684	0	1757	1774	1863	1583	1774	1770	1859
Q Serve(g_s), s	0.8	0.0	30.0	0.0	0.0	3.3	23.8	21.0	0.1	0.2	29.0	29.0
Cycle Q Clear(g_c), s	4.1	0.0	30.0	30.0	0.0	3.3	23.8	21.0	0.1	0.2	29.0	29.0
Prop In Lane	1.00		0.99	1.00		0.34	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	423	0	475	72	0	527	444	1074	913	6	584	613
V/C Ratio(X)	0.03	0.00	1.66	0.29	0.00	0.15	0.97	0.58	0.00	0.53	0.91	0.91
Avail Cap(c_a), veh/h	423	0	475	72	0	527	444	1074	913	71	584	613
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	27.2	0.0	35.0	50.0	0.0	25.7	37.1	13.4	9.0	49.8	32.1	32.1
Incr Delay (d2), s/veh	0.0	0.0	306.0	2.2	0.0	0.1	33.7	2.2	0.0	60.0	21.2	20.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	53.5	0.6	0.0	1.6	15.8	11.3	0.0	0.2	17.5	18.3
LnGrp Delay(d),s/veh	27.2	0.0	341.0	52.2	0.0	25.8	70.8	15.6	9.0	109.7	53.4	52.6
LnGrp LOS	C		F	D		C	E	B	A	F	D	D
Approach Vol, veh/h		803			100			1050			1098	
Approach Delay, s/veh		335.5			31.3			38.1			53.2	
Approach LOS		F			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	4.3	61.7		34.0	29.0	37.0		34.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	54.0		30.0	25.0	33.0		30.0				
Max Q Clear Time (g_c+I1), s	2.2	23.0		32.0	25.8	31.0		32.0				
Green Ext Time (p_c), s	0.0	14.2		0.0	0.0	1.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			121.6									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary
5: Bear Valley Parkway & Las Palmas Ave

Existing AM
3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	219	17	139	29	10	5	140	795	16	5	1373	341
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	322	25	204	53	18	9	189	1074	22	6	1543	383
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.68	0.68	0.68	0.55	0.55	0.55	0.74	0.74	0.74	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	40	330	189	270	135	195	2284	47	11	1531	366
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.11	0.64	0.64	0.01	0.54	0.54
Sat Flow, veh/h	1378	176	1434	1147	1173	586	1774	3547	73	1774	2836	677
Grp Volume(v), veh/h	322	0	229	53	0	27	189	536	560	6	940	986
Grp Sat Flow(s),veh/h/ln	1378	0	1610	1147	0	1759	1774	1770	1850	1774	1770	1743
Q Serve(g_s), s	21.8	0.0	12.8	4.3	0.0	1.2	10.6	15.5	15.5	0.3	52.1	54.0
Cycle Q Clear(g_c), s	23.0	0.0	12.8	17.1	0.0	1.2	10.6	15.5	15.5	0.3	52.1	54.0
Prop In Lane	1.00		0.89	1.00		0.33	1.00		0.04	1.00		0.39
Lane Grp Cap(c), veh/h	372	0	370	189	0	405	195	1139	1191	11	956	941
V/C Ratio(X)	0.86	0.00	0.62	0.28	0.00	0.07	0.97	0.47	0.47	0.55	0.98	1.05
Avail Cap(c_a), veh/h	372	0	370	189	0	405	195	1139	1191	71	956	941
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	39.8	0.0	34.6	42.2	0.0	30.1	44.3	9.1	9.1	49.6	22.6	23.0
Incr Delay (d2), s/veh	18.6	0.0	3.1	0.8	0.0	0.1	55.1	1.4	1.3	37.0	25.4	42.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	0.0	6.0	1.4	0.0	0.6	8.2	7.9	8.2	0.3	31.8	36.8
LnGrp Delay(d),s/veh	58.5	0.0	37.7	43.0	0.0	30.2	99.5	10.5	10.4	86.6	47.9	65.6
LnGrp LOS	E		D	D		C	F	B	B	F	D	F
Approach Vol, veh/h		551			80			1285			1932	
Approach Delay, s/veh		49.8			38.7			23.6			57.1	
Approach LOS		D			D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	68.4		27.0	15.0	58.0		27.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	61.0		23.0	11.0	54.0		23.0				
Max Q Clear Time (g_c+I1), s	2.3	17.5		25.0	12.6	56.0		19.1				
Green Ext Time (p_c), s	0.0	33.3		0.0	0.0	0.0		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			44.5									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
 1: Bear Valley Parkway & San Pasqual Valley Rd (SR 78)

Existing PM
 3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	498	106	111	448	65	105	798	211	63	418	29
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	30	566	120	118	477	69	117	887	234	73	486	34
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	911	408	159	925	133	339	974	257	146	1124	78
Arrive On Green	0.05	0.26	0.26	0.09	0.30	0.30	0.10	0.35	0.35	0.08	0.33	0.33
Sat Flow, veh/h	1774	3539	1583	1774	3106	447	3442	2773	731	1774	3357	234
Grp Volume(v), veh/h	30	566	120	118	271	275	117	566	555	73	256	264
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1784	1721	1770	1734	1774	1770	1821
Q Serve(g_s), s	1.8	15.3	6.6	7.0	13.8	13.9	3.4	33.0	33.1	4.3	12.2	12.2
Cycle Q Clear(g_c), s	1.8	15.3	6.6	7.0	13.8	13.9	3.4	33.0	33.1	4.3	12.2	12.2
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.42	1.00		0.13
Lane Grp Cap(c), veh/h	88	911	408	159	527	531	339	622	609	146	593	610
V/C Ratio(X)	0.34	0.62	0.29	0.74	0.51	0.52	0.35	0.91	0.91	0.50	0.43	0.43
Avail Cap(c_a), veh/h	147	911	408	180	527	531	349	622	609	164	593	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	35.6	32.3	48.1	31.6	31.6	45.6	33.5	33.5	47.6	28.0	28.0
Incr Delay (d2), s/veh	0.9	3.2	1.8	10.9	3.6	3.6	0.2	19.7	20.2	1.0	2.3	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.9	3.1	3.9	7.2	7.3	1.7	19.6	19.3	2.1	6.3	6.5
LnGrp Delay(d),s/veh	50.7	38.8	34.2	59.0	35.1	35.2	45.8	53.2	53.7	48.6	30.3	30.3
LnGrp LOS	D	D	C	E	D	D	D	D	D	D	C	C
Approach Vol, veh/h		716			664			1238			593	
Approach Delay, s/veh		38.5			39.4			52.7			32.5	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	34.6	15.9	43.0	10.6	39.0	14.1	44.8				
Change Period (Y+Rc), s	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7				
Max Green Setting (Gmax), s	* 11	27.9	* 11	36.3	* 9	29.9	* 10	37.3				
Max Q Clear Time (g_c+I1), s	9.0	17.3	5.4	14.2	3.8	15.9	6.3	35.1				
Green Ext Time (p_c), s	0.0	8.3	0.1	18.6	0.0	10.5	0.0	2.1				

Intersection Summary												
HCM 2010 Ctrl Delay			43.1									
HCM 2010 LOS			D									

Notes

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

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	3	6	1106	626	1
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	-	30	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	3	7	1202	680	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1896	681	682
Stage 1	681	-	-
Stage 2	1215	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	76	450	911
Stage 1	503	-	-
Stage 2	281	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	75	450	911
Mov Cap-2 Maneuver	195	-	-
Stage 1	503	-	-
Stage 2	279	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	911	-	339	-	-
HCM Lane V/C Ratio	0.007	-	0.013	-	-
HCM Control Delay (s)	9	-	15.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	4	35	69	1108	624	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	95	95	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	61	73	1166	693	6

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2005	693	693
Stage 1	693	-	-
Stage 2	1312	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	65	443	902
Stage 1	496	-	-
Stage 2	252	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	60	443	902
Mov Cap-2 Maneuver	60	-	-
Stage 1	496	-	-
Stage 2	232	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.4	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	902	-	60	443	-	-
HCM Lane V/C Ratio	0.081	-	0.117	0.139	-	-
HCM Control Delay (s)	9.3	-	72.8	14.4	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.4	0.5	-	-

HCM 2010 Signalized Intersection Summary
4: Bear Valley Parkway & Sunset Drive

Existing PM
3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	12	25	280	4	23	18	195	1150	4	4	654	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	13	27	301	5	29	22	203	1198	4	5	760	13
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.80	0.80	0.80	0.96	0.96	0.96	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	22	244	75	163	124	239	1313	1116	9	2047	35
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.13	0.70	0.70	0.01	0.57	0.57
Sat Flow, veh/h	1348	132	1471	1048	984	747	1774	1863	1583	1774	3561	61
Grp Volume(v), veh/h	13	0	328	5	0	51	203	1198	4	5	378	395
Grp Sat Flow(s),veh/h/ln	1348	0	1603	1048	0	1731	1774	1863	1583	1774	1770	1852
Q Serve(g_s), s	0.8	0.0	16.0	0.0	0.0	2.4	10.8	51.4	0.1	0.3	11.1	11.1
Cycle Q Clear(g_c), s	3.3	0.0	16.0	16.0	0.0	2.4	10.8	51.4	0.1	0.3	11.1	11.1
Prop In Lane	1.00		0.92	1.00		0.43	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	264	0	266	75	0	287	239	1313	1116	9	1017	1065
V/C Ratio(X)	0.05	0.00	1.23	0.07	0.00	0.18	0.85	0.91	0.00	0.54	0.37	0.37
Avail Cap(c_a), veh/h	264	0	266	75	0	287	368	1313	1116	74	1017	1065
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	36.0	0.0	40.3	48.3	0.0	34.6	40.8	11.8	4.2	47.9	11.1	11.1
Incr Delay (d2), s/veh	0.1	0.0	133.5	0.4	0.0	0.3	10.8	11.2	0.0	41.5	1.0	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	0.3	0.0	16.9	0.1	0.0	1.2	6.0	30.0	0.0	0.2	5.6	5.9
LnGrp Delay(d),s/veh	36.1	0.0	173.7	48.6	0.0	34.9	51.6	23.0	4.2	89.4	12.1	12.1
LnGrp LOS	D		F	D		C	D	C	A	F	B	B
Approach Vol, veh/h		341			56			1405			778	
Approach Delay, s/veh		168.5			36.1			27.0			12.6	
Approach LOS		F			D			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	72.0		20.0	17.0	59.5		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	68.0		16.0	20.0	52.0		16.0				
Max Q Clear Time (g_c+I1), s	2.3	53.4		18.0	12.8	13.1		18.0				
Green Ext Time (p_c), s	0.0	11.1		0.0	0.3	21.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			41.6									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary
5: Bear Valley Parkway & Las Palmas Ave

Existing PM
3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	49	3	23	17	0	1	21	1299	26	4	856	47
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	65	4	31	27	0	2	24	1460	29	4	941	52
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.64	0.64	0.64	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	193	13	101	164	0	112	37	2722	54	8	2558	141
Arrive On Green	0.07	0.07	0.07	0.07	0.00	0.07	0.02	0.77	0.77	0.00	0.75	0.75
Sat Flow, veh/h	1409	184	1427	1368	0	1583	1774	3549	70	1774	3411	188
Grp Volume(v), veh/h	65	0	35	27	0	2	24	727	762	4	488	505
Grp Sat Flow(s),veh/h/ln	1409	0	1611	1368	0	1583	1774	1770	1850	1774	1770	1829
Q Serve(g_s), s	3.4	0.0	1.6	1.5	0.0	0.1	1.0	12.4	12.4	0.2	7.2	7.2
Cycle Q Clear(g_c), s	3.5	0.0	1.6	3.0	0.0	0.1	1.0	12.4	12.4	0.2	7.2	7.2
Prop In Lane	1.00		0.89	1.00		1.00	1.00		0.04	1.00		0.10
Lane Grp Cap(c), veh/h	193	0	114	164	0	112	37	1357	1419	8	1327	1372
V/C Ratio(X)	0.34	0.00	0.31	0.16	0.00	0.02	0.65	0.54	0.54	0.53	0.37	0.37
Avail Cap(c_a), veh/h	390	0	339	355	0	333	117	1357	1419	93	1327	1372
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	34.5	0.0	33.5	35.0	0.0	32.8	36.9	3.5	3.5	37.8	3.3	3.3
Incr Delay (d2), s/veh	1.0	0.0	1.5	0.5	0.0	0.1	17.3	1.5	1.5	47.2	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.7	0.6	0.0	0.0	0.7	6.4	6.7	0.2	3.7	3.8
LnGrp Delay(d),s/veh	35.5	0.0	35.0	35.4	0.0	32.9	54.2	5.0	5.0	85.0	4.1	4.0
LnGrp LOS	D		D	D		C	D	A	A	F	A	A
Approach Vol, veh/h		100			29			1513			997	
Approach Delay, s/veh		35.3			35.2			5.8			4.4	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	62.3		9.4	5.6	61.0		9.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	58.0		16.0	5.0	57.0		16.0				
Max Q Clear Time (g_c+I1), s	2.2	14.4		5.5	3.0	9.2		5.0				
Green Ext Time (p_c), s	0.0	24.6		0.3	0.0	25.8		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			6.7									
HCM 2010 LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	18	358	129	154	508	82	106	325	100	84	660	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	381	137	181	598	96	116	357	110	98	767	21
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	977	437	212	1097	176	347	774	235	159	978	27
Arrive On Green	0.04	0.28	0.28	0.12	0.36	0.36	0.10	0.29	0.29	0.09	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3056	490	3442	2676	813	1774	3519	96
Grp Volume(v), veh/h	19	381	137	181	346	348	116	234	233	98	386	402
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1776	1721	1770	1719	1774	1770	1846
Q Serve(g_s), s	1.1	9.2	7.2	10.5	16.4	16.5	3.3	11.4	11.7	5.6	21.2	21.2
Cycle Q Clear(g_c), s	1.1	9.2	7.2	10.5	16.4	16.5	3.3	11.4	11.7	5.6	21.2	21.2
Prop In Lane	1.00		1.00	1.00		0.28	1.00		0.47	1.00		0.05
Lane Grp Cap(c), veh/h	65	977	437	212	635	638	347	512	497	159	492	513
V/C Ratio(X)	0.29	0.39	0.31	0.86	0.54	0.55	0.33	0.46	0.47	0.62	0.78	0.78
Avail Cap(c_a), veh/h	151	977	437	283	635	638	359	512	497	212	492	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	31.0	30.2	45.5	26.9	26.9	44.1	30.7	30.8	46.2	35.1	35.1
Incr Delay (d2), s/veh	0.9	1.2	1.9	14.0	3.3	3.3	0.2	2.9	3.1	1.5	11.8	11.4
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(-26165%),veh/ln	0.6	4.7	3.4	6.0	8.6	8.6	1.6	6.0	6.0	2.8	12.0	12.5
LnGrp Delay(d),s/veh	50.4	32.1	32.1	59.5	30.2	30.3	44.3	33.6	33.9	47.7	47.0	46.5
LnGrp LOS	D	C	C	E	C	C	D	C	C	D	D	D
Approach Vol, veh/h		537			875			583			886	
Approach Delay, s/veh		32.8			36.3			35.9			46.9	
Approach LOS		C			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.8	35.8	15.8	36.0	9.0	44.5	14.6	37.2				
Change Period (Y+Rc), s	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7				
Max Green Setting (Gmax), s	* 17	29.1	* 11	29.3	* 9	36.9	* 13	27.7				
Max Q Clear Time (g_c+I1), s	12.5	11.2	5.3	23.2	3.1	18.5	7.6	13.7				
Green Ext Time (p_c), s	0.1	12.7	0.1	5.1	0.0	13.0	0.0	10.6				
Intersection Summary												
HCM 2010 Ctrl Delay			38.8									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑	↗	↖	↖	↗
Volume (veh/h)	2	0	9	26	0	5	3	493	9	4	895	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	0	10	28	0	5	3	536	10	4	973	0
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	0	61	331	0	10	422	1162	987	704	1162	0
Arrive On Green	0.04	0.00	0.04	0.04	0.00	0.04	0.62	0.62	0.62	0.62	0.62	0.00
Sat Flow, veh/h	283	0	1413	1253	0	224	576	1863	1583	857	1863	0
Grp Volume(v), veh/h	12	0	0	33	0	0	3	536	10	4	973	0
Grp Sat Flow(s),veh/h/ln1695	0	0	0	1477	0	0	576	1863	1583	857	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.1	3.7	0.1	0.1	9.9	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.5	0.0	0.0	10.0	3.7	0.1	3.7	9.9	0.0
Prop In Lane	0.17		0.83	0.85		0.15	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	248	0	0	341	0	0	422	1162	987	704	1162	0
V/C Ratio(X)	0.05	0.00	0.00	0.10	0.00	0.00	0.01	0.46	0.01	0.01	0.84	0.00
Avail Cap(c_a), veh/h	1215	0	0	1229	0	0	447	1241	1055	741	1241	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	0.0	11.2	0.0	0.0	7.5	2.4	1.7	3.4	3.6	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	4.9	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(-26165%),veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	1.9	0.0	0.0	6.2	0.0
LnGrp Delay(d),s/veh	11.1	0.0	0.0	11.3	0.0	0.0	7.5	2.7	1.7	3.4	8.5	0.0
LnGrp LOS	B			B			A	A	A	A	A	
Approach Vol, veh/h		12			33			549			977	
Approach Delay, s/veh		11.1			11.3			2.7			8.5	
Approach LOS		B			B			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.0		5.0		19.0		5.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		12.0		2.2		11.9		2.5				
Green Ext Time (p_c), s		3.0		0.1		3.1		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				6.5								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	101	90	502	906	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	160	99	552	1007	27

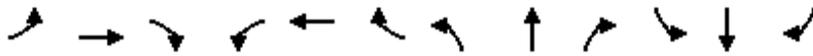
Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1756	1007	0
Stage 1	1007	-	-
Stage 2	749	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	93	292	688
Stage 1	353	-	-
Stage 2	467	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	80	292	688
Mov Cap-2 Maneuver	80	-	-
Stage 1	353	-	-
Stage 2	400	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32	1.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	688	-	80	292	-	-
HCM Lane V/C Ratio	0.144	-	0.06	0.549	-	-
HCM Control Delay (s)	11.1	-	52.8	31.4	-	-
HCM Lane LOS	B	-	F	D	-	-
HCM 95th %tile Q(veh)	0.5	-	0.2	3.1	-	-

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	16	4	674	13	33	17	398	579	4	3	1034	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	19	5	784	21	52	27	428	623	4	3	1100	11
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	0
Peak Hour Factor	0.86	0.86	0.86	0.63	0.63	0.63	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	423	3	472	72	347	180	444	1074	913	6	1185	12
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.25	0.58	0.58	0.00	0.33	0.33
Sat Flow, veh/h	1314	10	1575	684	1156	600	1774	1863	1583	1774	3590	36
Grp Volume(v), veh/h	19	0	789	21	0	79	428	623	4	3	542	569
Grp Sat Flow(s),veh/h/ln	1314	0	1585	684	0	1757	1774	1863	1583	1774	1770	1856
Q Serve(g_s), s	1.1	0.0	30.0	0.0	0.0	3.3	23.8	21.3	0.1	0.2	29.6	29.6
Cycle Q Clear(g_c), s	4.4	0.0	30.0	30.0	0.0	3.3	23.8	21.3	0.1	0.2	29.6	29.6
Prop In Lane	1.00		0.99	1.00		0.34	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	423	0	475	72	0	527	444	1074	913	6	584	613
V/C Ratio(X)	0.04	0.00	1.66	0.29	0.00	0.15	0.97	0.58	0.00	0.53	0.93	0.93
Avail Cap(c_a), veh/h	423	0	475	72	0	527	444	1074	913	71	584	613
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	27.3	0.0	35.0	50.0	0.0	25.7	37.1	13.5	9.0	49.8	32.4	32.4
Incr Delay (d2), s/veh	0.0	0.0	306.0	2.2	0.0	0.1	33.7	2.3	0.0	60.0	23.2	22.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.4	0.0	53.5	0.6	0.0	1.6	15.8	11.6	0.0	0.2	18.2	19.0
LnGrp Delay(d),s/veh	27.3	0.0	341.0	52.2	0.0	25.8	70.8	15.7	9.0	109.7	55.6	54.8
LnGrp LOS	C		F	D		C	E	B	A	F	E	D
Approach Vol, veh/h		808			100			1055			1114	
Approach Delay, s/veh		333.6			31.3			38.0			55.3	
Approach LOS		F			C			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	61.7		34.0	29.0	37.0		34.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	54.0		30.0	25.0	33.0		30.0				
Max Q Clear Time (g_c+I1), s	2.2	23.3		32.0	25.8	31.6		32.0				
Green Ext Time (p_c), s	0.0	14.4		0.0	0.0	1.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			121.7									
HCM 2010 LOS			F									

Existing + Proj AM
5: Bear Valley Parkway & Las Palmas Ave



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	220	17	139	29	10	5	140	798	16	5	1382	343
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	324	25	204	53	18	9	189	1078	22	6	1553	385
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.68	0.68	0.68	0.55	0.55	0.55	0.74	0.74	0.74	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	40	330	189	270	135	195	2284	47	11	1532	365
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.11	0.64	0.64	0.01	0.54	0.54
Sat Flow, veh/h	1378	176	1434	1147	1173	586	1774	3547	72	1774	2837	676
Grp Volume(v), veh/h	324	0	229	53	0	27	189	538	562	6	945	993
Grp Sat Flow(s),veh/h/ln	1378	0	1610	1147	0	1759	1774	1770	1850	1774	1770	1743
Q Serve(g_s), s	21.8	0.0	12.8	4.3	0.0	1.2	10.6	15.5	15.5	0.3	52.7	54.0
Cycle Q Clear(g_c), s	23.0	0.0	12.8	17.1	0.0	1.2	10.6	15.5	15.5	0.3	52.7	54.0
Prop In Lane	1.00		0.89	1.00		0.33	1.00		0.04	1.00		0.39
Lane Grp Cap(c), veh/h	372	0	370	189	0	405	195	1139	1191	11	956	941
V/C Ratio(X)	0.87	0.00	0.62	0.28	0.00	0.07	0.97	0.47	0.47	0.55	0.99	1.06
Avail Cap(c_a), veh/h	372	0	370	189	0	405	195	1139	1191	71	956	941
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	39.9	0.0	34.6	42.2	0.0	30.1	44.3	9.1	9.1	49.6	22.7	23.0
Incr Delay (d2), s/veh	19.4	0.0	3.1	0.8	0.0	0.1	55.1	1.4	1.3	37.0	26.5	45.0
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(-26165%),veh/ln	10.9	0.0	6.0	1.4	0.0	0.6	8.2	7.9	8.3	0.3	32.5	37.4
LnGrp Delay(d),s/veh	59.3	0.0	37.7	43.0	0.0	30.2	99.5	10.5	10.5	86.6	49.2	68.0
LnGrp LOS	E		D	D		C	F	B	B	F	D	F
Approach Vol, veh/h		553			80			1289			1944	
Approach Delay, s/veh		50.3			38.7			23.5			58.9	
Approach LOS		D			D			C			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	68.4		27.0	15.0	58.0		27.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	61.0		23.0	11.0	54.0		23.0				
Max Q Clear Time (g_c+1), s	12.3	17.5		25.0	12.6	56.0		19.1				
Green Ext Time (p_c), s	0.0	33.5		0.0	0.0	0.0		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			45.5									
HCM 2010 LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	498	114	112	448	65	106	799	211	63	420	29
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	30	566	130	119	477	69	118	888	234	73	488	34
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	911	407	159	925	133	339	975	257	145	1124	78
Arrive On Green	0.05	0.26	0.26	0.09	0.30	0.30	0.10	0.35	0.35	0.08	0.33	0.33
Sat Flow, veh/h	1774	3539	1583	1774	3106	447	3442	2773	730	1774	3358	233
Grp Volume(v), veh/h	30	566	130	119	271	275	118	566	556	73	257	265
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1784	1721	1770	1734	1774	1770	1822
Q Serve(g_s), s	1.8	15.3	7.2	7.1	13.8	13.9	3.5	33.1	33.2	4.3	12.2	12.3
Cycle Q Clear(g_c), s	1.8	15.3	7.2	7.1	13.8	13.9	3.5	33.1	33.2	4.3	12.2	12.3
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.42	1.00		0.13
Lane Grp Cap(c), veh/h	88	911	407	159	527	531	339	622	609	145	593	610
V/C Ratio(X)	0.34	0.62	0.32	0.75	0.51	0.52	0.35	0.91	0.91	0.50	0.43	0.44
Avail Cap(c_a), veh/h	147	911	407	180	527	531	349	622	609	164	593	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	35.6	32.6	48.1	31.6	31.6	45.6	33.5	33.6	47.6	28.0	28.1
Incr Delay (d2), s/veh	0.9	3.2	2.1	11.5	3.6	3.6	0.2	19.8	20.3	1.0	2.3	2.3
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(-26165%),veh/ln	0.9	7.9	3.4	4.0	7.2	7.3	1.7	19.6	19.3	2.1	6.4	6.6
LnGrp Delay(d),s/veh	50.7	38.8	34.6	59.6	35.1	35.2	45.8	53.3	53.8	48.6	30.3	30.3
LnGrp LOS	D	D	C	E	D	D	D	D	D	D	C	C
Approach Vol, veh/h		726			665			1240			595	
Approach Delay, s/veh		38.5			39.5			52.8			32.6	
Approach LOS		D			D			D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	34.6	15.9	43.0	10.6	39.0	14.1	44.8				
Change Period (Y+Rc), s	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7				
Max Green Setting (Gmax), s	* 11	27.9	* 11	36.3	* 9	29.9	* 10	37.3				
Max Q Clear Time (g_c+I1), s	9.1	17.3	5.5	14.3	3.8	15.9	6.3	35.2				
Green Ext Time (p_c), s	0.0	8.3	0.1	18.5	0.0	10.6	0.0	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			43.1									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↕	↕	↕	↕	↕	↕	↕
Volume (veh/h)	1	0	3	14	0	2	6	1106	27	12	626	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1	0	3	15	0	2	7	1202	29	13	680	1
Adj No. of Lanes	0	1	0	0	1	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	0	15	328	0	34	635	1215	1033	302	1213	2
Arrive On Green	0.02	0.00	0.02	0.02	0.00	0.02	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	237	0	710	1592	0	1583	756	1863	1583	451	1860	3
Grp Volume(v), veh/h	4	0	0	15	0	2	7	1202	29	13	0	681
Grp Sat Flow(s),veh/h/ln	947	0	0	1592	0	1583	756	1863	1583	451	0	1862
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	0.0	0.1	15.5	0.2	0.5	0.0	4.9
Cycle Q Clear(g_c), s	0.3	0.0	0.0	0.2	0.0	0.0	5.0	15.5	0.2	16.0	0.0	4.9
Prop In Lane	0.25		0.75	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	204	0	0	328	0	34	635	1215	1033	302	0	1215
V/C Ratio(X)	0.02	0.00	0.00	0.05	0.00	0.06	0.01	0.99	0.03	0.04	0.00	0.56
Avail Cap(c_a), veh/h	1172	0	0	1216	0	1033	635	1215	1033	302	0	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	0.0	11.8	0.0	11.8	3.7	4.2	1.5	12.1	0.0	2.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.7	0.0	23.2	0.0	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	15.2	0.1	0.1	0.0	2.5
LnGrp Delay(d),s/veh	12.0	0.0	0.0	11.9	0.0	12.4	3.7	27.4	1.5	12.2	0.0	2.9
LnGrp LOS	B			B		B	A	C	A	B		A
Approach Vol, veh/h		4			17			1238			694	
Approach Delay, s/veh		12.0			12.0			26.6			3.1	
Approach LOS		B			B			C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.0		4.5		20.0		4.5				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		17.5		2.3		18.0		2.2				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				18.1								
HCM 2010 LOS				B								

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	6	35	69	1133	632	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	95	95	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	61	73	1193	702	12

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2040	702	0
Stage 1	702	-	-
Stage 2	1338	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	62	438	895
Stage 1	491	-	-
Stage 2	245	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	57	438	895
Mov Cap-2 Maneuver	57	-	-
Stage 1	491	-	-
Stage 2	225	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.4	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	895	-	57	438	-	-
HCM Lane V/C Ratio	0.081	-	0.185	0.14	-	-
HCM Control Delay (s)	9.4	-	81.9	14.6	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.6	0.5	-	-

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	23	25	280	4	23	18	195	1164	4	4	660	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	25	27	301	5	29	22	203	1212	4	5	767	15
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.80	0.80	0.80	0.96	0.96	0.96	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	22	244	75	163	124	239	1313	1116	9	2041	40
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.13	0.70	0.70	0.01	0.57	0.57
Sat Flow, veh/h	1348	132	1471	1048	984	747	1774	1863	1583	1774	3551	69
Grp Volume(v), veh/h	25	0	328	5	0	51	203	1212	4	5	382	400
Grp Sat Flow(s),veh/h/ln	1348	0	1603	1048	0	1731	1774	1863	1583	1774	1770	1850
Q Serve(g_s), s	1.6	0.0	16.0	0.0	0.0	2.4	10.8	53.1	0.1	0.3	11.3	11.3
Cycle Q Clear(g_c), s	4.0	0.0	16.0	16.0	0.0	2.4	10.8	53.1	0.1	0.3	11.3	11.3
Prop In Lane	1.00		0.92	1.00		0.43	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	264	0	266	75	0	287	239	1313	1116	9	1017	1064
V/C Ratio(X)	0.09	0.00	1.23	0.07	0.00	0.18	0.85	0.92	0.00	0.54	0.38	0.38
Avail Cap(c_a), veh/h	264	0	266	75	0	287	368	1313	1116	74	1017	1064
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	36.3	0.0	40.3	48.3	0.0	34.6	40.8	12.0	4.2	47.9	11.1	11.1
Incr Delay (d2), s/veh	0.2	0.0	133.5	0.4	0.0	0.3	10.8	12.2	0.0	41.5	1.1	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(-26165%),veh/ln	0.6	0.0	16.9	0.1	0.0	1.2	6.0	31.4	0.0	0.2	5.8	6.1
LnGrp Delay(d),s/veh	36.5	0.0	173.7	48.6	0.0	34.9	51.6	24.3	4.2	89.4	12.2	12.1
LnGrp LOS	D		F	D		C	D	C	A	F	B	B
Approach Vol, veh/h		353			56			1419			787	
Approach Delay, s/veh		164.0			36.1			28.1			12.7	
Approach LOS		F			D			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	72.0		20.0	17.0	59.5		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	68.0		16.0	20.0	52.0		16.0				
Max Q Clear Time (g_c+I1), s	2.3	55.1		18.0	12.8	13.3		18.0				
Green Ext Time (p_c), s	0.0	10.1		0.0	0.3	22.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			42.0									
HCM 2010 LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	51	3	23	17	0	1	21	1311	26	4	861	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	68	4	31	27	0	2	24	1473	29	4	946	53
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.75	0.75	0.75	0.64	0.64	0.64	0.89	0.89	0.89	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	13	105	167	0	116	37	2716	53	8	2550	143
Arrive On Green	0.07	0.07	0.07	0.07	0.00	0.07	0.02	0.76	0.76	0.00	0.75	0.75
Sat Flow, veh/h	1409	184	1427	1368	0	1583	1774	3550	70	1774	3408	191
Grp Volume(v), veh/h	68	0	35	27	0	2	24	733	769	4	491	508
Grp Sat Flow(s),veh/h/ln	1409	0	1611	1368	0	1583	1774	1770	1850	1774	1770	1829
Q Serve(g_s), s	3.6	0.0	1.6	1.5	0.0	0.1	1.0	12.7	12.7	0.2	7.4	7.4
Cycle Q Clear(g_c), s	3.7	0.0	1.6	3.0	0.0	0.1	1.0	12.7	12.7	0.2	7.4	7.4
Prop In Lane	1.00		0.89	1.00		1.00	1.00		0.04	1.00		0.10
Lane Grp Cap(c), veh/h	196	0	118	167	0	116	37	1354	1415	8	1324	1369
V/C Ratio(X)	0.35	0.00	0.30	0.16	0.00	0.02	0.65	0.54	0.54	0.53	0.37	0.37
Avail Cap(c_a), veh/h	389	0	338	354	0	333	116	1354	1415	93	1324	1369
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	34.5	0.0	33.4	34.9	0.0	32.8	37.0	3.6	3.6	37.8	3.3	3.3
Incr Delay (d2), s/veh	1.0	0.0	1.4	0.5	0.0	0.1	17.3	1.6	1.5	47.3	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.0	0.0	0.7	0.6	0.0	0.0	0.7	6.7	7.0	0.2	3.8	4.0
LnGrp Delay(d),s/veh	35.5	0.0	34.8	35.3	0.0	32.8	54.3	5.2	5.1	85.1	4.1	4.1
LnGrp LOS	D		C	D		C	D	A	A	F	A	A
Approach Vol, veh/h		103			29			1526			1003	
Approach Delay, s/veh		35.3			35.1			5.9			4.4	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	62.3		9.6	5.6	61.0		9.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	1.0	58.0		16.0	5.0	57.0		16.0				
Max Q Clear Time (g_c+1), s	1.0	14.7		5.7	3.0	9.4		5.0				
Green Ext Time (p_c), s	0.0	24.8		0.3	0.0	26.1		0.3				

Intersection Summary		
HCM 2010 Ctrl Delay		6.8
HCM 2010 LOS		A

HCM 2010 Signalized Intersection Summary
 1: Bear Valley Parkway & San Pasqual Valley Rd (SR 78)

Existing + CP AM
 3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	18	371	139	176	525	89	115	373	112	90	711	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	395	148	207	618	105	126	410	123	105	827	21
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	960	430	237	1116	189	345	765	227	158	963	24
Arrive On Green	0.04	0.27	0.27	0.13	0.37	0.37	0.10	0.28	0.28	0.09	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	1774	3028	514	3442	2692	799	1774	3527	90
Grp Volume(v), veh/h	19	395	148	207	361	362	126	268	265	105	415	433
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1772	1721	1770	1722	1774	1770	1847
Q Serve(g_s), s	1.1	9.8	8.1	12.3	17.3	17.4	3.7	13.7	14.0	6.1	23.9	23.9
Cycle Q Clear(g_c), s	1.1	9.8	8.1	12.3	17.3	17.4	3.7	13.7	14.0	6.1	23.9	23.9
Prop In Lane	1.00		1.00	1.00		0.29	1.00		0.46	1.00		0.05
Lane Grp Cap(c), veh/h	64	960	430	237	652	653	345	503	489	158	483	505
V/C Ratio(X)	0.30	0.41	0.34	0.87	0.55	0.55	0.37	0.53	0.54	0.66	0.86	0.86
Avail Cap(c_a), veh/h	149	960	430	278	652	653	353	503	489	208	483	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	32.1	31.4	45.6	26.9	26.9	45.1	32.4	32.5	47.3	37.0	37.0
Incr Delay (d2), s/veh	0.9	1.3	2.2	20.6	3.4	3.4	0.2	4.0	4.3	1.9	17.7	17.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.9	3.8	7.4	9.0	9.1	1.8	7.3	7.2	3.1	14.0	14.5
LnGrp Delay(d),s/veh	51.3	33.4	33.6	66.1	30.2	30.3	45.3	36.4	36.7	49.2	54.7	54.1
LnGrp LOS	D	C	C	E	C	C	D	D	D	D	D	D
Approach Vol, veh/h		562			930			659			953	
Approach Delay, s/veh		34.0			38.2			38.2			53.8	
Approach LOS		C			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	35.8	15.9	36.0	9.1	46.2	14.8	37.2				
Change Period (Y+Rc), s	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7				
Max Green Setting (Gmax), s	* 17	29.1	* 11	29.3	* 9	36.9	* 13	27.7				
Max Q Clear Time (g_c+I1), s	14.3	11.8	5.7	25.9	3.1	19.4	8.1	16.0				
Green Ext Time (p_c), s	0.1	12.7	0.1	3.1	0.0	12.8	0.0	9.6				
Intersection Summary												
HCM 2010 Ctrl Delay			42.3									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	9	4	565	983	0
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	-	30	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	10	4	614	1068	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1691	1068	0
Stage 1	1068	-	-
Stage 2	623	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	103	269	653
Stage 1	330	-	-
Stage 2	535	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	102	269	653
Mov Cap-2 Maneuver	229	-	-
Stage 1	330	-	-
Stage 2	532	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	653	-	258	-	-
HCM Lane V/C Ratio	0.007	-	0.051	-	-
HCM Control Delay (s)	10.6	-	19.7	-	-
HCM Lane LOS	B	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 6.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	3	133	111	566	975	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	211	122	622	1083	19

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1949	1083	0
Stage 1	1083	-	-
Stage 2	866	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	71	264	644
Stage 1	325	-	-
Stage 2	412	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	58	264	644
Mov Cap-2 Maneuver	58	-	-
Stage 1	325	-	-
Stage 2	334	-	-

Approach	EB	NB	SB
HCM Control Delay, s	57.2	1.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	644	-	58	264	-	-
HCM Lane V/C Ratio	0.189	-	0.082	0.8	-	-
HCM Control Delay (s)	11.9	-	72.5	56.9	-	-
HCM Lane LOS	B	-	F	F	-	-
HCM 95th %tile Q(veh)	0.7	-	0.3	6.2	-	-

HCM 2010 Signalized Intersection Summary
4: Bear Valley Parkway & Sunset Drive

Existing + CP AM
3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	6	705	18	46	26	415	667	6	5	1134	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	16	7	820	29	73	41	446	717	6	5	1206	9
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	0
Peak Hour Factor	0.86	0.86	0.86	0.63	0.63	0.63	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	392	4	472	72	336	189	444	1071	910	9	1188	9
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.25	0.57	0.57	0.01	0.33	0.33
Sat Flow, veh/h	1273	13	1572	660	1122	630	1774	1863	1583	1774	3601	27
Grp Volume(v), veh/h	16	0	827	29	0	114	446	717	6	5	593	622
Grp Sat Flow(s),veh/h/ln	1273	0	1585	660	0	1752	1774	1863	1583	1774	1770	1858
Q Serve(g_s), s	1.0	0.0	30.0	0.0	0.0	4.9	25.0	26.6	0.2	0.3	33.0	33.0
Cycle Q Clear(g_c), s	5.8	0.0	30.0	30.0	0.0	4.9	25.0	26.6	0.2	0.3	33.0	33.0
Prop In Lane	1.00		0.99	1.00		0.36	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	392	0	476	72	0	525	444	1071	910	9	584	613
V/C Ratio(X)	0.04	0.00	1.74	0.40	0.00	0.22	1.01	0.67	0.01	0.54	1.01	1.02
Avail Cap(c_a), veh/h	392	0	476	72	0	525	444	1071	910	71	584	613
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	28.4	0.0	35.0	50.0	0.0	26.2	37.5	14.7	9.1	49.6	33.5	33.5
Incr Delay (d2), s/veh	0.0	0.0	341.2	3.6	0.0	0.2	44.1	3.3	0.0	41.8	41.0	40.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	58.2	0.9	0.0	2.4	17.6	14.5	0.1	0.2	22.7	23.7
LnGrp Delay(d),s/veh	28.4	0.0	376.2	53.6	0.0	26.4	81.7	18.0	9.1	91.4	74.5	73.7
LnGrp LOS	C		F	D		C	F	B	A	F	F	F
Approach Vol, veh/h		843			143			1169			1220	
Approach Delay, s/veh		369.6			31.9			42.3			74.1	
Approach LOS		F			C			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	61.5		34.0	29.0	37.0		34.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	54.0		30.0	25.0	33.0		30.0				
Max Q Clear Time (g_c+I1), s	2.3	28.6		32.0	27.0	35.0		32.0				
Green Ext Time (p_c), s	0.0	15.0		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			135.1									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary
 5: Bear Valley Parkway & Las Palmas Ave

Existing + CP AM
 3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	239	20	154	37	13	6	155	883	20	6	1503	355
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	351	29	226	67	24	11	209	1193	27	7	1689	399
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.68	0.68	0.68	0.55	0.55	0.55	0.74	0.74	0.74	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	42	328	167	278	128	195	2275	51	13	1548	352
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.11	0.64	0.64	0.01	0.54	0.54
Sat Flow, veh/h	1368	183	1428	1120	1210	555	1774	3538	80	1774	2866	651
Grp Volume(v), veh/h	351	0	255	67	0	35	209	597	623	7	1017	1071
Grp Sat Flow(s),veh/h/ln	1368	0	1611	1120	0	1765	1774	1770	1849	1774	1770	1748
Q Serve(g_s), s	21.4	0.0	14.5	5.8	0.0	1.6	11.0	18.2	18.2	0.4	54.0	54.0
Cycle Q Clear(g_c), s	23.0	0.0	14.5	20.3	0.0	1.6	11.0	18.2	18.2	0.4	54.0	54.0
Prop In Lane	1.00		0.89	1.00		0.31	1.00		0.04	1.00		0.37
Lane Grp Cap(c), veh/h	365	0	370	167	0	406	195	1138	1189	13	956	944
V/C Ratio(X)	0.96	0.00	0.69	0.40	0.00	0.09	1.07	0.52	0.52	0.56	1.06	1.13
Avail Cap(c_a), veh/h	365	0	370	167	0	406	195	1138	1189	71	956	944
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	41.0	0.0	35.2	44.5	0.0	30.2	44.5	9.6	9.6	49.5	23.0	23.0
Incr Delay (d2), s/veh	36.8	0.0	5.3	1.5	0.0	0.1	84.5	1.7	1.7	33.5	47.9	73.7
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	13.4	0.0	7.0	1.9	0.0	0.8	9.9	9.3	9.7	0.3	38.7	45.0
LnGrp Delay(d),s/veh	77.8	0.0	40.5	46.0	0.0	30.3	129.0	11.3	11.3	83.0	70.9	96.7
LnGrp LOS	E		D	D		C	F	B	B	F	F	F
Approach Vol, veh/h		606			102			1429			2095	
Approach Delay, s/veh		62.1			40.7			28.5			84.1	
Approach LOS		E			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	68.3		27.0	15.0	58.0		27.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	61.0		23.0	11.0	54.0		23.0				
Max Q Clear Time (g_c+I1), s	2.4	20.2		25.0	13.0	56.0		22.3				
Green Ext Time (p_c), s	0.0	34.6		0.0	0.0	0.0		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			61.2									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary
 1: Bear Valley Parkway & San Pasqual Valley Rd (SR 78)

Existing + CP PM
 3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	27	515	117	126	463	69	116	820	241	67	484	29
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	29	548	124	148	545	81	127	901	265	78	563	34
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1051	470	178	1078	160	349	791	232	151	938	57
Arrive On Green	0.05	0.30	0.30	0.10	0.35	0.35	0.10	0.29	0.29	0.08	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3093	458	3442	2700	793	1774	3392	205
Grp Volume(v), veh/h	29	548	124	148	311	315	127	590	576	78	293	304
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1782	1721	1770	1723	1774	1770	1827
Q Serve(g_s), s	1.7	13.6	6.3	8.7	14.7	14.8	3.6	31.0	31.0	4.5	15.2	15.3
Cycle Q Clear(g_c), s	1.7	13.6	6.3	8.7	14.7	14.8	3.6	31.0	31.0	4.5	15.2	15.3
Prop In Lane	1.00		1.00	1.00		0.26	1.00		0.46	1.00		0.11
Lane Grp Cap(c), veh/h	87	1051	470	178	617	621	349	519	505	151	490	505
V/C Ratio(X)	0.34	0.52	0.26	0.83	0.50	0.51	0.36	1.14	1.14	0.52	0.60	0.60
Avail Cap(c_a), veh/h	151	1051	470	281	617	621	357	519	505	211	490	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	31.0	28.4	46.8	27.3	27.3	44.4	37.4	37.4	46.4	33.2	33.2
Incr Delay (d2), s/veh	0.8	1.9	1.4	5.9	2.9	2.9	0.2	83.1	84.8	1.0	5.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.9	2.9	4.5	7.7	7.8	1.7	27.1	26.6	2.2	8.1	8.4
LnGrp Delay(d),s/veh	49.5	32.8	29.8	52.7	30.2	30.3	44.6	120.5	122.2	47.4	38.5	38.4
LnGrp LOS	D	C	C	D	C	C	D	F	F	D	D	D
Approach Vol, veh/h		701			774			1293			675	
Approach Delay, s/veh		33.0			34.5			113.8			39.5	
Approach LOS		C			C			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	38.1	15.9	36.0	10.4	43.6	14.2	37.7				
Change Period (Y+Rc), s	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7				
Max Green Setting (Gmax), s	* 17	29.1	* 11	29.3	* 9	36.9	* 13	27.7				
Max Q Clear Time (g_c+I1), s	10.7	15.6	5.6	17.3	3.7	16.8	6.5	33.0				
Green Ext Time (p_c), s	0.1	10.5	0.1	11.0	0.0	14.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			65.0									
HCM 2010 LOS			E									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	2	4	7	1168	715	2
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	-	30	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	4	8	1270	777	2

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2063	778	779
Stage 1	778	-	-
Stage 2	1285	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	60	396	838
Stage 1	453	-	-
Stage 2	260	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	59	396	838
Mov Cap-2 Maneuver	175	-	-
Stage 1	453	-	-
Stage 2	258	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	838	-	279	-	-
HCM Lane V/C Ratio	0.009	-	0.023	-	-
HCM Control Delay (s)	9.3	-	18.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	6	47	91	1169	711	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	75	100	1285	790	9

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2275	790	790
Stage 1	790	-	-
Stage 2	1485	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	44	390	830
Stage 1	447	-	-
Stage 2	207	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	39	390	830
Mov Cap-2 Maneuver	39	-	-
Stage 1	447	-	-
Stage 2	182	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.7	0.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	830	-	39	390	-	-
HCM Lane V/C Ratio	0.12	-	0.244	0.191	-	-
HCM Control Delay (s)	9.9	-	124.9	16.4	-	-
HCM Lane LOS	A	-	F	C	-	-
HCM 95th %tile Q(veh)	0.4	-	0.8	0.7	-	-

HCM 2010 Signalized Intersection Summary
 4: Bear Valley Parkway & Sunset Drive

Existing + CP PM
 3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	14	35	292	6	33	27	203	1221	6	6	749	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	16	41	340	10	52	43	218	1313	6	6	797	14
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	0
Peak Hour Factor	0.86	0.86	0.86	0.63	0.63	0.63	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	29	238	75	156	129	255	1311	1115	11	2016	35
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.14	0.70	0.70	0.01	0.57	0.57
Sat Flow, veh/h	1295	173	1436	998	944	781	1774	1863	1583	1774	3559	63
Grp Volume(v), veh/h	16	0	381	10	0	95	218	1313	6	6	396	415
Grp Sat Flow(s),veh/h/ln	1295	0	1609	998	0	1725	1774	1863	1583	1774	1770	1852
Q Serve(g_s), s	1.1	0.0	16.0	0.0	0.0	4.7	11.6	68.0	0.1	0.3	12.1	12.1
Cycle Q Clear(g_c), s	5.8	0.0	16.0	16.0	0.0	4.7	11.6	68.0	0.1	0.3	12.1	12.1
Prop In Lane	1.00		0.89	1.00		0.45	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	226	0	267	75	0	286	255	1311	1115	11	1002	1049
V/C Ratio(X)	0.07	0.00	1.43	0.13	0.00	0.33	0.86	1.00	0.01	0.55	0.40	0.40
Avail Cap(c_a), veh/h	226	0	267	75	0	286	386	1311	1115	73	1002	1049
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	38.1	0.0	40.3	48.3	0.0	35.6	40.4	14.3	4.2	47.9	11.7	11.7
Incr Delay (d2), s/veh	0.1	0.0	213.5	0.8	0.0	0.7	11.3	25.2	0.0	36.7	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	22.8	0.3	0.0	2.3	6.5	43.4	0.0	0.3	6.2	6.4
LnGrp Delay(d),s/veh	38.3	0.0	253.8	49.1	0.0	36.3	51.7	39.5	4.3	84.6	12.9	12.8
LnGrp LOS	D		F	D		D	D	F	A	F	B	B
Approach Vol, veh/h		397			105			1537			817	
Approach Delay, s/veh		245.1			37.5			41.1			13.4	
Approach LOS		F			D			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	72.0		20.0	17.9	58.7		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	68.0		16.0	21.0	51.0		16.0				
Max Q Clear Time (g_c+I1), s	2.3	70.0		18.0	13.6	14.1		18.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.3	24.5		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			61.4									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary
5: Bear Valley Parkway & Las Palmas Ave

Existing + CP PM
3/18/2014

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	54	5	25	20	0	2	23	1375	32	6	957	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	79	7	37	36	0	4	31	1858	43	7	1075	60
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.68	0.68	0.68	0.55	0.55	0.55	0.74	0.74	0.74	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	22	116	171	0	135	44	2682	62	13	2525	141
Arrive On Green	0.09	0.09	0.09	0.09	0.00	0.09	0.02	0.76	0.76	0.01	0.74	0.74
Sat Flow, veh/h	1407	258	1364	1357	0	1583	1774	3536	82	1774	3409	190
Grp Volume(v), veh/h	79	0	44	36	0	4	31	926	975	7	558	577
Grp Sat Flow(s),veh/h/ln	1407	0	1622	1357	0	1583	1774	1770	1848	1774	1770	1829
Q Serve(g_s), s	4.4	0.0	2.1	2.1	0.0	0.2	1.4	21.4	21.7	0.3	9.6	9.6
Cycle Q Clear(g_c), s	4.6	0.0	2.1	4.1	0.0	0.2	1.4	21.4	21.7	0.3	9.6	9.6
Prop In Lane	1.00		0.84	1.00		1.00	1.00		0.04	1.00		0.10
Lane Grp Cap(c), veh/h	206	0	138	171	0	135	44	1342	1402	13	1311	1355
V/C Ratio(X)	0.38	0.00	0.32	0.21	0.00	0.03	0.70	0.69	0.70	0.55	0.43	0.43
Avail Cap(c_a), veh/h	488	0	464	443	0	453	243	1342	1402	88	1311	1355
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	35.8	0.0	34.6	36.5	0.0	33.7	38.9	4.9	5.0	39.8	4.0	4.0
Incr Delay (d2), s/veh	1.2	0.0	1.3	0.6	0.0	0.1	18.4	2.9	2.9	31.9	1.0	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	1.8	0.0	1.0	0.8	0.0	0.1	0.9	11.1	11.9	0.3	5.0	5.2
LnGrp Delay(d),s/veh	37.0	0.0	35.9	37.1	0.0	33.8	57.3	7.9	7.8	71.7	5.0	4.9
LnGrp LOS	D		D	D		C	E	A	A	E	A	A
Approach Vol, veh/h		123			40			1932			1142	
Approach Delay, s/veh		36.6			36.8			8.6			5.4	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	65.0		10.9	6.0	63.6		10.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	61.0		23.0	11.0	54.0		23.0				
Max Q Clear Time (g_c+I1), s	2.3	23.7		6.6	3.4	11.6		6.1				
Green Ext Time (p_c), s	0.0	29.3		0.5	0.0	32.4		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	18	371	142	176	525	89	117	375	113	90	712	18
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	395	151	207	618	105	129	412	124	105	828	21
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	960	429	237	1116	189	345	765	228	158	963	24
Arrive On Green	0.04	0.27	0.27	0.13	0.37	0.37	0.10	0.28	0.28	0.09	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	1774	3028	514	3442	2690	801	1774	3527	89
Grp Volume(v), veh/h	19	395	151	207	361	362	129	270	266	105	415	434
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1772	1721	1770	1721	1774	1770	1847
Q Serve(g_s), s	1.1	9.8	8.2	12.3	17.3	17.4	3.8	13.8	14.1	6.1	23.9	23.9
Cycle Q Clear(g_c), s	1.1	9.8	8.2	12.3	17.3	17.4	3.8	13.8	14.1	6.1	23.9	23.9
Prop In Lane	1.00		1.00	1.00		0.29	1.00		0.47	1.00		0.05
Lane Grp Cap(c), veh/h	64	960	429	237	652	653	345	503	489	158	483	504
V/C Ratio(X)	0.30	0.41	0.35	0.87	0.55	0.55	0.37	0.54	0.54	0.66	0.86	0.86
Avail Cap(c_a), veh/h	149	960	429	278	652	653	353	503	489	208	483	504
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	32.1	31.5	45.6	26.9	26.9	45.1	32.4	32.5	47.3	37.0	37.0
Incr Delay (d2), s/veh	0.9	1.3	2.3	20.6	3.4	3.4	0.2	4.1	4.3	1.9	17.8	17.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.6	4.9	3.9	7.4	9.0	9.1	1.8	7.3	7.2	3.1	14.0	14.6
LnGrp Delay(d),s/veh	51.3	33.4	33.7	66.2	30.2	30.3	45.4	36.5	36.8	49.3	54.8	54.2
LnGrp LOS	D	C	C	E	C	C	D	D	D	D	D	D
Approach Vol, veh/h		565			930			665			954	
Approach Delay, s/veh		34.1			38.2			38.3			53.9	
Approach LOS		C			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.5	35.8	16.0	36.0	9.1	46.2	14.8	37.2				
Change Period (Y+Rc), s	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7				
Max Green Setting (Gmax), s	* 17	29.1	* 11	29.3	* 9	36.9	* 13	27.7				
Max Q Clear Time (g_c+I1), s	14.3	11.8	5.8	25.9	3.1	19.4	8.1	16.1				
Green Ext Time (p_c), s	0.1	12.7	0.1	3.0	0.0	12.8	0.0	9.6				
Intersection Summary												
HCM 2010 Ctrl Delay			42.3									
HCM 2010 LOS			D									
Notes												
* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.												



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑	↕	↕	↕	↕
Volume (veh/h)	3	0	9	26	0	5	4	565	9	4	983	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	3	0	10	28	0	5	4	614	10	4	1068	0
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	0	57	323	0	10	365	1181	1004	652	1181	0
Arrive On Green	0.04	0.00	0.04	0.04	0.00	0.04	0.63	0.63	0.63	0.63	0.63	0.00
Sat Flow, veh/h	388	0	1295	1256	0	224	526	1863	1583	797	1863	0
Grp Volume(v), veh/h	13	0	0	33	0	0	4	614	10	4	1068	0
Grp Sat Flow(s),veh/h/ln	1863	0	0	1480	0	0	526	1863	1583	797	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.2	4.5	0.1	0.1	12.2	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	0.5	0.0	0.0	12.4	4.5	0.1	4.5	12.2	0.0
Prop In Lane	0.23		0.77	0.85		0.15	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	252	0	0	333	0	0	365	1181	1004	652	1181	0
V/C Ratio(X)	0.05	0.00	0.00	0.10	0.00	0.00	0.01	0.52	0.01	0.01	0.90	0.00
Avail Cap(c_a), veh/h	1176	0	0	1188	0	0	370	1200	1020	660	1200	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.4	0.0	0.0	11.6	0.0	0.0	9.2	2.5	1.7	3.7	3.9	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0	9.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.3	0.0	0.0	8.8	0.0
LnGrp Delay(d),s/veh	11.5	0.0	0.0	11.7	0.0	0.0	9.2	2.9	1.7	3.7	13.6	0.0
LnGrp LOS	B			B			A	A	A	A	B	
Approach Vol, veh/h		13			33			628			1072	
Approach Delay, s/veh		11.5			11.7			2.9			13.6	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.7		5.1		19.7		5.1				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		14.4		2.2		14.2		2.5				
Green Ext Time (p_c), s		1.4		0.1		1.5		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay				9.7								
HCM 2010 LOS				A								

Intersection

Int Delay, s/veh 7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	4	133	111	574	989	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	211	122	631	1099	32

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1974	1099	0
Stage 1	1099	-	-
Stage 2	875	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	68	258	635
Stage 1	319	-	-
Stage 2	408	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	55	258	635
Mov Cap-2 Maneuver	55	-	-
Stage 1	319	-	-
Stage 2	330	-	-

Approach	EB	NB	SB
HCM Control Delay, s	61.1	1.9	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	635	-	55	258	-	-
HCM Lane V/C Ratio	0.192	-	0.115	0.818	-	-
HCM Control Delay (s)	12	-	78.8	60.6	-	-
HCM Lane LOS	B	-	F	F	-	-
HCM 95th %tile Q(veh)	0.7	-	0.4	6.4	-	-

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	18	6	705	18	46	26	415	671	6	5	1145	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	21	7	820	29	73	41	446	722	6	5	1218	12
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	0
Peak Hour Factor	0.86	0.86	0.86	0.63	0.63	0.63	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	392	4	472	72	336	189	444	1071	910	9	1185	12
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.25	0.57	0.57	0.01	0.33	0.33
Sat Flow, veh/h	1273	13	1572	660	1122	630	1774	1863	1583	1774	3591	35
Grp Volume(v), veh/h	21	0	827	29	0	114	446	722	6	5	600	630
Grp Sat Flow(s),veh/h/ln	1273	0	1585	660	0	1752	1774	1863	1583	1774	1770	1857
Q Serve(g_s), s	1.3	0.0	30.0	0.0	0.0	4.9	25.0	26.9	0.2	0.3	33.0	33.0
Cycle Q Clear(g_c), s	6.1	0.0	30.0	30.0	0.0	4.9	25.0	26.9	0.2	0.3	33.0	33.0
Prop In Lane	1.00		0.99	1.00		0.36	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	392	0	476	72	0	525	444	1071	910	9	584	613
V/C Ratio(X)	0.05	0.00	1.74	0.40	0.00	0.22	1.01	0.67	0.01	0.54	1.03	1.03
Avail Cap(c_a), veh/h	392	0	476	72	0	525	444	1071	910	71	584	613
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	28.5	0.0	35.0	50.0	0.0	26.2	37.5	14.8	9.1	49.6	33.5	33.5
Incr Delay (d2), s/veh	0.1	0.0	341.2	3.6	0.0	0.2	44.1	3.4	0.0	41.8	44.5	43.7
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(-26165%),veh/ln	0.4	0.0	58.2	0.9	0.0	2.4	17.6	14.6	0.1	0.2	23.3	24.3
LnGrp Delay(d),s/veh	28.6	0.0	376.2	53.6	0.0	26.4	81.7	18.2	9.1	91.4	78.0	77.2
LnGrp LOS	C		F	D		C	F	B	A	F	F	F
Approach Vol, veh/h		848			143			1174			1235	
Approach Delay, s/veh		367.6			31.9			42.2			77.7	
Approach LOS		F			C			D			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	61.5		34.0	29.0	37.0		34.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	54.0		30.0	25.0	33.0		30.0				
Max Q Clear Time (g_c+I1), s	2.3	28.9		32.0	27.0	35.0		32.0				
Green Ext Time (p_c), s	0.0	15.1		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			135.8									
HCM 2010 LOS			F									



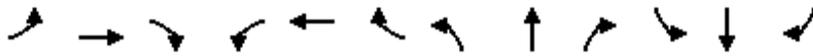
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	240	20	154	37	13	6	155	886	20	6	1512	357
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	353	29	226	67	24	11	209	1197	27	7	1699	401
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.68	0.68	0.68	0.55	0.55	0.55	0.74	0.74	0.74	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	42	328	167	278	128	195	2275	51	13	1548	351
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.11	0.64	0.64	0.01	0.54	0.54
Sat Flow, veh/h	1368	183	1428	1120	1210	555	1774	3538	80	1774	2867	651
Grp Volume(v), veh/h	353	0	255	67	0	35	209	598	626	7	1023	1077
Grp Sat Flow(s),veh/h/ln	1368	0	1611	1120	0	1765	1774	1770	1849	1774	1770	1748
Q Serve(g_s), s	21.4	0.0	14.5	5.8	0.0	1.6	11.0	18.2	18.3	0.4	54.0	54.0
Cycle Q Clear(g_c), s	23.0	0.0	14.5	20.3	0.0	1.6	11.0	18.2	18.3	0.4	54.0	54.0
Prop In Lane	1.00		0.89	1.00		0.31	1.00		0.04	1.00		0.37
Lane Grp Cap(c), veh/h	365	0	370	167	0	406	195	1138	1189	13	956	944
V/C Ratio(X)	0.97	0.00	0.69	0.40	0.00	0.09	1.07	0.53	0.53	0.56	1.07	1.14
Avail Cap(c_a), veh/h	365	0	370	167	0	406	195	1138	1189	71	956	944
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	41.1	0.0	35.2	44.5	0.0	30.2	44.5	9.6	9.6	49.5	23.0	23.0
Incr Delay (d2), s/veh	38.1	0.0	5.3	1.5	0.0	0.1	84.5	1.7	1.7	33.5	49.9	76.3
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(-26165%),veh/ln	0.0	0.0	7.0	1.9	0.0	0.8	9.9	9.4	9.8	0.3	39.3	45.7
LnGrp Delay(d),s/veh	79.2	0.0	40.5	46.0	0.0	30.3	129.0	11.4	11.3	83.0	72.9	99.3
LnGrp LOS	E		D	D		C	F	B	B	F	F	F
Approach Vol, veh/h		608			102			1433			2107	
Approach Delay, s/veh		63.0			40.7			28.5			86.4	
Approach LOS		E			D			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	68.3		27.0	15.0	58.0		27.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	61.0		23.0	11.0	54.0		23.0				
Max Q Clear Time (g_c+1), s	4.0	20.3		25.0	13.0	56.0		22.3				
Green Ext Time (p_c), s	0.0	34.7		0.0	0.0	0.0		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			62.4									
HCM 2010 LOS			E									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	27	515	125	127	463	69	117	821	241	67	486	29
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	29	548	133	149	545	81	129	902	265	78	565	34
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	0.94	0.94	0.94	0.85	0.85	0.85	0.91	0.91	0.91	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1049	469	179	1078	160	349	792	232	151	938	56
Arrive On Green	0.05	0.30	0.30	0.10	0.35	0.35	0.10	0.29	0.29	0.08	0.28	0.28
Sat Flow, veh/h	1774	3539	1583	1774	3093	458	3442	2701	792	1774	3393	204
Grp Volume(v), veh/h	29	548	133	149	311	315	129	590	577	78	294	305
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1782	1721	1770	1723	1774	1770	1827
Q Serve(g_s), s	1.7	13.7	6.8	8.7	14.7	14.8	3.7	31.1	31.1	4.5	15.3	15.3
Cycle Q Clear(g_c), s	1.7	13.7	6.8	8.7	14.7	14.8	3.7	31.1	31.1	4.5	15.3	15.3
Prop In Lane	1.00		1.00	1.00		0.26	1.00		0.46	1.00		0.11
Lane Grp Cap(c), veh/h	87	1049	469	179	616	621	349	519	505	151	490	505
V/C Ratio(X)	0.34	0.52	0.28	0.83	0.50	0.51	0.37	1.14	1.14	0.52	0.60	0.60
Avail Cap(c_a), veh/h	151	1049	469	281	616	621	357	519	505	211	490	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	31.0	28.6	46.7	27.3	27.3	44.4	37.4	37.4	46.4	33.2	33.3
Incr Delay (d2), s/veh	0.8	1.9	1.5	6.2	2.9	2.9	0.2	83.3	85.0	1.0	5.4	5.3
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(-26165%),veh/ln	0.8	7.0	3.2	4.6	7.7	7.8	1.8	27.1	26.7	2.2	8.2	8.4
LnGrp Delay(d),s/veh	49.6	32.9	30.1	53.0	30.2	30.3	44.7	120.7	122.5	47.4	38.6	38.5
LnGrp LOS	D	C	C	D	C	C	D	F	F	D	D	D
Approach Vol, veh/h		710			775			1296			677	
Approach Delay, s/veh		33.1			34.6			113.9			39.6	
Approach LOS		C			C			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.9	38.1	16.0	36.0	10.4	43.6	14.2	37.8				
Change Period (Y+Rc), s	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7	* 5.2	6.7				
Max Green Setting (Gmax), s	* 17	29.1	* 11	29.3	* 9	36.9	* 13	27.7				
Max Q Clear Time (g_c+I1), s	10.7	15.7	5.7	17.3	3.7	16.8	6.5	33.1				
Green Ext Time (p_c), s	0.1	10.5	0.1	11.0	0.0	14.7	0.0	0.0				

Intersection Summary		
HCM 2010 Ctrl Delay		65.0
HCM 2010 LOS		E

Notes

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↑	↗	↖	↖	↗
Volume (veh/h)	2	0	4	14	0	2	7	1168	27	12	715	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	0	4	15	0	2	8	1270	29	13	777	2
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	0	26	306	0	4	569	1212	1031	293	1209	3
Arrive On Green	0.02	0.00	0.02	0.02	0.00	0.02	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	555	0	1110	1301	0	173	690	1863	1583	423	1857	5
Grp Volume(v), veh/h	6	0	0	17	0	0	8	1270	29	13	0	779
Grp Sat Flow(s),veh/h/ln1665	0	0	0	1474	0	0	690	1863	1583	423	0	1862
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.0	0.2	16.0	0.2	0.0	0.0	6.2
Cycle Q Clear(g_c), s	0.1	0.0	0.0	0.3	0.0	0.0	6.3	16.0	0.2	16.0	0.0	6.2
Prop In Lane	0.33		0.67	0.88		0.12	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	235	0	0	311	0	0	569	1212	1031	293	0	1212
V/C Ratio(X)	0.03	0.00	0.00	0.05	0.00	0.00	0.01	1.05	0.03	0.04	0.00	0.64
Avail Cap(c_a), veh/h	1189	0	0	1205	0	0	569	1212	1031	293	0	1212
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	11.8	0.0	0.0	4.5	4.3	1.5	12.3	0.0	2.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	39.2	0.0	0.1	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	20.6	0.1	0.1	0.0	3.4
LnGrp Delay(d),s/veh	11.8	0.0	0.0	11.9	0.0	0.0	4.5	43.5	1.5	12.4	0.0	3.7
LnGrp LOS	B			B			A	F	A	B		A
Approach Vol, veh/h		6			17			1307			792	
Approach Delay, s/veh		11.8			11.9			42.3			3.9	
Approach LOS		B			B			D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.0		4.6		20.0		4.6				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		18.0		2.1		18.0		2.3				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				27.6								
HCM 2010 LOS				C								

Intersection

Int Delay, s/veh 1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	8	47	91	1194	719	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Stop
Storage Length	110	0	130	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	91	91	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	75	100	1312	799	16

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2311	799	0
Stage 1	799	-	-
Stage 2	1512	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	42	386	824
Stage 1	443	-	-
Stage 2	201	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	37	386	824
Mov Cap-2 Maneuver	37	-	-
Stage 1	443	-	-
Stage 2	177	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35.4	0.7	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	824	-	37	386	-	-
HCM Lane V/C Ratio	0.121	-	0.343	0.193	-	-
HCM Control Delay (s)	10	-	146.5	16.5	-	-
HCM Lane LOS	A	-	F	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.1	0.7	-	-

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	25	35	292	6	33	27	203	1235	6	6	755	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	29	41	340	10	52	43	218	1328	6	6	803	16
Adj No. of Lanes	1	1	0	1	1	0	1	1	1	1	2	0
Peak Hour Factor	0.86	0.86	0.86	0.63	0.63	0.63	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	29	238	75	156	129	255	1311	1115	11	2010	40
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.14	0.70	0.70	0.01	0.57	0.57
Sat Flow, veh/h	1295	173	1436	998	944	781	1774	1863	1583	1774	3549	71
Grp Volume(v), veh/h	29	0	381	10	0	95	218	1328	6	6	400	419
Grp Sat Flow(s),veh/h/ln	1295	0	1609	998	0	1725	1774	1863	1583	1774	1770	1850
Q Serve(g_s), s	2.0	0.0	16.0	0.0	0.0	4.7	11.6	68.0	0.1	0.3	12.2	12.2
Cycle Q Clear(g_c), s	6.7	0.0	16.0	16.0	0.0	4.7	11.6	68.0	0.1	0.3	12.2	12.2
Prop In Lane	1.00		0.89	1.00		0.45	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	226	0	267	75	0	286	255	1311	1115	11	1002	1048
V/C Ratio(X)	0.13	0.00	1.43	0.13	0.00	0.33	0.86	1.01	0.01	0.55	0.40	0.40
Avail Cap(c_a), veh/h	226	0	267	75	0	286	386	1311	1115	73	1002	1048
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	38.5	0.0	40.3	48.3	0.0	35.6	40.4	14.3	4.2	47.9	11.7	11.7
Incr Delay (d2), s/veh	0.3	0.0	213.5	0.8	0.0	0.7	11.3	28.0	0.0	36.7	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(-26165%),veh/ln	0.7	0.0	22.8	0.3	0.0	2.3	6.5	44.5	0.0	0.3	6.2	6.5
LnGrp Delay(d),s/veh	38.8	0.0	253.8	49.1	0.0	36.3	51.7	42.3	4.3	84.6	12.9	12.9
LnGrp LOS	D		F	D		D	D	F	A	F	B	B
Approach Vol, veh/h		410			105			1552			825	
Approach Delay, s/veh		238.6			37.5			43.5			13.4	
Approach LOS		F			D			D			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	72.0		20.0	17.9	58.7		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	68.0		16.0	21.0	51.0		16.0				
Max Q Clear Time (g_c+I1), s	2.3	70.0		18.0	13.6	14.2		18.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.3	24.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			62.4									
HCM 2010 LOS			E									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	56	5	25	20	0	2	23	1387	32	6	962	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	82	7	37	36	0	4	31	1874	43	7	1081	61
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.68	0.68	0.68	0.55	0.55	0.55	0.74	0.74	0.74	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	23	119	174	0	139	44	2676	61	13	2517	142
Arrive On Green	0.09	0.09	0.09	0.09	0.00	0.09	0.02	0.76	0.76	0.01	0.74	0.74
Sat Flow, veh/h	1407	258	1364	1357	0	1583	1774	3537	81	1774	3406	192
Grp Volume(v), veh/h	82	0	44	36	0	4	31	934	983	7	561	581
Grp Sat Flow(s),veh/h/ln	1407	0	1622	1357	0	1583	1774	1770	1848	1774	1770	1829
Q Serve(g_s), s	4.6	0.0	2.1	2.1	0.0	0.2	1.4	22.0	22.3	0.3	9.8	9.8
Cycle Q Clear(g_c), s	4.8	0.0	2.1	4.1	0.0	0.2	1.4	22.0	22.3	0.3	9.8	9.8
Prop In Lane	1.00		0.84	1.00		1.00	1.00		0.04	1.00		0.11
Lane Grp Cap(c), veh/h	209	0	142	174	0	139	44	1339	1398	13	1307	1351
V/C Ratio(X)	0.39	0.00	0.31	0.21	0.00	0.03	0.70	0.70	0.70	0.55	0.43	0.43
Avail Cap(c_a), veh/h	487	0	463	442	0	452	242	1339	1398	88	1307	1351
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	35.8	0.0	34.5	36.4	0.0	33.7	39.0	5.1	5.1	39.9	4.0	4.0
Incr Delay (d2), s/veh	1.2	0.0	1.2	0.6	0.0	0.1	18.4	3.0	3.0	31.9	1.0	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(-26165%),veh/ln	0.0	0.0	1.0	0.8	0.0	0.1	0.9	11.5	12.1	0.3	5.1	5.2
LnGrp Delay(d),s/veh	37.0	0.0	35.7	37.0	0.0	33.7	57.4	8.1	8.1	71.8	5.1	5.0
LnGrp LOS	D		D	D		C	E	A	A	E	A	A
Approach Vol, veh/h		126			40			1948			1149	
Approach Delay, s/veh		36.6			36.7			8.9			5.5	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	65.0		11.1	6.0	63.6		11.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	61.0		23.0	11.0	54.0		23.0				
Max Q Clear Time (g_c+1), s	4.0	24.3		6.8	3.4	11.8		6.1				
Green Ext Time (p_c), s	0.0	29.2		0.5	0.0	32.6		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				9.1								
HCM 2010 LOS				A								

APPENDIX C

CITY OF ESCONDIDO ROADWAY CLASSIFICATION TABLE

Table

CITY OF ESCONDIDO PROPOSED LEVEL OF SERVICE STANDARDS

STREET SEGMENT AVERAGE DAILY VEHICLE TRIP THRESHOLDS

Street Classification	Lanes	Cross Sections	Level of Service				
			A	B	C	D	E
Prime Arterial	(8lanes)	116/136 (NP)	23,800	37,800	51,800	62,300	70,000
	(6lanes)	106/126 (NP)	20,400	32,400	44,400	53,400	60,000
Major Road	(6lanes)	90/110 (NP)	17,000	27,000	37,000	44,500	50,000
	(4lanes)	82/102 (NP)	12,600	20,000	27,400	32,900	37,000
Collector	(4lanes)	64/84 (NP)	11,600	18,500	25,300	30,400	34,200
	(4lanes)	(WP)	6,800	10,800	14,800	17,800	20,000
Local Collector	(2lanes)	42/66 (NP)	5,100	8,100	11,100	13,400	15,000
		(WP)	3,400	5,400	7,400	8,900	10,000
Rural collector	(2lanes)						

(NP) No Parking
(WP) With Parking

The following V/C Ratios were utilized for determining Existing and Future Level of Service.

Level of Service	Volume/Capacity (V/C) Ratio
A-	Less than or Equal to 0.00 to 0.34
B-	Less than or Equal to 0.35 to 0.54
C-	Less than or Equal to 0.55 to 0.74
D-	Less than or Equal to 0.75 to 0.89
E-	Less than or Equal to 0.90 to 1.00

v/c 0.74

APPENDIX D

Post-Mitigation Analysis Worksheets

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Volume (veh/h)	4	133	111	574	989	29		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	6	211	122	631	1099	0		
Adj No. of Lanes	1	1	1	2	1	0		
Peak Hour Factor	0.63	0.63	0.91	0.91	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	274	244	148	2629	1132	0		
Arrive On Green	0.15	0.15	0.08	0.74	0.61	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	1863	0		
Grp Volume(v), veh/h	6	211	122	631	1099	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1863	0		
Q Serve(g_s), s	0.3	11.4	5.9	4.9	49.3	0.0		
Cycle Q Clear(g_c), s	0.3	11.4	5.9	4.9	49.3	0.0		
Prop In Lane	1.00	1.00	1.00			0.00		
Lane Grp Cap(c), veh/h	274	244	148	2629	1132	0		
V/C Ratio(X)	0.02	0.86	0.82	0.24	0.97	0.00		
Avail Cap(c_a), veh/h	327	292	148	2629	1132	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	31.4	36.1	39.4	3.5	16.4	0.0		
Incr Delay (d2), s/veh	0.0	20.0	29.7	0.2	20.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(-26165%),veh/ln	0.1	10.8	4.1	2.4	31.5	0.0		
LnGrp Delay(d),s/veh	31.4	56.1	69.1	3.7	37.0	0.0		
LnGrp LOS	C	E	E	A	D			
Approach Vol, veh/h	217			753	1099			
Approach Delay, s/veh	55.4			14.3	37.0			
Approach LOS	E			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		69.4		18.0	11.8	57.6		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		64.9		16.1	7.3	53.1		
Max Q Clear Time (g_c+I1), s		6.9		13.4	7.9	51.3		
Green Ext Time (p_c), s		19.9		0.2	0.0	1.5		
Intersection Summary								
HCM 2010 Ctrl Delay			30.7					
HCM 2010 LOS			C					

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Volume (veh/h)	8	47	91	1194	719	14		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900		
Adj Flow Rate, veh/h	13	75	100	1312	799	0		
Adj No. of Lanes	1	1	1	2	1	0		
Peak Hour Factor	0.63	0.63	0.91	0.91	0.90	0.90		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	112	100	128	2913	1293	0		
Arrive On Green	0.06	0.06	0.07	0.82	0.69	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	1863	0		
Grp Volume(v), veh/h	13	75	100	1312	799	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1863	0		
Q Serve(g_s), s	0.5	3.7	4.4	8.2	18.2	0.0		
Cycle Q Clear(g_c), s	0.5	3.7	4.4	8.2	18.2	0.0		
Prop In Lane	1.00	1.00	1.00			0.00		
Lane Grp Cap(c), veh/h	112	100	128	2913	1293	0		
V/C Ratio(X)	0.12	0.75	0.78	0.45	0.62	0.00		
Avail Cap(c_a), veh/h	359	321	191	2913	1293	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	34.9	36.4	36.0	2.0	6.5	0.0		
Incr Delay (d2), s/veh	0.5	10.8	11.4	0.5	2.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(-26165%),veh/ln	0.3	3.5	2.5	4.0	9.9	0.0		
LnGrp Delay(d),s/veh	35.4	47.2	47.4	2.5	8.7	0.0		
LnGrp LOS	D	D	D	A	A			
Approach Vol, veh/h	88			1412	799			
Approach Delay, s/veh	45.5			5.7	8.7			
Approach LOS	D			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		69.5		9.5	10.2	59.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		65.0		16.0	8.5	52.0		
Max Q Clear Time (g_c+I1), s		10.2		5.7	6.4	20.2		
Green Ext Time (p_c), s		24.0		0.1	0.0	18.5		
Intersection Summary								
HCM 2010 Ctrl Delay			8.2					
HCM 2010 LOS			A					