

APPENDIX A:

Existing Conditions Technical Calculations (March 2015)

All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-001 Francisco-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 1

Groups Printed- Unshifted

Start Time	Francisco Drive Southbound				Green Valley Road Westbound					Francisco Drive Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:30	4	28	30	62	5	109	2	4	120	25	8	0	33	6	29	25	60	275
06:45	5	41	49	95	9	106	10	4	129	40	18	1	59	12	31	41	84	367
Total	9	69	79	157	14	215	12	8	249	65	26	1	92	18	60	66	144	642
07:00	24	97	52	173	10	149	21	10	190	57	27	2	86	28	40	41	109	558
07:15	16	68	79	163	5	183	36	8	232	51	71	0	122	49	48	54	151	668
07:30	35	66	115	216	9	183	22	3	217	96	40	2	138	36	52	59	147	718
07:45	24	81	109	214	6	188	6	8	208	76	28	3	107	33	51	62	146	675
Total	99	312	355	766	30	703	85	29	847	280	166	7	453	146	191	216	553	2619
08:00	16	61	64	141	15	145	11	6	177	67	29	2	98	35	67	54	156	572
08:15	13	62	54	129	17	151	25	13	206	65	34	1	100	35	70	59	164	599
08:30	27	63	102	192	11	172	28	7	218	72	48	0	120	32	63	45	140	670
08:45	17	51	60	128	4	167	20	9	200	56	42	0	98	45	60	42	147	573
Total	73	237	280	590	47	635	84	35	801	260	153	3	416	147	260	200	607	2414
09:00	17	34	67	118	6	107	15	6	134	52	21	1	74	30	54	39	123	449
09:15	10	34	51	95	9	110	14	10	143	46	28	0	74	24	34	26	84	396
Total	27	68	118	213	15	217	29	16	277	98	49	1	148	54	88	65	207	845
15:30	27	38	60	125	19	86	16	15	136	50	56	3	109	77	137	61	275	645
15:45	21	47	54	122	20	101	19	14	154	69	42	3	114	84	147	77	308	698
Total	48	85	114	247	39	187	35	29	290	119	98	6	223	161	284	138	583	1343
16:00	20	37	39	96	17	102	15	17	151	50	59	2	111	85	165	72	322	680
16:15	28	42	36	106	20	91	11	23	145	59	72	0	131	82	141	68	291	673
16:30	35	40	49	124	15	79	18	14	126	79	68	5	152	104	172	79	355	757
16:45	31	53	56	140	17	112	22	16	167	99	58	4	161	96	173	73	342	810
Total	114	172	180	466	69	384	66	70	589	287	257	11	555	367	651	292	1310	2920
17:00	28	38	68	134	13	92	9	23	137	59	53	6	118	98	175	69	342	731
17:15	23	47	36	106	16	122	22	21	181	96	72	3	171	96	152	71	319	777

All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-001 Francisco-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 2

Groups Printed- Unshifted

Start Time	Francisco Drive Southbound				Green Valley Road Westbound					Francisco Drive Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
17:30	23	54	51	128	10	117	11	16	154	88	66	4	158	107	198	78	383	823
17:45	31	66	45	142	22	102	25	20	169	65	57	4	126	117	164	96	377	814
Total	105	205	200	510	61	433	67	80	641	308	248	17	573	418	689	314	1421	3145
18:00	39	42	40	121	12	69	26	15	122	45	49	3	97	110	203	72	385	725
18:15	27	38	27	92	15	56	17	9	97	44	68	4	116	95	150	56	301	606
Grand Total	541	1228	1393	3162	302	2899	421	291	3913	1506	1114	53	2673	1516	2576	1419	5511	15259
Apprch %	17.1	38.8	44.1		7.7	74.1	10.8	7.4		56.3	41.7	2		27.5	46.7	25.7		
Total %	3.5	8	9.1	20.7	2	19	2.8	1.9	25.6	9.9	7.3	0.3	17.5	9.9	16.9	9.3	36.1	

Start Time	Francisco Drive Southbound				Green Valley Road Westbound					Francisco Drive Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 to 09:15 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:15																		
07:15	16	68	79	163	5	183	36	8	232	51	71	0	122	49	48	54	151	668
07:30	35	66	115	216	9	183	22	3	217	96	40	2	138	36	52	59	147	718
07:45	24	81	109	214	6	188	6	8	208	76	28	3	107	33	51	62	146	675
08:00	16	61	64	141	15	145	11	6	177	67	29	2	98	35	67	54	156	572
Total Volume	91	276	367	734	35	699	75	25	834	290	168	7	465	153	218	229	600	2633
% App. Total	12.4	37.6	50		4.2	83.8	9	3		62.4	36.1	1.5		25.5	36.3	38.2		
PHF	.650	.852	.798	.850	.583	.930	.521	.781	.899	.755	.592	.583	.842	.781	.813	.923	.962	.917

All Traffic Data

(916) 771-8700

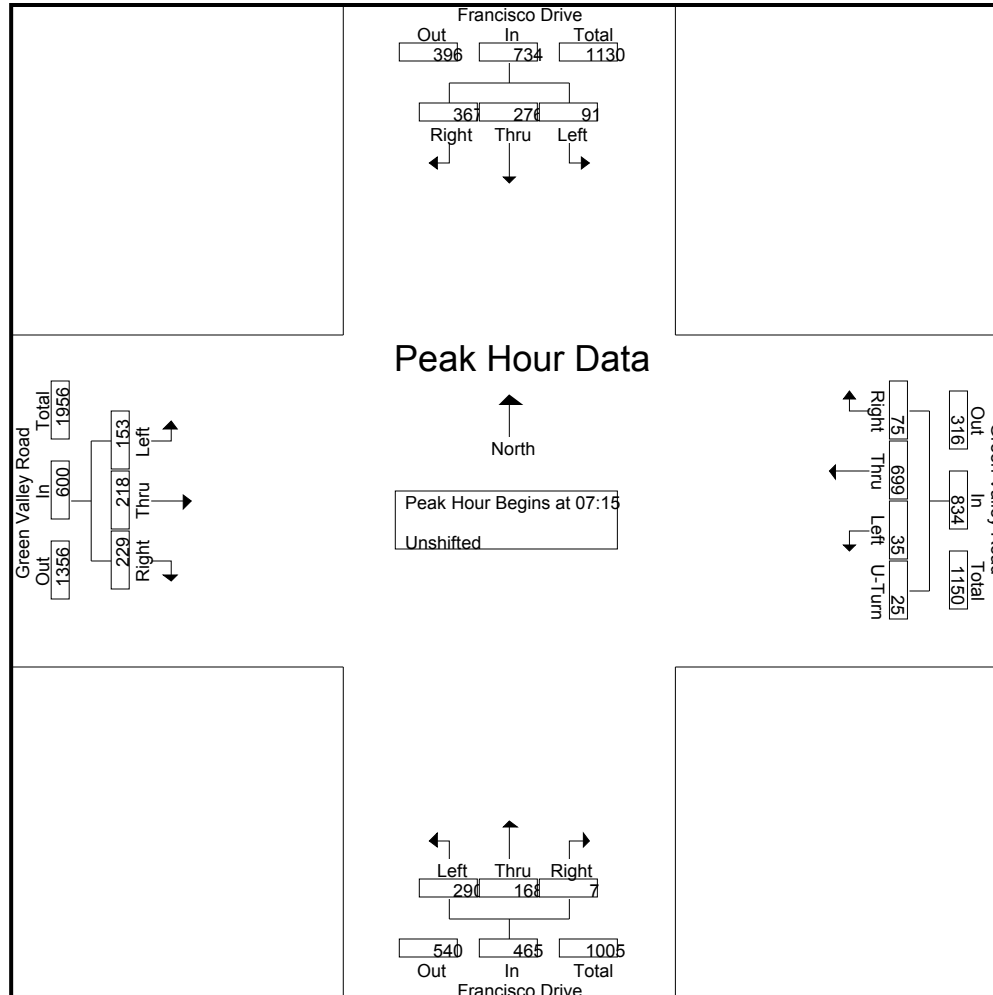
El Dorado County

File Name : 13-7063-001 Francisco-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-001 Francisco-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 4

Start Time	Francisco Drive Southbound				Green Valley Road Westbound					Francisco Drive Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 15:30 to 18:15 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 17:00																		
17:00	28	38	68	134	13	92	9	23	137	59	53	6	118	98	175	69	342	731
17:15	23	47	36	106	16	122	22	21	181	96	72	3	171	96	152	71	319	777
17:30	23	54	51	128	10	117	11	16	154	88	66	4	158	107	198	78	383	823
17:45	31	66	45	142	22	102	25	20	169	65	57	4	126	117	164	96	377	814
Total Volume	105	205	200	510	61	433	67	80	641	308	248	17	573	418	689	314	1421	3145
% App. Total	20.6	40.2	39.2		9.5	67.6	10.5	12.5		53.8	43.3	3		29.4	48.5	22.1		
PHF	.847	.777	.735	.898	.693	.887	.670	.870	.885	.802	.861	.708	.838	.893	.870	.818	.928	.955

All Traffic Data

(916) 771-8700

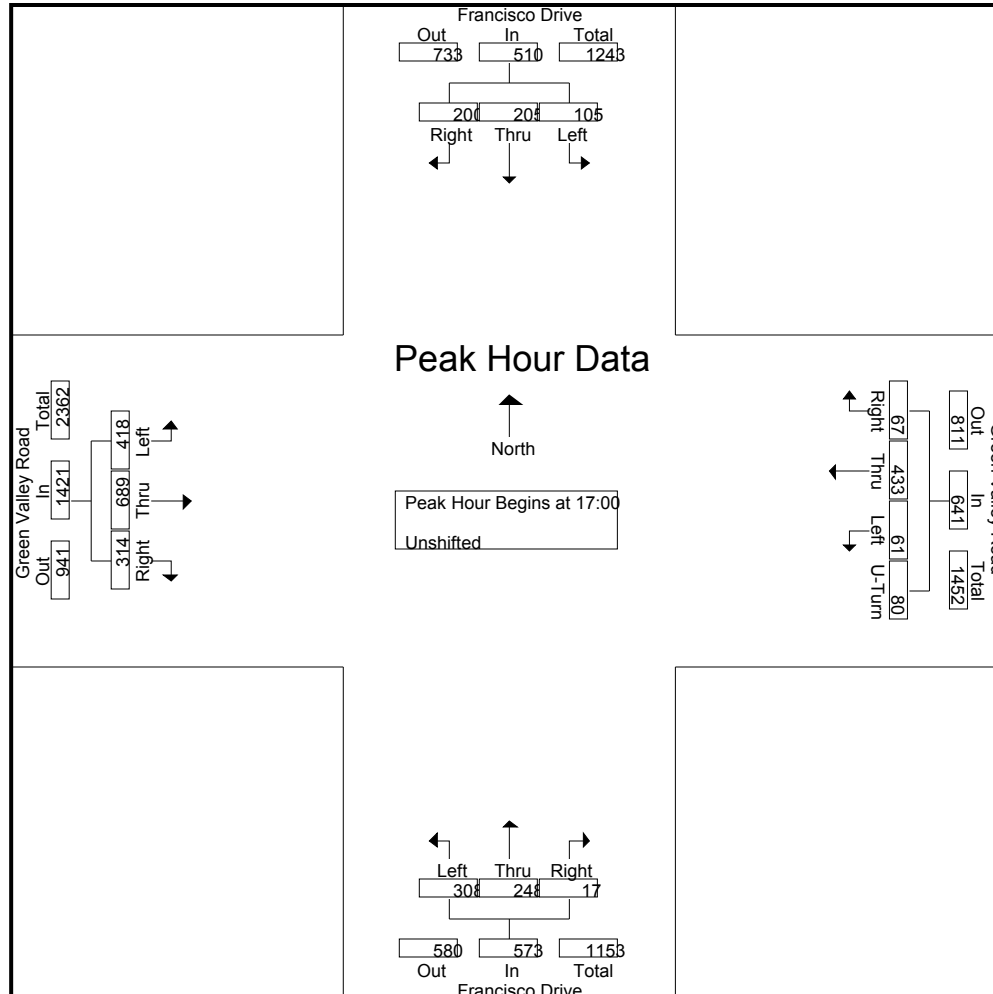
El Dorado County

File Name : 13-7063-001 Francisco-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 5



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-002 El Dorado Hills-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 1

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound				Green Valley Road Westbound				El Dorado Hills Blvd Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:30	3	31	20	54	10	106	1	117	4	5	1	10	3	35	0	38	219
06:45	10	48	24	82	9	123	4	136	2	5	3	10	1	36	2	39	267
Total	13	79	44	136	19	229	5	253	6	10	4	20	4	71	2	77	486
07:00	34	82	39	155	10	142	11	163	5	4	5	14	5	62	7	74	406
07:15	18	37	43	98	16	193	19	228	11	27	9	47	7	59	2	68	441
07:30	26	50	40	116	16	197	11	224	10	11	4	25	4	81	6	91	456
07:45	28	60	37	125	18	176	6	200	10	21	7	38	7	65	2	74	437
Total	106	229	159	494	60	708	47	815	36	63	25	124	23	267	17	307	1740
08:00	18	40	29	87	11	165	5	181	8	13	5	26	10	76	4	90	384
08:15	26	42	26	94	16	166	13	195	11	22	4	37	16	76	5	97	423
08:30	24	49	40	113	45	152	13	210	8	16	18	42	13	74	6	93	458
08:45	15	31	32	78	14	147	6	167	24	17	28	69	3	78	1	82	396
Total	83	162	127	372	86	630	37	753	51	68	55	174	42	304	16	362	1661
09:00	6	28	23	57	9	126	4	139	2	6	9	17	10	60	4	74	287
09:15	4	22	22	48	10	125	7	142	8	10	12	30	10	41	0	51	271
Total	10	50	45	105	19	251	11	281	10	16	21	47	20	101	4	125	558
15:30	18	23	25	66	9	100	15	124	11	28	12	51	20	145	11	176	417
15:45	18	25	14	57	9	117	12	138	14	43	11	68	21	155	7	183	446
Total	36	48	39	123	18	217	27	262	25	71	23	119	41	300	18	359	863
16:00	8	21	19	48	10	106	16	132	18	35	17	70	24	165	7	196	446
16:15	14	17	19	50	4	105	13	122	14	30	13	57	31	170	3	204	433
16:30	9	25	15	49	12	110	18	140	23	29	9	61	41	178	3	222	472
16:45	17	25	25	67	10	104	10	124	14	34	20	68	28	178	0	206	465
Total	48	88	78	214	36	425	57	518	69	128	59	256	124	691	13	828	1816
17:00	13	16	20	49	6	98	20	124	11	35	14	60	36	195	6	237	470
17:15	13	16	21	50	13	130	26	169	21	42	16	79	19	179	3	201	499

All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-002 El Dorado Hills-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 2

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound				Green Valley Road Westbound				El Dorado Hills Blvd Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
17:30	12	14	34	60	7	103	17	127	17	40	14	71	27	184	6	217	475
17:45	11	24	19	54	4	129	14	147	6	36	13	55	32	200	9	241	497
Total	49	70	94	213	30	460	77	567	55	153	57	265	114	758	24	896	1941
18:00	14	15	6	35	13	85	12	110	9	38	15	62	27	203	5	235	442
18:15	13	9	18	40	10	62	8	80	9	37	9	55	28	149	4	181	356
Grand Total	372	750	610	1732	291	3067	281	3639	270	584	268	1122	423	2844	103	3370	9863
Apprch %	21.5	43.3	35.2		8	84.3	7.7		24.1	52	23.9		12.6	84.4	3.1		
Total %	3.8	7.6	6.2	17.6	3	31.1	2.8	36.9	2.7	5.9	2.7	11.4	4.3	28.8	1	34.2	

Start Time	El Dorado Hills Blvd Southbound				Green Valley Road Westbound				El Dorado Hills Blvd Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 to 09:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	34	82	39	155	10	142	11	163	5	4	5	14	5	62	7	74	406
07:15	18	37	43	98	16	193	19	228	11	27	9	47	7	59	2	68	441
07:30	26	50	40	116	16	197	11	224	10	11	4	25	4	81	6	91	456
07:45	28	60	37	125	18	176	6	200	10	21	7	38	7	65	2	74	437
Total Volume	106	229	159	494	60	708	47	815	36	63	25	124	23	267	17	307	1740
% App. Total	21.5	46.4	32.2		7.4	86.9	5.8		29	50.8	20.2		7.5	87	5.5		
PHF	.779	.698	.924	.797	.833	.898	.618	.894	.818	.583	.694	.660	.821	.824	.607	.843	.954

All Traffic Data

(916) 771-8700

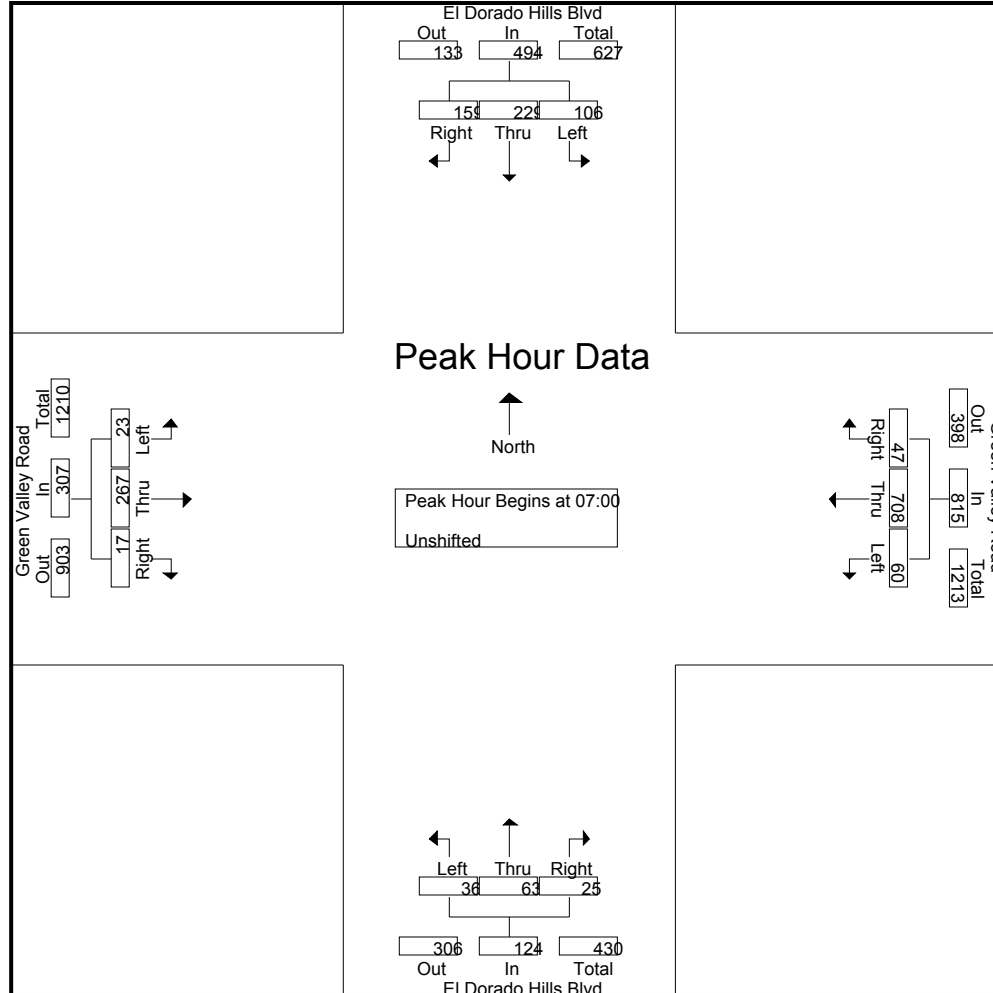
El Dorado County

File Name : 13-7063-002 El Dorado Hills-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-002 El Dorado Hills-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 4

Start Time	El Dorado Hills Blvd Southbound				Green Valley Road Westbound				El Dorado Hills Blvd Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 15:30 to 18:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	13	16	20	49	6	98	20	124	11	35	14	60	36	195	6	237	470
17:15	13	16	21	50	13	130	26	169	21	42	16	79	19	179	3	201	499
17:30	12	14	34	60	7	103	17	127	17	40	14	71	27	184	6	217	475
17:45	11	24	19	54	4	129	14	147	6	36	13	55	32	200	9	241	497
Total Volume	49	70	94	213	30	460	77	567	55	153	57	265	114	758	24	896	1941
% App. Total	23	32.9	44.1		5.3	81.1	13.6		20.8	57.7	21.5		12.7	84.6	2.7		
PHF	.942	.729	.691	.888	.577	.885	.740	.839	.655	.911	.891	.839	.792	.948	.667	.929	.972

All Traffic Data

(916) 771-8700

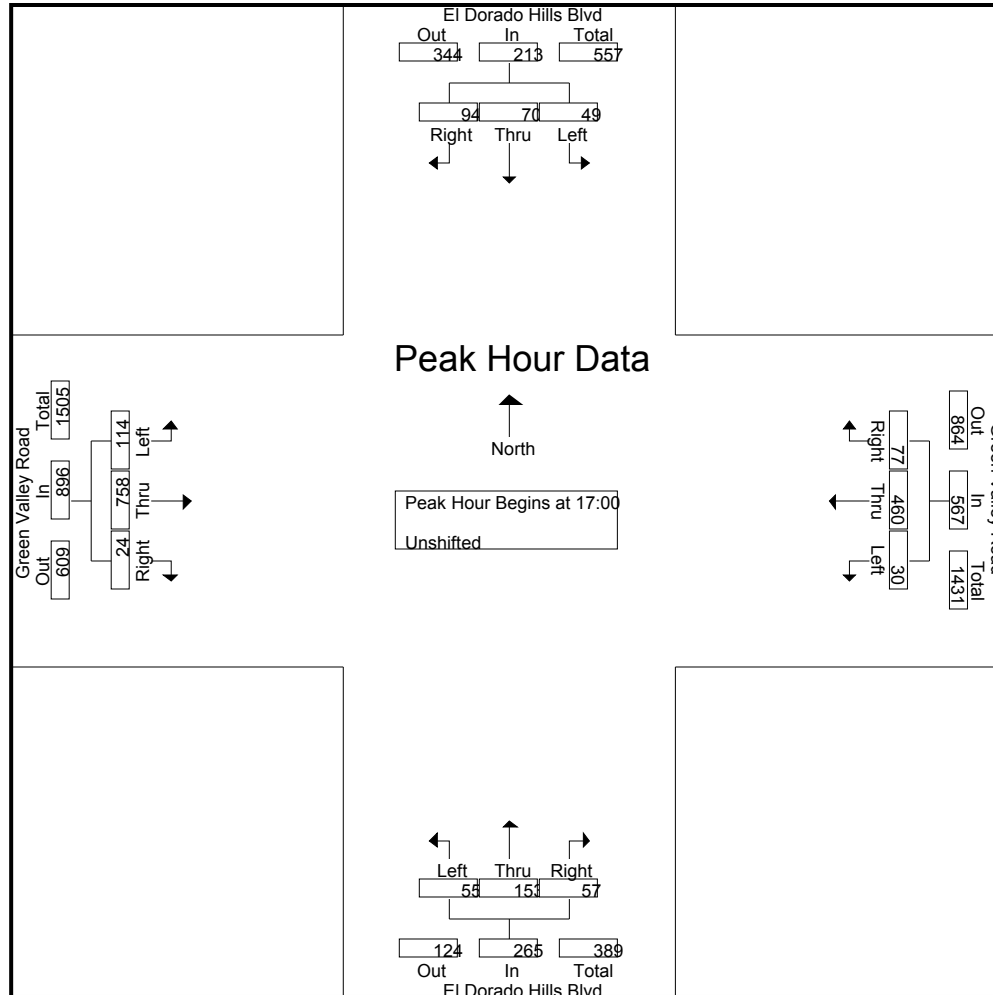
El Dorado County

File Name : 13-7063-002 El Dorado Hills-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 5



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-003 Silva Valley-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 1

Groups Printed- Unshifted

Start Time	Silva Valley Parkway Southbound				Green Valley Road Westbound				Silva Valley Parkway Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:30	0	3	0	3	11	87	0	98	28	0	3	31	0	24	14	38	170
06:45	0	1	0	1	30	94	0	124	43	1	7	51	0	18	30	48	224
Total	0	4	0	4	41	181	0	222	71	1	10	82	0	42	44	86	394
07:00	0	14	1	15	17	116	1	134	59	1	5	65	0	36	63	99	313
07:15	1	7	2	10	16	142	11	169	84	30	14	128	2	46	39	87	394
07:30	1	9	0	10	9	140	7	156	76	15	6	97	0	55	52	107	370
07:45	3	8	0	11	17	141	0	158	62	3	8	73	0	67	37	104	346
Total	5	38	3	46	59	539	19	617	281	49	33	363	2	204	191	397	1423
08:00	0	6	1	7	13	117	0	130	64	1	7	72	0	60	36	96	305
08:15	1	2	2	5	12	129	1	142	60	5	7	72	0	62	42	104	323
08:30	2	4	1	7	8	145	2	155	75	2	3	80	0	75	45	120	362
08:45	0	1	0	1	14	118	0	132	38	1	2	41	1	78	42	121	295
Total	3	13	4	20	47	509	3	559	237	9	19	265	1	275	165	441	1285
09:00	0	2	0	2	9	102	0	111	35	0	4	39	1	49	26	76	228
09:15	1	2	0	3	5	102	1	108	42	0	6	48	0	25	27	52	211
Total	1	4	0	5	14	204	1	219	77	0	10	87	1	74	53	128	439
15:30	0	1	0	1	4	68	0	72	57	4	14	75	3	140	47	190	338
15:45	1	3	0	4	4	73	0	77	63	2	9	74	1	132	49	182	337
Total	1	4	0	5	8	141	0	149	120	6	23	149	4	272	96	372	675
16:00	1	1	0	2	7	85	1	93	47	2	19	68	2	131	54	187	350
16:15	0	2	0	2	3	63	1	67	58	4	8	70	0	148	52	200	339
16:30	0	1	0	1	14	80	1	95	61	5	11	77	2	138	55	195	368
16:45	0	1	0	1	11	77	0	88	51	5	12	68	1	162	57	220	377
Total	1	5	0	6	35	305	3	343	217	16	50	283	5	579	218	802	1434
17:00	1	2	1	4	7	81	2	90	51	4	14	69	0	156	64	220	383
17:15	0	1	0	1	8	97	0	105	60	3	15	78	0	138	63	201	385

All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-003 Silva Valley-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 2

Groups Printed- Unshifted

Start Time	Silva Valley Parkway Southbound				Green Valley Road Westbound				Silva Valley Parkway Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
17:30	0	2	1	3	8	80	0	88	48	5	13	66	3	144	67	214	371
17:45	1	2	0	3	11	91	1	103	52	3	14	69	3	147	74	224	399
Total	2	7	2	11	34	349	3	386	211	15	56	282	6	585	268	859	1538
18:00	0	2	0	2	9	76	0	85	33	4	9	46	0	170	74	244	377
18:15	0	2	1	3	6	52	0	58	29	1	12	42	5	113	52	170	273
Grand Total	13	79	10	102	253	2356	29	2638	1276	101	222	1599	24	2314	1161	3499	7838
Apprch %	12.7	77.5	9.8		9.6	89.3	1.1		79.8	6.3	13.9		0.7	66.1	33.2		
Total %	0.2	1	0.1	1.3	3.2	30.1	0.4	33.7	16.3	1.3	2.8	20.4	0.3	29.5	14.8	44.6	

Start Time	Silva Valley Parkway Southbound				Green Valley Road Westbound				Silva Valley Parkway Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	0	14	1	15	17	116	1	134	59	1	5	65	0	36	63	99	313
07:15	1	7	2	10	16	142	11	169	84	30	14	128	2	46	39	87	394
07:30	1	9	0	10	9	140	7	156	76	15	6	97	0	55	52	107	370
07:45	3	8	0	11	17	141	0	158	62	3	8	73	0	67	37	104	346
Total Volume	5	38	3	46	59	539	19	617	281	49	33	363	2	204	191	397	1423
% App. Total	10.9	82.6	6.5		9.6	87.4	3.1		77.4	13.5	9.1		0.5	51.4	48.1		
PHF	.417	.679	.375	.767	.868	.949	.432	.913	.836	.408	.589	.709	.250	.761	.758	.928	.903

Peak Hour Analysis From 06:30 to 09:15 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00

All Traffic Data

(916) 771-8700

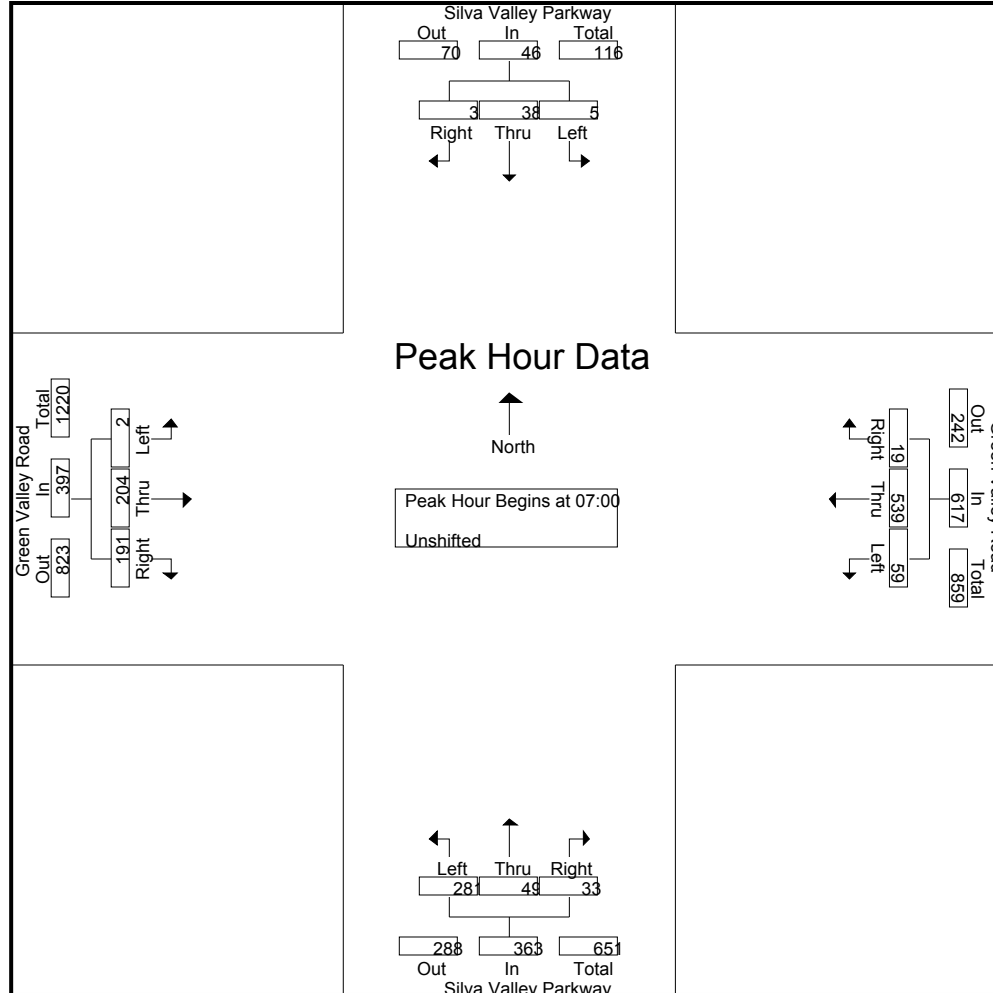
El Dorado County

File Name : 13-7063-003 Silva Valley-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-003 Silva Valley-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 4

Start Time	Silva Valley Parkway Southbound				Green Valley Road Westbound				Silva Valley Parkway Northbound				Green Valley Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 15:30 to 18:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	1	2	1	4	7	81	2	90	51	4	14	69	0	156	64	220	383
17:15	0	1	0	1	8	97	0	105	60	3	15	78	0	138	63	201	385
17:30	0	2	1	3	8	80	0	88	48	5	13	66	3	144	67	214	371
17:45	1	2	0	3	11	91	1	103	52	3	14	69	3	147	74	224	399
Total Volume	2	7	2	11	34	349	3	386	211	15	56	282	6	585	268	859	1538
% App. Total	18.2	63.6	18.2		8.8	90.4	0.8		74.8	5.3	19.9		0.7	68.1	31.2		
PHF	.500	.875	.500	.688	.773	.899	.375	.919	.879	.750	.933	.904	.500	.938	.905	.959	.964

All Traffic Data

(916) 771-8700

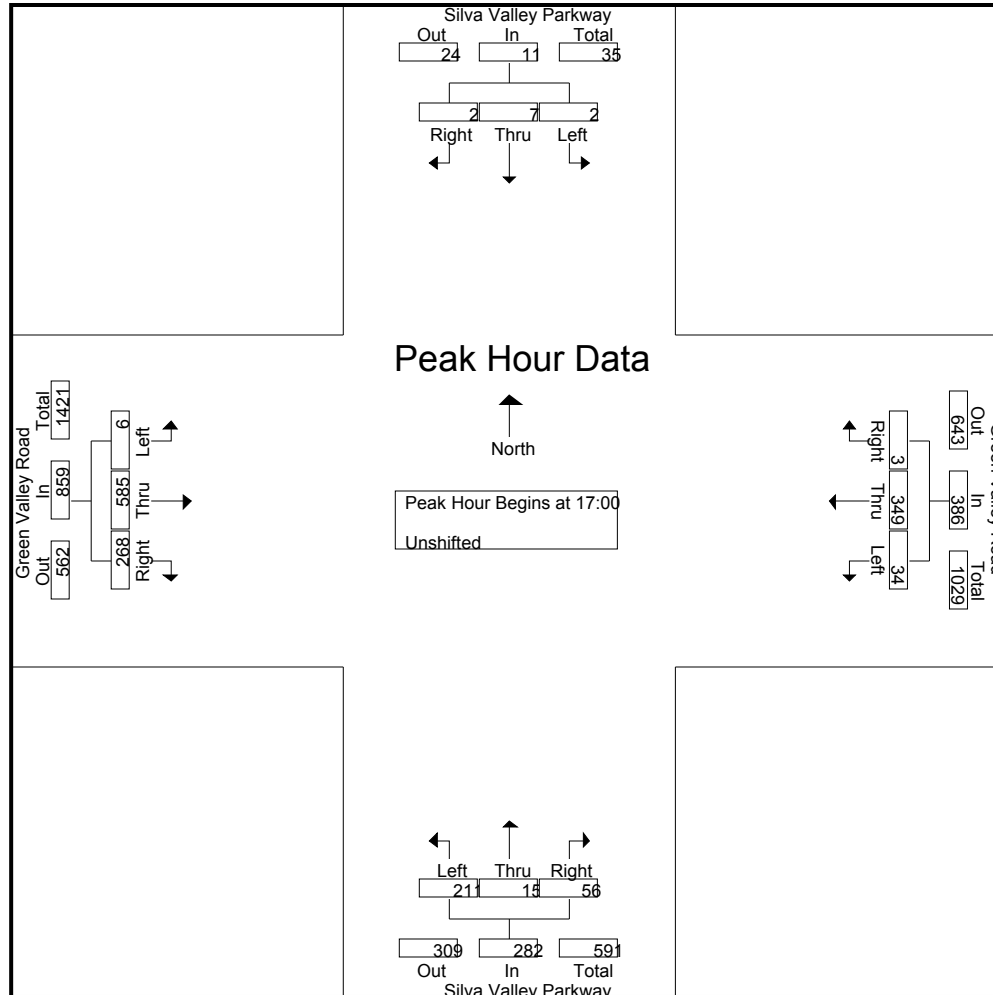
El Dorado County

File Name : 13-7063-003 Silva Valley-Green Valley

Site Code : 00000000

Start Date : 1/29/2013

Page No : 5



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-010 El Dorado Hills-Francisco

Site Code : 00000000

Start Date : 1/29/2013

Page No : 1

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound				Francisco Drive Westbound				El Dorado Hills Blvd Northbound				Francisco Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:30	1	47	0	48	4	3	1	8	28	8	2	38	0	0	54	54	148
06:45	4	66	0	70	1	3	2	6	51	8	1	60	0	1	83	84	220
Total	5	113	0	118	5	6	3	14	79	16	3	98	0	1	137	138	368
07:00	2	107	0	109	8	16	2	26	71	14	2	87	1	6	118	125	347
07:15	5	74	1	80	4	17	4	25	106	37	3	146	1	5	138	144	395
07:30	13	69	1	83	10	11	5	26	111	20	1	132	3	9	105	117	358
07:45	7	79	1	87	5	11	8	24	92	31	2	125	0	13	133	146	382
Total	27	329	3	359	27	55	19	101	380	102	8	490	5	33	494	532	1482
08:00	18	60	1	79	5	13	2	20	87	28	4	119	1	8	110	119	337
08:15	26	57	1	84	10	13	11	34	94	32	13	139	1	10	129	140	397
08:30	74	52	0	126	25	26	21	72	88	24	18	130	0	18	81	99	427
08:45	9	60	1	70	27	29	23	79	59	32	5	96	1	11	106	118	363
Total	127	229	3	359	67	81	57	205	328	116	40	484	3	47	426	476	1524
09:00	4	39	0	43	4	6	2	12	63	18	0	81	0	2	78	80	216
09:15	2	38	1	41	3	4	1	8	68	24	2	94	0	0	65	65	208
Total	6	77	1	84	7	10	3	20	131	42	2	175	0	2	143	145	424
15:30	4	40	0	44	3	11	3	17	86	45	5	136	1	11	99	111	308
15:45	6	41	0	47	3	10	7	20	92	70	7	169	0	9	118	127	363
Total	10	81	0	91	6	21	10	37	178	115	12	305	1	20	217	238	671
16:00	7	36	0	43	2	8	5	15	110	70	6	186	0	16	106	122	366
16:15	5	28	1	34	0	15	10	25	109	64	9	182	0	16	99	115	356
16:30	3	47	0	50	15	10	17	42	125	61	7	193	0	12	108	120	405
16:45	3	35	1	39	3	13	12	28	130	67	4	201	0	13	125	138	406
Total	18	146	2	166	20	46	44	110	474	262	26	762	0	57	438	495	1533
17:00	1	33	1	35	4	6	8	18	117	73	7	197	0	9	105	114	364
17:15	2	41	0	43	4	6	3	13	132	80	1	213	0	7	111	118	387

All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-010 El Dorado Hills-Francisco

Site Code : 00000000

Start Date : 1/29/2013

Page No : 2

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound				Francisco Drive Westbound				El Dorado Hills Blvd Northbound				Francisco Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
17:30	3	26	0	29	5	7	9	21	132	65	7	204	2	11	123	136	390
17:45	2	41	0	43	5	7	4	16	107	55	5	167	1	16	129	146	372
Total	8	141	1	150	18	26	24	68	488	273	20	781	3	43	468	514	1513
18:00	5	28	1	34	1	3	3	7	96	64	4	164	0	10	133	143	348
18:15	1	20	0	21	1	4	5	10	95	54	1	150	0	11	84	95	276
Grand Total	207	1164	11	1382	152	252	168	572	2249	1044	116	3409	12	224	2540	2776	8139
Apprch %	15	84.2	0.8		26.6	44.1	29.4		66	30.6	3.4		0.4	8.1	91.5		
Total %	2.5	14.3	0.1	17	1.9	3.1	2.1	7	27.6	12.8	1.4	41.9	0.1	2.8	31.2	34.1	

Start Time	El Dorado Hills Blvd Southbound				Francisco Drive Westbound				El Dorado Hills Blvd Northbound				Francisco Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:45	7	79	1	87	5	11	8	24	92	31	2	125	0	13	133	146	382
08:00	18	60	1	79	5	13	2	20	87	28	4	119	1	8	110	119	337
08:15	26	57	1	84	10	13	11	34	94	32	13	139	1	10	129	140	397
08:30	74	52	0	126	25	26	21	72	88	24	18	130	0	18	81	99	427
Total Volume	125	248	3	376	45	63	42	150	361	115	37	513	2	49	453	504	1543
% App. Total	33.2	66	0.8		30	42	28		70.4	22.4	7.2		0.4	9.7	89.9		
PHF	.422	.785	.750	.746	.450	.606	.500	.521	.960	.898	.514	.923	.500	.681	.852	.863	.903

Peak Hour Analysis From 06:30 to 09:15 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45

All Traffic Data

(916) 771-8700

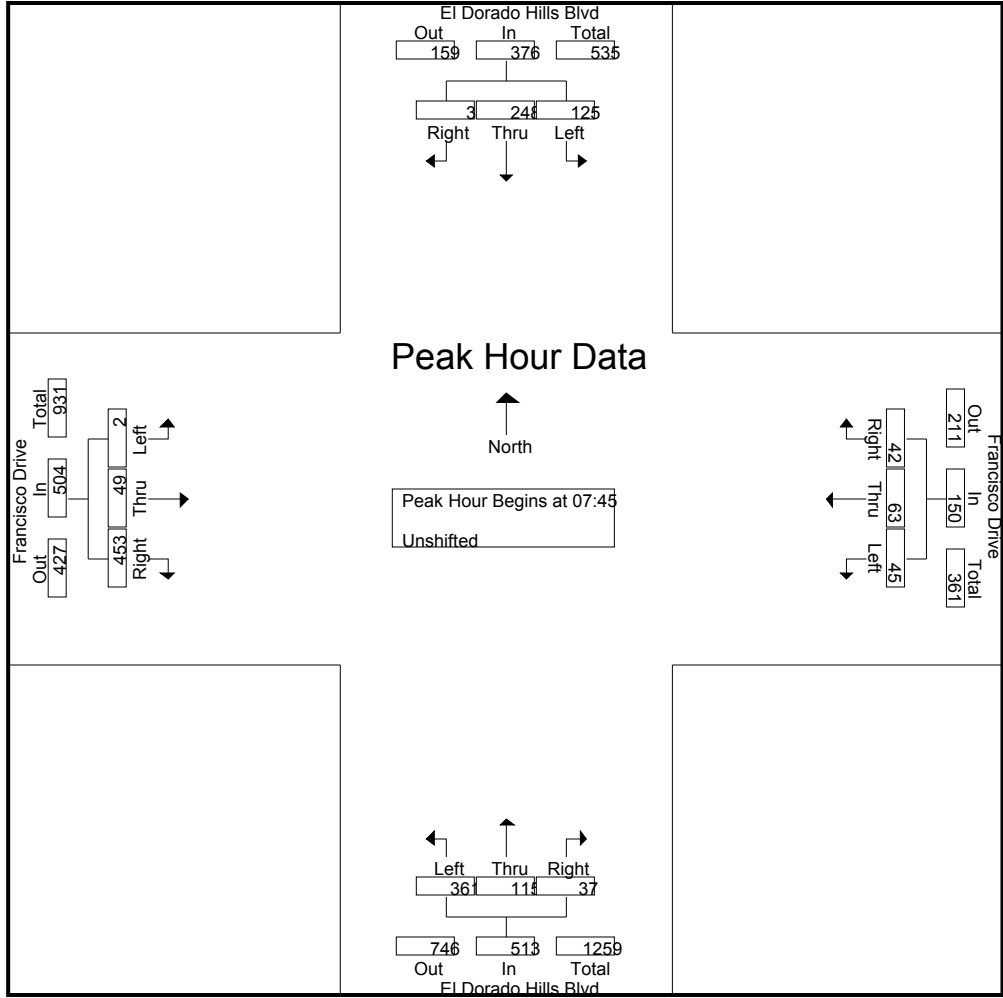
El Dorado County

File Name : 13-7063-010 El Dorado Hills-Francisco

Site Code : 00000000

Start Date : 1/29/2013

Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-010 El Dorado Hills-Francisco

Site Code : 00000000

Start Date : 1/29/2013

Page No : 4

Start Time	El Dorado Hills Blvd Southbound				Francisco Drive Westbound				El Dorado Hills Blvd Northbound				Francisco Drive Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 15:30 to 18:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	3	47	0	50	15	10	17	42	125	61	7	193	0	12	108	120	405
16:45	3	35	1	39	3	13	12	28	130	67	4	201	0	13	125	138	406
17:00	1	33	1	35	4	6	8	18	117	73	7	197	0	9	105	114	364
17:15	2	41	0	43	4	6	3	13	132	80	1	213	0	7	111	118	387
Total Volume	9	156	2	167	26	35	40	101	504	281	19	804	0	41	449	490	1562
% App. Total	5.4	93.4	1.2		25.7	34.7	39.6		62.7	35	2.4		0	8.4	91.6		
PHF	.750	.830	.500	.835	.433	.673	.588	.601	.955	.878	.679	.944	.000	.788	.898	.888	.962

All Traffic Data

(916) 771-8700

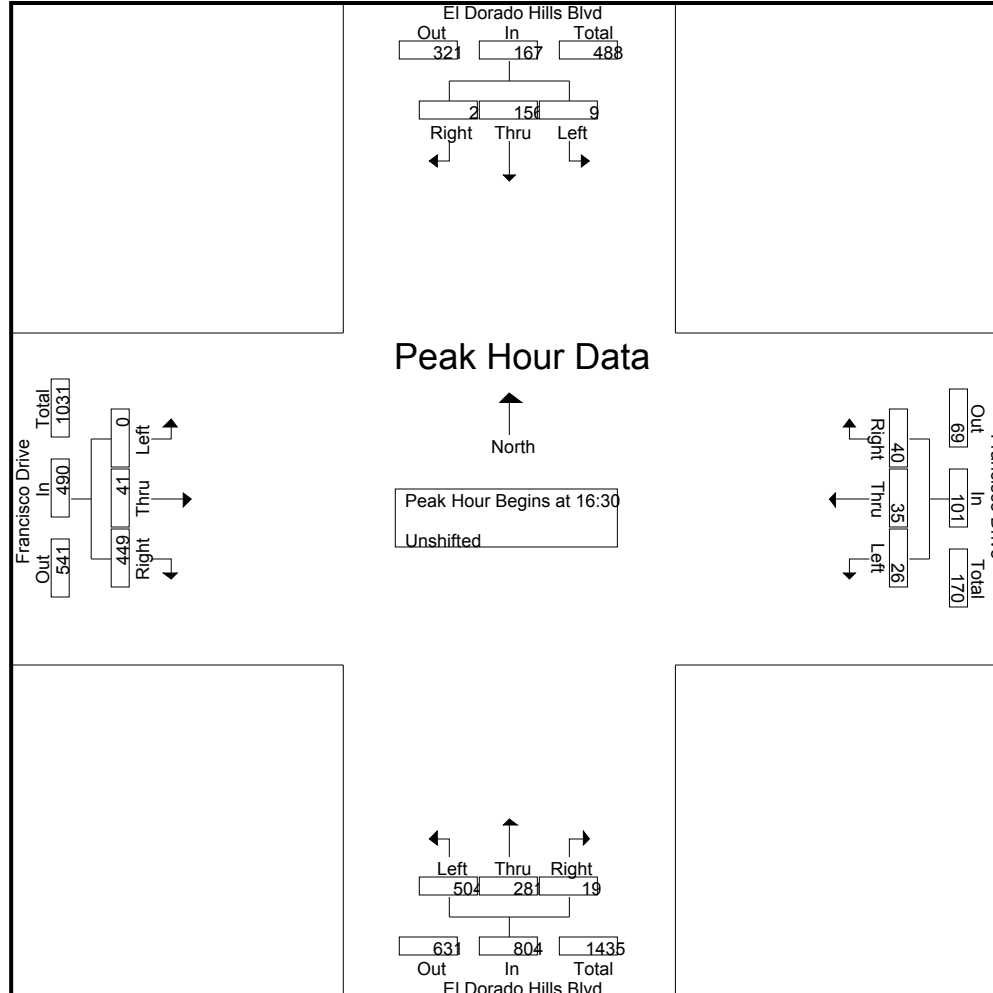
El Dorado County

File Name : 13-7063-010 El Dorado Hills-Francisco

Site Code : 00000000

Start Date : 1/29/2013

Page No : 5



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-019 Silva Valley-Apian

Site Code : 00000000

Start Date : 1/30/2013

Page No : 1

Groups Printed- Unshifted

Start Time	Silva Valley Pkwy Southbound				Apian Way Westbound				Silva Valley Pkwy Northbound				Apian Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:30	1	16	0	17	8	0	10	18	3	12	1	16	1	0	11	12	63
06:45	5	53	3	61	20	0	11	31	2	21	2	25	5	0	27	32	149
Total	6	69	3	78	28	0	21	49	5	33	3	41	6	0	38	44	212
07:00	3	92	2	97	65	1	12	78	3	35	6	44	7	0	37	44	263
07:15	2	54	4	60	37	0	28	65	11	73	15	99	13	1	17	31	255
07:30	9	41	10	60	34	1	10	45	2	41	8	51	11	0	14	25	181
07:45	9	39	3	51	18	0	12	30	4	41	12	57	4	0	15	19	157
Total	23	226	19	268	154	2	62	218	20	190	41	251	35	1	83	119	856
08:00	12	39	2	53	32	0	10	42	4	34	18	56	5	1	19	25	176
08:15	6	45	3	54	33	0	18	51	3	67	19	89	10	0	21	31	225
08:30	12	29	7	48	18	1	21	40	4	27	11	42	17	0	13	30	160
08:45	12	37	4	53	15	0	9	24	3	21	5	29	6	0	12	18	124
Total	42	150	16	208	98	1	58	157	14	149	53	216	38	1	65	104	685
09:00	4	19	0	23	8	0	10	18	5	20	5	30	4	0	11	15	86
09:15	5	21	5	31	9	0	10	19	4	21	3	28	7	0	11	18	96
Total	9	40	5	54	17	0	20	37	9	41	8	58	11	0	22	33	182
15:30	8	36	4	48	9	0	12	21	8	43	18	69	6	0	10	16	154
15:45	11	45	6	62	15	0	13	28	17	50	18	85	2	0	9	11	186
Total	19	81	10	110	24	0	25	49	25	93	36	154	8	0	19	27	340
16:00	12	30	6	48	11	0	12	23	11	42	13	66	2	1	11	14	151
16:15	14	38	5	57	16	0	9	25	7	45	6	58	6	0	6	12	152
16:30	10	58	11	79	18	1	10	29	14	63	24	101	4	2	13	19	228
16:45	11	41	4	56	14	0	10	24	23	73	23	119	2	0	12	14	213
Total	47	167	26	240	59	1	41	101	55	223	66	344	14	3	42	59	744
17:00	13	44	5	62	9	0	12	21	18	55	19	92	9	2	3	14	189
17:15	13	48	9	70	15	1	11	27	15	52	23	90	2	0	11	13	200

All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-019 Silva Valley-Apian

Site Code : 00000000

Start Date : 1/30/2013

Page No : 2

Groups Printed- Unshifted

Start Time	Silva Valley Pkwy Southbound				Apian Way Westbound				Silva Valley Pkwy Northbound				Apian Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
17:30	13	43	6	62	13	0	5	18	19	55	19	93	4	0	12	16	189
17:45	12	40	7	59	10	2	8	20	20	44	21	85	4	0	14	18	182
Total	51	175	27	253	47	3	36	86	72	206	82	360	19	2	40	61	760
18:00	13	41	8	62	5	0	6	11	23	44	19	86	5	0	7	12	171
18:15	9	37	14	60	13	1	7	21	23	32	17	72	1	1	5	7	160
Grand Total	219	986	128	1333	445	8	276	729	246	1011	325	1582	137	8	321	466	4110
Apprch %	16.4	74	9.6		61	1.1	37.9		15.5	63.9	20.5		29.4	1.7	68.9		
Total %	5.3	24	3.1	32.4	10.8	0.2	6.7	17.7	6	24.6	7.9	38.5	3.3	0.2	7.8	11.3	

Start Time	Silva Valley Pkwy Southbound				Apian Way Westbound				Silva Valley Pkwy Northbound				Apian Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	3	92	2	97	65	1	12	78	3	35	6	44	7	0	37	44	263
07:15	2	54	4	60	37	0	28	65	11	73	15	99	13	1	17	31	255
07:30	9	41	10	60	34	1	10	45	2	41	8	51	11	0	14	25	181
07:45	9	39	3	51	18	0	12	30	4	41	12	57	4	0	15	19	157
Total Volume	23	226	19	268	154	2	62	218	20	190	41	251	35	1	83	119	856
% App. Total	8.6	84.3	7.1		70.6	0.9	28.4		8	75.7	16.3		29.4	0.8	69.7		
PHF	.639	.614	.475	.691	.592	.500	.554	.699	.455	.651	.683	.634	.673	.250	.561	.676	.814

Peak Hour Analysis From 06:30 to 09:15 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00

All Traffic Data

(916) 771-8700

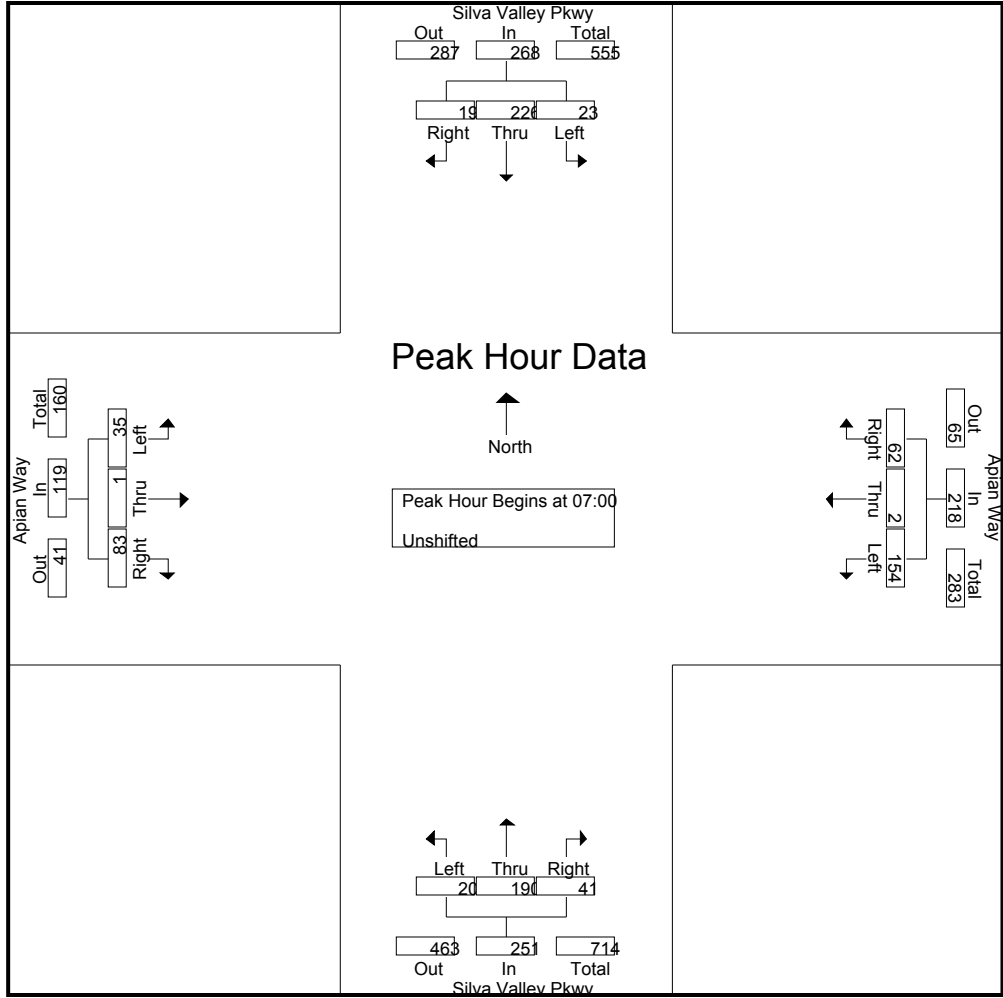
El Dorado County

File Name : 13-7063-019 Silva Valley-Apian

Site Code : 00000000

Start Date : 1/30/2013

Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-019 Silva Valley-Apian

Site Code : 00000000

Start Date : 1/30/2013

Page No : 4

Start Time	Silva Valley Pkwy Southbound				Apian Way Westbound				Silva Valley Pkwy Northbound				Apian Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 15:30 to 18:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	10	58	11	79	18	1	10	29	14	63	24	101	4	2	13	19	228
16:45	11	41	4	56	14	0	10	24	23	73	23	119	2	0	12	14	213
17:00	13	44	5	62	9	0	12	21	18	55	19	92	9	2	3	14	189
17:15	13	48	9	70	15	1	11	27	15	52	23	90	2	0	11	13	200
Total Volume	47	191	29	267	56	2	43	101	70	243	89	402	17	4	39	60	830
% App. Total	17.6	71.5	10.9		55.4	2	42.6		17.4	60.4	22.1		28.3	6.7	65		
PHF	.904	.823	.659	.845	.778	.500	.896	.871	.761	.832	.927	.845	.472	.500	.750	.789	.910

All Traffic Data

(916) 771-8700

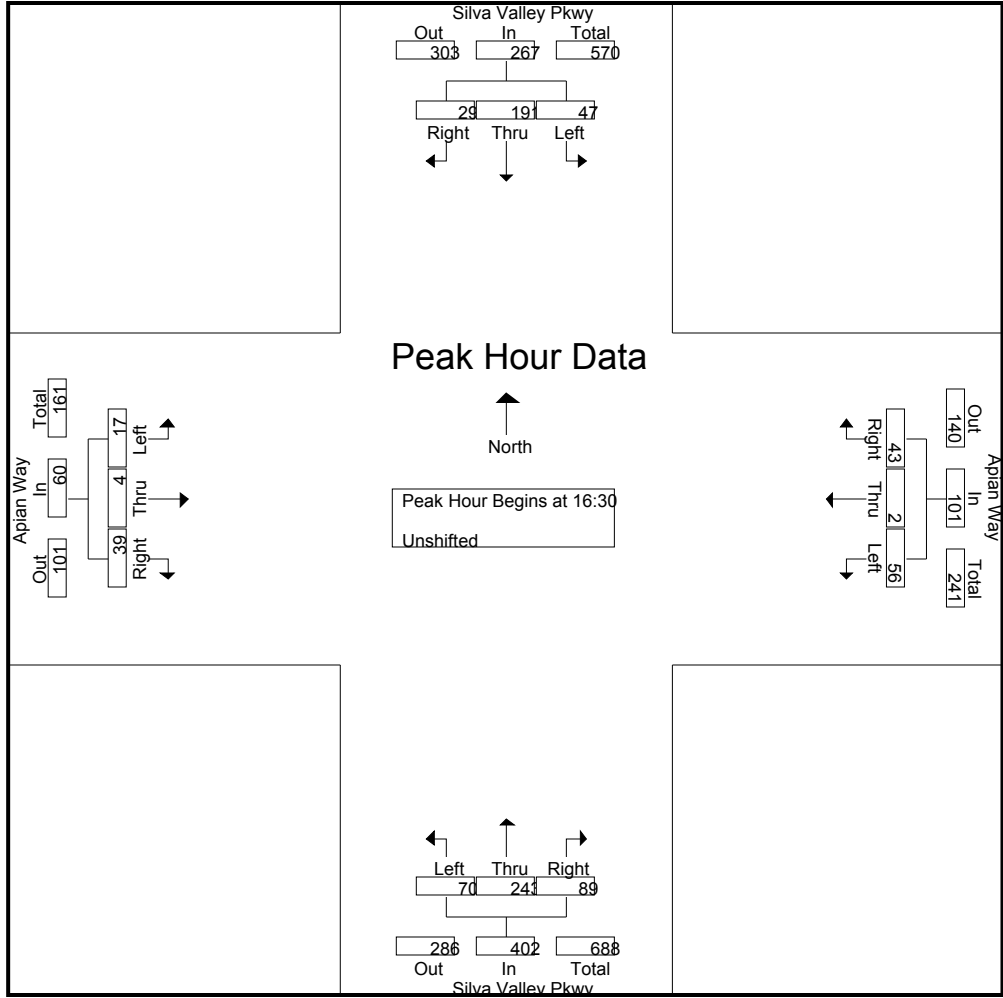
El Dorado County

File Name : 13-7063-019 Silva Valley-Apian

Site Code : 00000000

Start Date : 1/30/2013

Page No : 5



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-011 El Dorado Hills-Harvard

Site Code : 00000000

Start Date : 1/29/2013

Page No : 1

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound				Harvard Way Westbound				El Dorado Hills Blvd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
06:30	6	123	0	129	23	0	5	28	0	29	4	33	0	0	0	0	190
06:45	35	162	0	197	28	0	7	35	0	49	30	79	0	0	0	0	311
Total	41	285	0	326	51	0	12	63	0	78	34	112	0	0	0	0	501
07:00	124	161	0	285	63	0	31	94	0	50	106	156	0	0	0	0	535
07:15	71	226	0	297	120	0	69	189	0	66	103	169	0	0	0	0	655
07:30	32	182	0	214	118	0	26	144	0	101	90	191	0	0	0	0	549
07:45	38	241	0	279	98	0	21	119	0	92	29	121	0	0	0	0	519
Total	265	810	0	1075	399	0	147	546	0	309	328	637	0	0	0	0	2258
08:00	34	171	0	205	51	0	34	85	0	96	28	124	0	0	0	0	414
08:15	68	166	0	234	63	0	52	115	0	86	67	153	0	0	0	0	502
08:30	17	183	0	200	44	0	41	85	0	116	16	132	0	0	0	0	417
08:45	30	225	0	255	30	0	15	45	0	79	12	91	0	0	0	0	391
Total	149	745	0	894	188	0	142	330	0	377	123	500	0	0	0	0	1724
09:00	10	136	0	146	31	0	10	41	0	78	8	86	0	0	0	0	273
09:15	4	135	0	139	15	0	4	19	0	94	9	103	0	0	0	0	261
Total	14	271	0	285	46	0	14	60	0	172	17	189	0	0	0	0	534
15:30	33	103	0	136	36	0	33	69	0	196	35	231	0	0	0	0	436
15:45	28	129	0	157	29	0	27	56	0	172	28	200	0	0	0	0	413
Total	61	232	0	293	65	0	60	125	0	368	63	431	0	0	0	0	849
16:00	25	131	0	156	27	0	34	61	0	176	44	220	0	0	0	0	437
16:15	40	117	0	157	31	0	33	64	0	214	27	241	0	0	0	0	462
16:30	38	112	0	150	17	0	29	46	0	209	32	241	0	0	0	0	437
16:45	43	137	0	180	32	0	43	75	0	198	45	243	0	0	0	0	498
Total	146	497	0	643	107	0	139	246	0	797	148	945	0	0	0	0	1834
17:00	35	127	0	162	38	0	29	67	0	225	49	274	0	0	0	0	503
17:15	37	128	0	165	34	0	25	59	0	208	43	251	0	0	0	0	475

All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-011 El Dorado Hills-Harvard

Site Code : 00000000

Start Date : 1/29/2013

Page No : 2

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound				Harvard Way Westbound				El Dorado Hills Blvd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
17:30	31	141	0	172	27	0	34	61	0	213	53	266	0	0	0	0	499
17:45	59	143	0	202	42	0	37	79	0	198	39	237	0	0	0	0	518
Total	162	539	0	701	141	0	125	266	0	844	184	1028	0	0	0	0	1995
18:00	42	102	0	144	34	0	16	50	0	175	43	218	0	0	0	0	412
18:15	31	103	0	134	22	0	28	50	0	155	35	190	0	0	0	0	374
Grand Total	911	3584	0	4495	1053	0	683	1736	0	3275	975	4250	0	0	0	0	10481
Apprch %	20.3	79.7	0		60.7	0	39.3		0	77.1	22.9		0	0	0		
Total %	8.7	34.2	0	42.9	10	0	6.5	16.6	0	31.2	9.3	40.5	0	0	0	0	

Start Time	El Dorado Hills Blvd Southbound				Harvard Way Westbound				El Dorado Hills Blvd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00	124	161	0	285	63	0	31	94	0	50	106	156	0	0	0	0	535
07:15	71	226	0	297	120	0	69	189	0	66	103	169	0	0	0	0	655
07:30	32	182	0	214	118	0	26	144	0	101	90	191	0	0	0	0	549
07:45	38	241	0	279	98	0	21	119	0	92	29	121	0	0	0	0	519
Total Volume	265	810	0	1075	399	0	147	546	0	309	328	637	0	0	0	0	2258
% App. Total	24.7	75.3	0		73.1	0	26.9		0	48.5	51.5		0	0	0		
PHF	.534	.840	.000	.905	.831	.000	.533	.722	.000	.765	.774	.834	.000	.000	.000	.000	.862

Peak Hour Analysis From 06:30 to 09:15 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00

All Traffic Data

(916) 771-8700

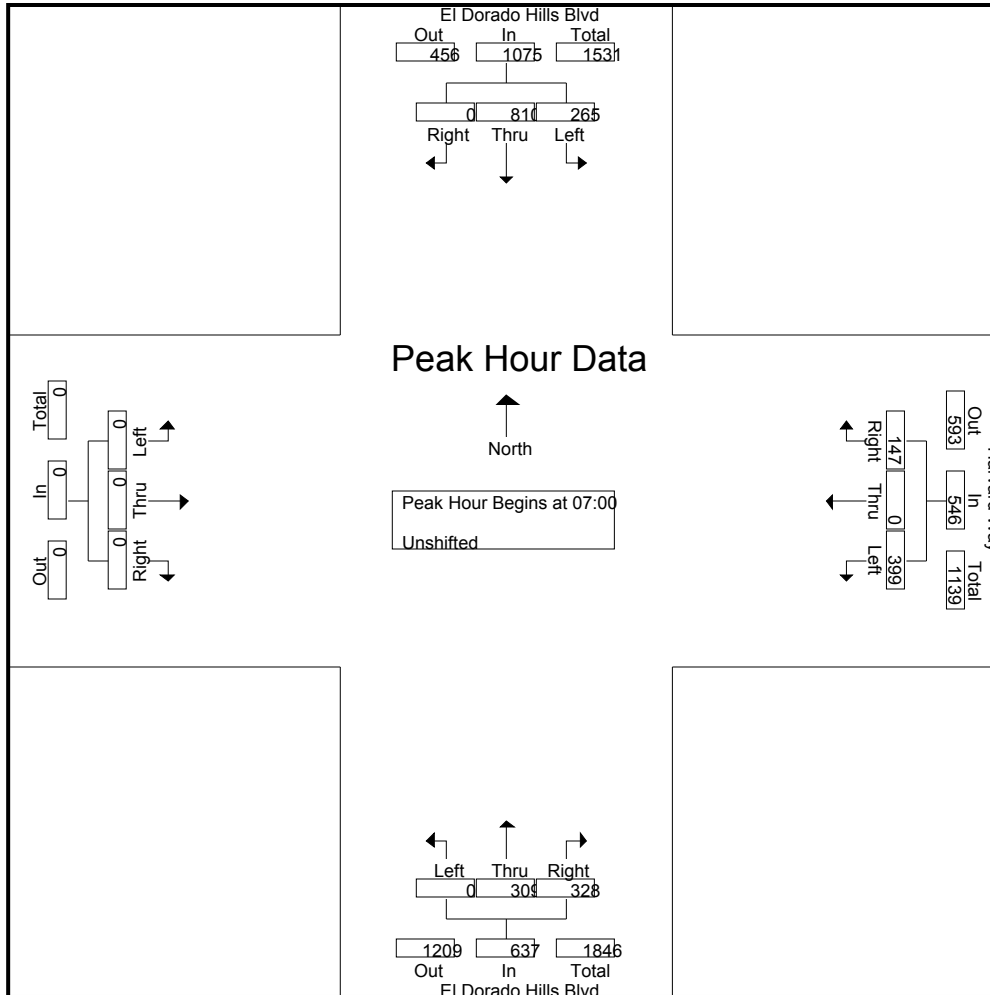
El Dorado County

File Name : 13-7063-011 El Dorado Hills-Harvard

Site Code : 00000000

Start Date : 1/29/2013

Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-011 El Dorado Hills-Harvard

Site Code : 00000000

Start Date : 1/29/2013

Page No : 4

Start Time	El Dorado Hills Blvd Southbound				Harvard Way Westbound				El Dorado Hills Blvd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 15:30 to 18:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	35	127	0	162	38	0	29	67	0	225	49	274	0	0	0	0	503
17:15	37	128	0	165	34	0	25	59	0	208	43	251	0	0	0	0	475
17:30	31	141	0	172	27	0	34	61	0	213	53	266	0	0	0	0	499
17:45	59	143	0	202	42	0	37	79	0	198	39	237	0	0	0	0	518
Total Volume	162	539	0	701	141	0	125	266	0	844	184	1028	0	0	0	0	1995
% App. Total	23.1	76.9	0		53	0	47		0	82.1	17.9		0	0	0		
PHF	.686	.942	.000	.868	.839	.000	.845	.842	.000	.938	.868	.938	.000	.000	.000	.000	.963

All Traffic Data

(916) 771-8700

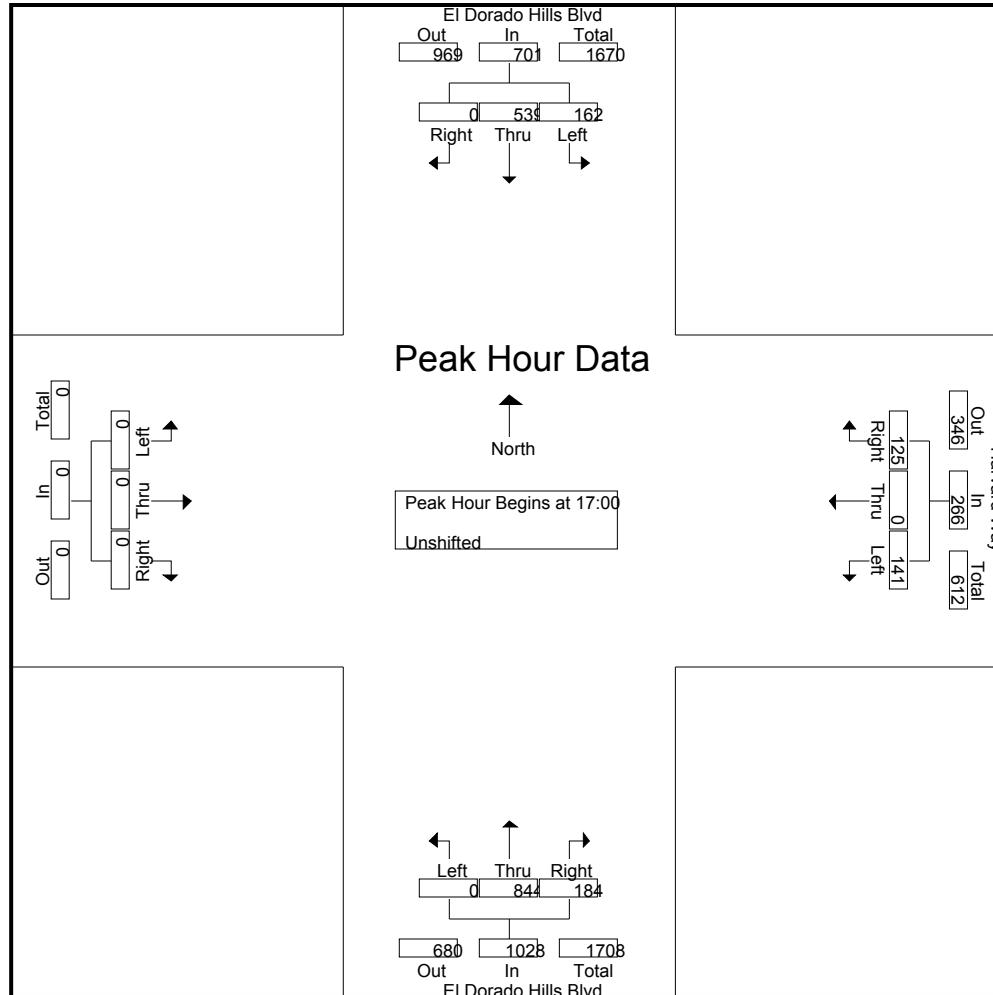
El Dorado County

File Name : 13-7063-011 El Dorado Hills-Harvard

Site Code : 00000000

Start Date : 1/29/2013

Page No : 5



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-018 Silva Valley-Harvard

Site Code : 00000000

Start Date : 1/30/2013

Page No : 1

Groups Printed- Unshifted

Start Time	Silva Valley Pkwy Southbound				Harvard Way Westbound				Silva Valley Pkwy Northbound					Harvard Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	
06:30	0	25	13	38	0	0	0	0	3	14	0	0	17	2	1	4	7	62
06:45	1	33	54	88	0	1	0	1	36	22	2	0	60	4	3	11	18	167
Total	1	58	67	126	0	1	0	1	39	36	2	0	77	6	4	15	25	229
07:00	6	31	119	156	8	4	2	14	97	37	7	16	157	12	7	32	51	378
07:15	13	33	88	134	32	27	2	61	81	51	16	37	185	44	40	81	165	545
07:30	12	65	65	142	41	16	4	61	55	56	11	66	188	7	34	63	104	495
07:45	2	41	30	73	32	19	2	53	57	68	3	17	145	6	8	45	59	330
Total	33	170	302	505	113	66	10	189	290	212	37	136	675	69	89	221	379	1748
08:00	0	38	38	76	2	2	1	5	46	43	0	6	95	12	0	41	53	229
08:15	0	32	70	102	2	1	0	3	82	55	0	15	152	44	0	76	120	377
08:30	1	36	17	54	1	0	1	2	44	22	0	0	66	12	2	25	39	161
08:45	1	51	16	68	2	2	0	4	6	20	0	1	27	6	1	37	44	143
Total	2	157	141	300	7	5	2	14	178	140	0	22	340	74	3	179	256	910
09:00	1	23	11	35	0	1	1	2	7	24	0	0	31	8	3	10	21	89
09:15	1	34	5	40	1	0	1	2	12	19	0	0	31	5	2	13	20	93
Total	2	57	16	75	1	1	2	4	19	43	0	0	62	13	5	23	41	182
15:30	7	42	9	58	8	5	5	18	31	65	3	1	100	9	6	27	42	218
15:45	3	61	13	77	8	3	2	13	36	59	4	1	100	17	2	35	54	244
Total	10	103	22	135	16	8	7	31	67	124	7	2	200	26	8	62	96	462
16:00	2	29	16	47	4	5	1	10	26	50	1	1	78	12	1	39	52	187
16:15	0	54	11	65	3	0	0	3	19	48	2	0	69	10	1	37	48	185
16:30	1	52	19	72	1	2	1	4	28	65	0	1	94	29	2	56	87	257
16:45	0	54	17	71	3	3	4	10	59	75	0	4	138	38	1	52	91	310
Total	3	189	63	255	11	10	6	27	132	238	3	6	379	89	5	184	278	939
17:00	2	40	10	52	1	5	0	6	40	79	1	1	121	30	2	38	70	249
17:15	3	51	19	73	3	2	1	6	27	53	6	0	86	32	5	39	76	241

All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-018 Silva Valley-Harvard

Site Code : 00000000

Start Date : 1/30/2013

Page No : 2

Groups Printed- Unshifted

Start Time	Silva Valley Pkwy Southbound				Harvard Way Westbound				Silva Valley Pkwy Northbound					Harvard Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	
17:30	4	50	21	75	1	0	0	1	46	77	3	0	126	21	2	56	79	281
17:45	0	49	22	71	6	7	7	20	44	56	0	0	100	25	1	42	68	259
Total	9	190	72	271	11	14	8	33	157	265	10	1	433	108	10	175	293	1030
18:00	1	40	10	51	0	0	0	0	31	67	0	1	99	25	2	32	59	209
18:15	4	37	10	51	0	0	0	0	31	48	1	0	80	20	2	23	45	176
Grand Total	65	1001	703	1769	159	105	35	299	944	1173	60	168	2345	430	128	914	1472	5885
Apprch %	3.7	56.6	39.7		53.2	35.1	11.7		40.3	50	2.6	7.2		29.2	8.7	62.1		
Total %	1.1	17	11.9	30.1	2.7	1.8	0.6	5.1	16	19.9	1	2.9	39.8	7.3	2.2	15.5	25	

Start Time	Silva Valley Pkwy Southbound				Harvard Way Westbound				Silva Valley Pkwy Northbound					Harvard Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 06:30 to 09:15 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 07:00																		
07:00	6	31	119	156	8	4	2	14	97	37	7	16	157	12	7	32	51	378
07:15	13	33	88	134	32	27	2	61	81	51	16	37	185	44	40	81	165	545
07:30	12	65	65	142	41	16	4	61	55	56	11	66	188	7	34	63	104	495
07:45	2	41	30	73	32	19	2	53	57	68	3	17	145	6	8	45	59	330
Total Volume	33	170	302	505	113	66	10	189	290	212	37	136	675	69	89	221	379	1748
% App. Total	6.5	33.7	59.8		59.8	34.9	5.3		43	31.4	5.5	20.1		18.2	23.5	58.3		
PHF	.635	.654	.634	.809	.689	.611	.625	.775	.747	.779	.578	.515	.898	.392	.556	.682	.574	.802

All Traffic Data

(916) 771-8700

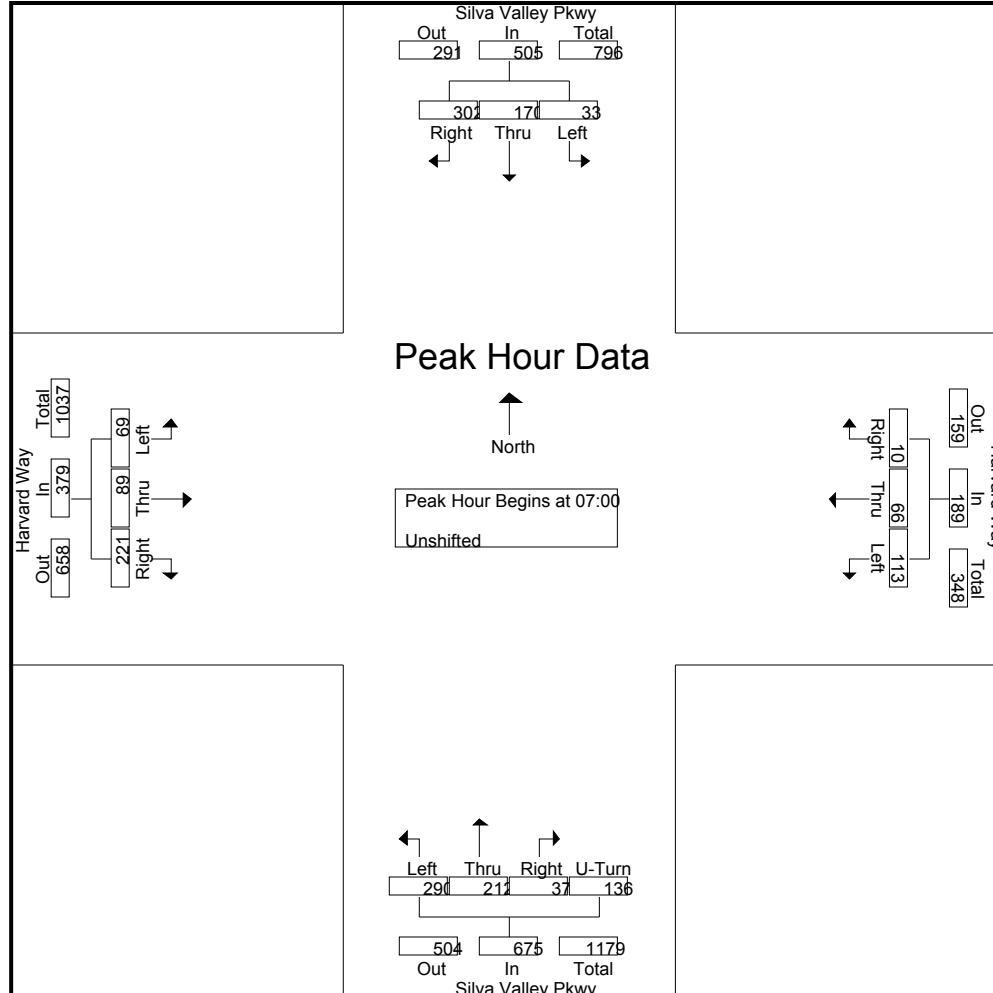
El Dorado County

File Name : 13-7063-018 Silva Valley-Harvard

Site Code : 00000000

Start Date : 1/30/2013

Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County

File Name : 13-7063-018 Silva Valley-Harvard

Site Code : 00000000

Start Date : 1/30/2013

Page No : 4

Start Time	Silva Valley Pkwy Southbound				Harvard Way Westbound				Silva Valley Pkwy Northbound					Harvard Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 15:30 to 18:15 - Peak 1 of 1																		
Peak Hour for Entire Intersection Begins at 16:45																		
16:45	0	54	17	71	3	3	4	10	59	75	0	4	138	38	1	52	91	310
17:00	2	40	10	52	1	5	0	6	40	79	1	1	121	30	2	38	70	249
17:15	3	51	19	73	3	2	1	6	27	53	6	0	86	32	5	39	76	241
17:30	4	50	21	75	1	0	0	1	46	77	3	0	126	21	2	56	79	281
Total Volume	9	195	67	271	8	10	5	23	172	284	10	5	471	121	10	185	316	1081
% App. Total	3.3	72	24.7		34.8	43.5	21.7		36.5	60.3	2.1	1.1		38.3	3.2	58.5		
PHF	.563	.903	.798	.903	.667	.500	.313	.575	.729	.899	.417	.313	.853	.796	.500	.826	.868	.872

All Traffic Data

(916) 771-8700

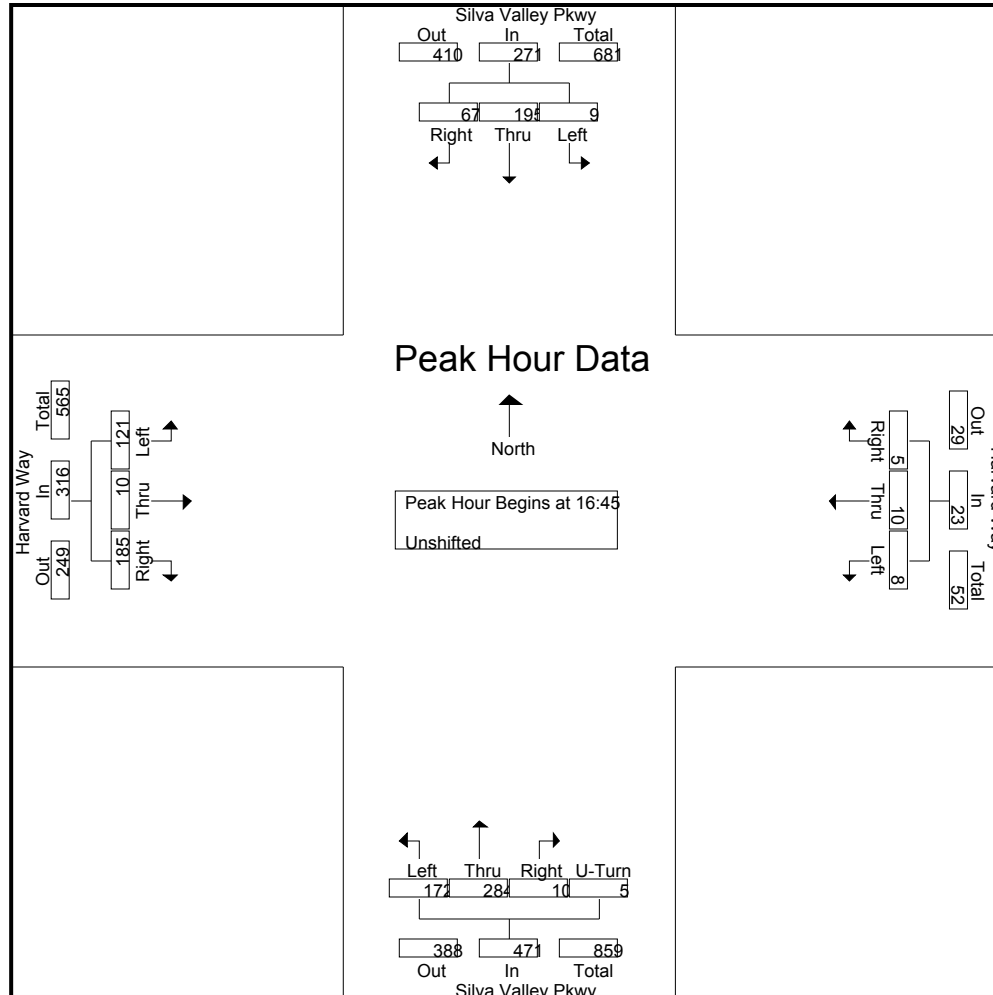
El Dorado County

File Name : 13-7063-018 Silva Valley-Harvard

Site Code : 00000000

Start Date : 1/30/2013

Page No : 5



All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-001 El Dorado Hills-Olson
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 1

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound					Westbound				El Dorado Hills Blvd Northbound					Olson Lane Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thr	Rig	Ped	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	0	225	7	0	232	0	0	0	0	7	141	0	0	148	36	0	29	0	65	0	445	445
07:15	0	264	10	0	274	0	0	0	0	4	149	0	0	153	22	0	52	0	74	0	501	501
07:30	0	333	10	0	343	0	0	0	0	5	139	0	0	144	19	0	49	0	68	0	555	555
07:45	0	335	9	0	344	0	0	0	0	18	131	0	1	149	7	0	32	0	39	1	532	533
Total	0	1157	36	0	1193	0	0	0	0	34	560	0	1	594	84	0	162	0	246	1	2033	2034
08:00	0	245	6	0	251	0	0	0	0	17	139	0	3	156	12	0	28	0	40	3	447	450
08:15	0	238	15	0	253	0	0	0	0	16	144	0	1	160	9	0	31	0	40	1	453	454
08:30	0	193	15	0	208	0	0	0	0	20	113	0	4	133	10	0	37	0	47	4	388	392
08:45	0	209	6	0	215	0	0	0	0	14	133	0	2	147	5	0	33	0	38	2	400	402
Total	0	885	42	0	927	0	0	0	0	67	529	0	10	596	36	0	129	0	165	10	1688	1698
16:00	0	125	2	0	127	0	0	0	0	30	176	0	0	206	5	0	19	0	24	0	357	357
16:15	0	162	8	0	170	0	0	0	0	29	240	0	0	269	6	0	20	0	26	0	465	465
16:30	0	161	5	0	166	0	0	0	0	44	238	0	1	282	5	0	14	0	19	1	467	468
16:45	0	157	4	0	161	0	0	0	0	47	237	0	1	284	8	0	17	0	25	1	470	471
Total	0	605	19	0	624	0	0	0	0	150	891	0	2	1041	24	0	70	0	94	2	1759	1761
17:00	0	153	4	0	157	0	0	0	0	39	257	0	0	296	8	0	21	0	29	0	482	482
17:15	0	175	5	0	180	0	0	0	0	40	282	0	0	322	7	0	21	0	28	0	530	530
17:30	0	131	8	0	139	0	0	0	0	36	267	0	0	303	8	0	17	0	25	0	467	467
17:45	0	170	7	0	177	0	0	0	0	36	211	0	1	247	6	0	23	0	29	1	453	454
Total	0	629	24	0	653	0	0	0	0	151	1017	0	1	1168	29	0	82	0	111	1	1932	1933
Grand Total	0	3276	121	0	3397	0	0	0	0	402	2997	0	14	3399	173	0	443	0	616	14	7412	7426
Apprch %	0	96.4	3.6			0	0	0		11.8	88.2	0			28.1	0	71.9					
Total %	0	44.2	1.6		45.8	0	0	0	0	5.4	40.4	0		45.9	2.3	0	6		8.3	0.2	99.8	

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-001 El Dorado Hills-Olson
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 2

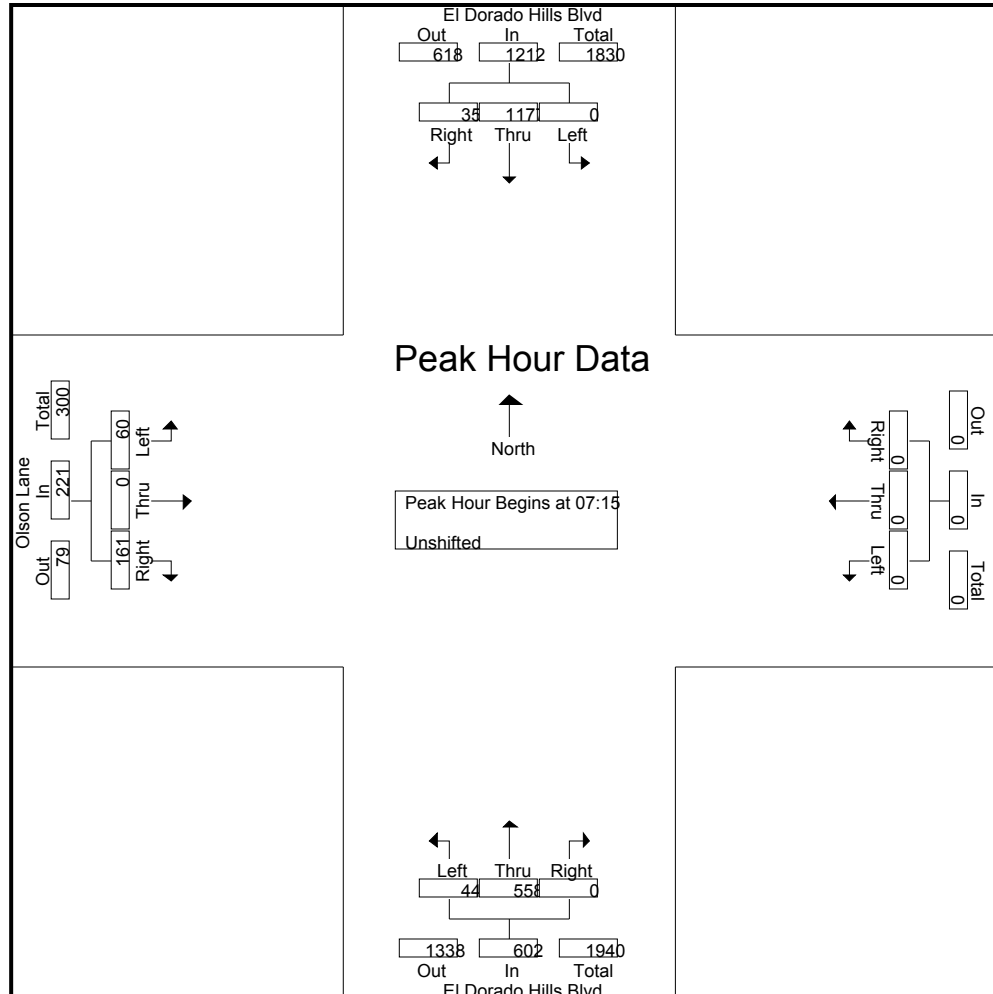
Start Time	El Dorado Hills Blvd Southbound				Westbound				El Dorado Hills Blvd Northbound				Olson Lane Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	264	10	274	0	0	0	0	4	149	0	153	22	0	52	74	501
07:30	0	333	10	343	0	0	0	0	5	139	0	144	19	0	49	68	555
07:45	0	335	9	344	0	0	0	0	18	131	0	149	7	0	32	39	532
08:00	0	245	6	251	0	0	0	0	17	139	0	156	12	0	28	40	447
Total Volume	0	1177	35	1212	0	0	0	0	44	558	0	602	60	0	161	221	2035
% App. Total	0	97.1	2.9		0	0	0		7.3	92.7	0		27.1	0	72.9		
PHF	.000	.878	.875	.881	.000	.000	.000	.000	.611	.936	.000	.965	.682	.000	.774	.747	.917

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-001 El Dorado Hills-Olson
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-001 El Dorado Hills-Olson
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 4

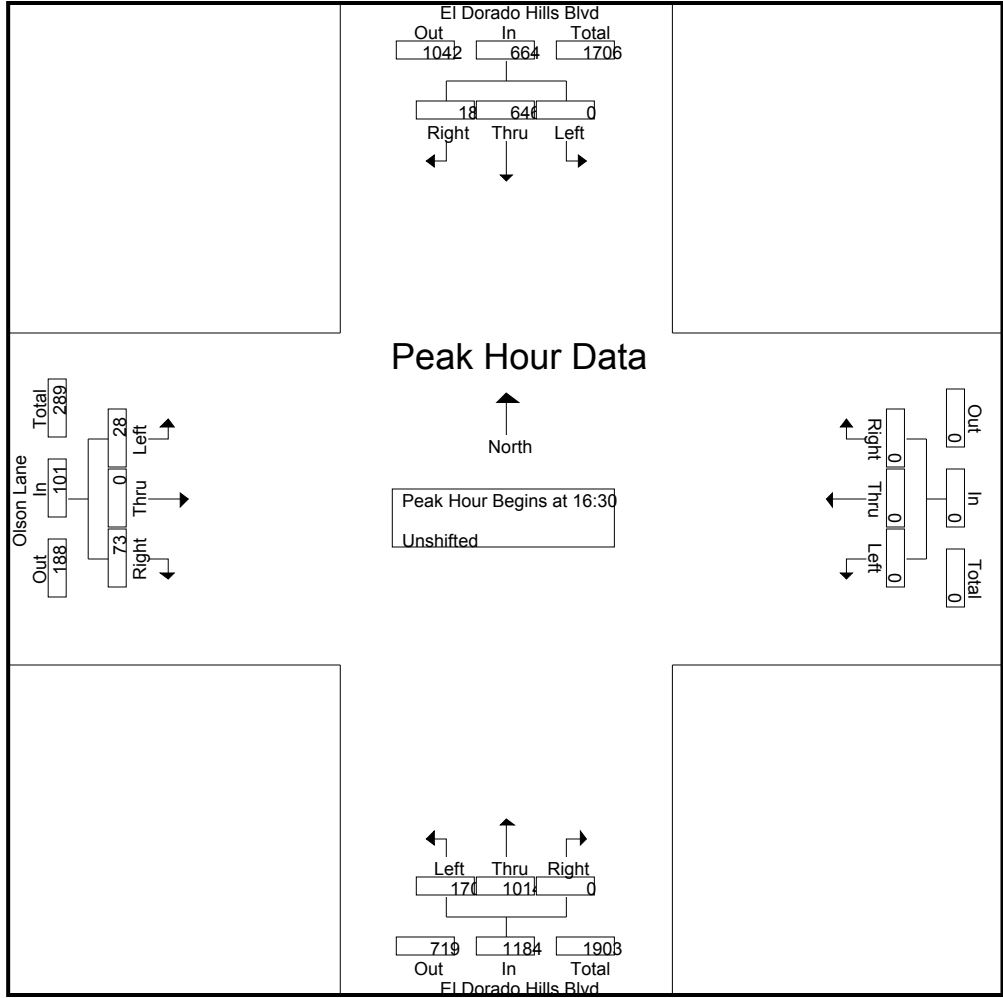
Start Time	El Dorado Hills Blvd Southbound				Westbound				El Dorado Hills Blvd Northbound				Olson Lane Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	161	5	166	0	0	0	0	44	238	0	282	5	0	14	19	467
16:45	0	157	4	161	0	0	0	0	47	237	0	284	8	0	17	25	470
17:00	0	153	4	157	0	0	0	0	39	257	0	296	8	0	21	29	482
17:15	0	175	5	180	0	0	0	0	40	282	0	322	7	0	21	28	530
Total Volume	0	646	18	664	0	0	0	0	170	1014	0	1184	28	0	73	101	1949
% App. Total	0	97.3	2.7		0	0	0		14.4	85.6	0		27.7	0	72.3		
PHF	.000	.923	.900	.922	.000	.000	.000	.000	.904	.899	.000	.919	.875	.000	.869	.871	.919

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-001 El Dorado Hills-Olson
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 5



All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

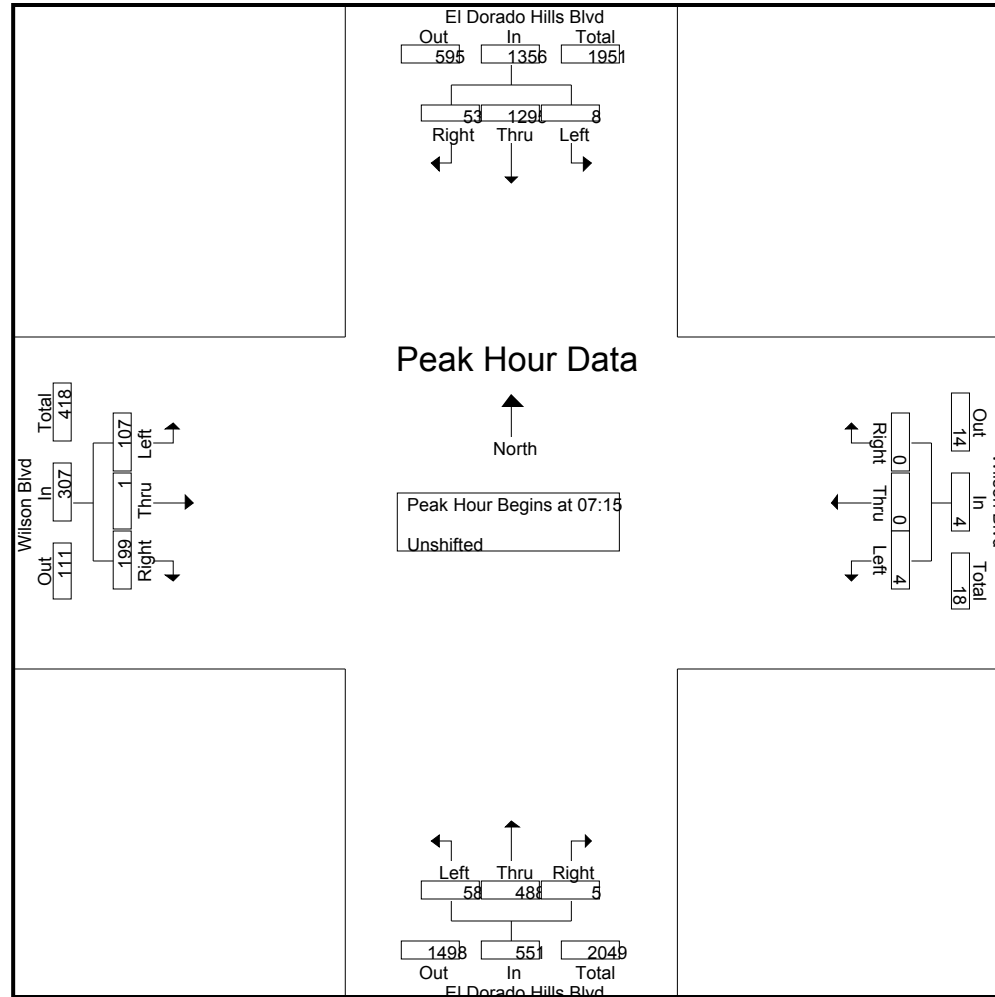
File Name : 12-7225-002 El Dorado Hills-Wilson
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 1

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound					Wilson Blvd Westbound					El Dorado Hills Blvd Northbound					Wilson Blvd Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	2	245	6	4	253	0	0	0	1	0	10	108	0	0	118	39	0	46	0	85	5	456	461
07:15	2	311	12	3	325	0	0	0	0	0	8	103	2	0	113	49	0	39	0	88	3	526	529
07:30	1	359	15	1	375	1	0	0	1	1	9	113	3	0	125	28	0	70	0	98	2	599	601
07:45	1	354	19	2	374	3	0	0	0	3	21	135	0	0	156	14	1	52	0	67	2	600	602
Total	6	1269	52	10	1327	4	0	0	2	4	48	459	5	0	512	130	1	207	0	338	12	2181	2193
08:00	4	271	7	2	282	0	0	0	2	0	20	137	0	0	157	16	0	38	0	54	4	493	497
08:15	1	254	7	2	262	3	1	1	1	5	9	143	1	0	153	16	0	28	0	44	3	464	467
08:30	0	214	18	0	232	1	0	1	0	2	9	122	1	0	132	14	0	37	0	51	0	417	417
08:45	0	231	13	1	244	0	0	0	1	0	15	122	0	0	137	22	0	30	0	52	2	433	435
Total	5	970	45	5	1020	4	1	2	4	7	53	524	2	0	579	68	0	133	0	201	9	1807	1816
16:00	0	131	13	0	144	0	0	0	0	0	31	187	0	0	218	7	0	19	0	26	0	388	388
16:15	1	158	14	1	173	0	0	0	0	0	48	258	0	0	306	18	0	30	0	48	1	527	528
16:30	0	173	14	0	187	0	1	0	0	1	28	258	1	0	287	13	0	28	0	41	0	516	516
16:45	0	159	10	0	169	1	0	0	0	1	44	287	0	0	331	8	0	35	0	43	0	544	544
Total	1	621	51	1	673	1	1	0	0	2	151	990	1	0	1142	46	0	112	0	158	1	1975	1976
17:00	0	155	12	0	167	1	0	2	0	3	43	263	0	0	306	7	0	27	0	34	0	510	510
17:15	0	169	9	0	178	0	0	0	0	0	62	305	1	0	368	13	0	30	0	43	0	589	589
17:30	0	146	13	0	159	1	0	0	0	1	46	282	1	0	329	10	0	14	0	24	0	513	513
17:45	1	170	11	0	182	0	0	1	0	1	59	261	7	0	327	6	1	25	0	32	0	542	542
Total	1	640	45	0	686	2	0	3	0	5	210	1111	9	0	1330	36	1	96	0	133	0	2154	2154
Grand Total	13	3500	193	16	3706	11	2	5	6	18	462	3084	17	0	3563	280	2	548	0	830	22	8117	8139
Apprch %	0.4	94.4	5.2			61.1	11.1	27.8			13	86.6	0.5			33.7	0.2	66					
Total %	0.2	43.1	2.4		45.7	0.1	0	0.1		0.2	5.7	38	0.2		43.9	3.4	0	6.8		10.2	0.3	99.7	

Start Time	El Dorado Hills Blvd Southbound				Wilson Blvd Westbound				El Dorado Hills Blvd Northbound				Wilson Blvd Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15	2	311	12	325	0	0	0	0	8	103	2	113	49	0	39	88	526
07:30	1	359	15	375	1	0	0	1	9	113	3	125	28	0	70	98	599
07:45	1	354	19	374	3	0	0	3	21	135	0	156	14	1	52	67	600
08:00	4	271	7	282	0	0	0	0	20	137	0	157	16	0	38	54	493
Total Volume	8	1295	53	1356	4	0	0	4	58	488	5	551	107	0	192	218	

% App. Total	0.6	95.5	3.9		100	0	0		10.5	88.6	0.9		34.9	0.3	64.8		
PHF	.500	.902	.697	.904	.333	.000	.000	.333	.690	.891	.417	.877	.546	.250	.711	.783	.924



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 16:30

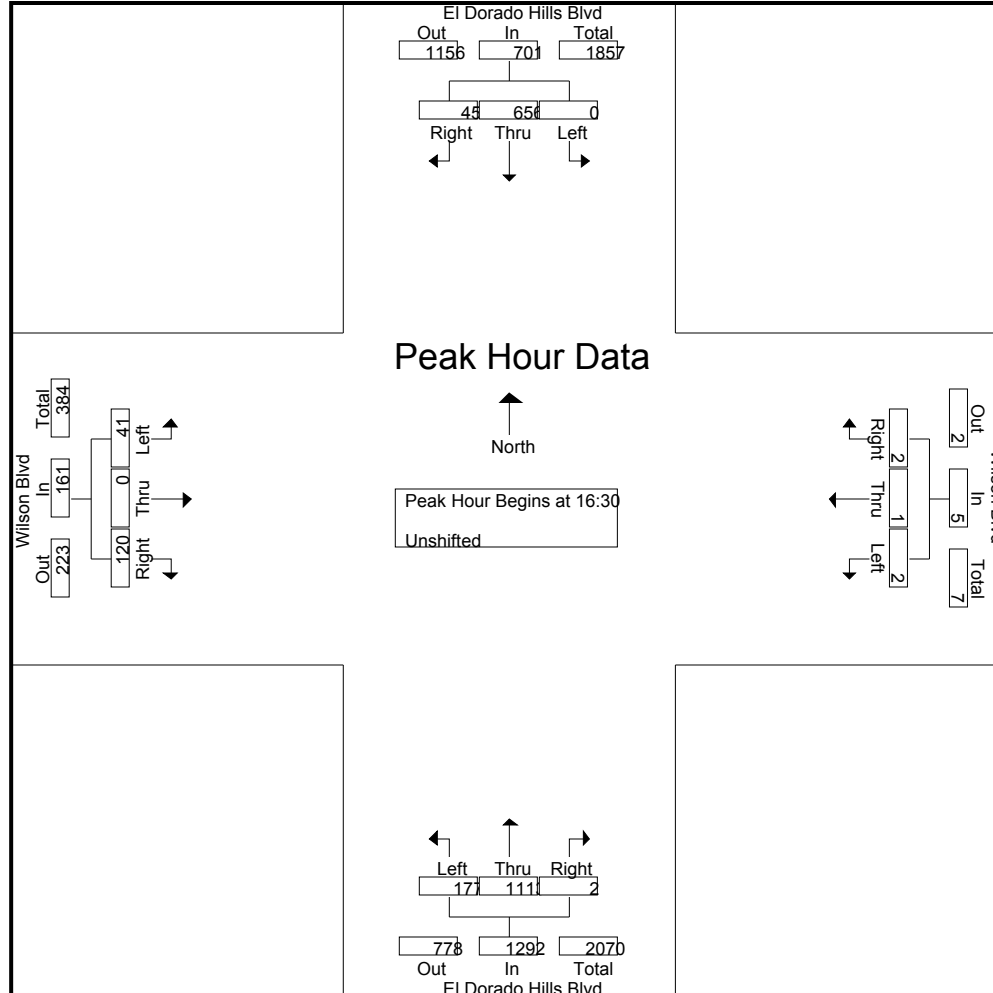
16:30	0	173	14	187	0	1	0	1	28	258	1	287	13	0	28	41	516
16:45	0	159	10	169	1	0	0	1	44	287	0	331	8	0	35	43	544
17:00	0	155	12	167	1	0	2	3	43	263	0	306	7	0	27	34	510
17:15	0	169	9	178	0	0	0	0	62	305	1	368	13	0	30	43	589
Total Volume	0	656	45	701	2	1	2	5	177	1113	2	1292	41	0	120	161	2159
% App. Total	0	93.6	6.4		40	20	40		13.7	86.1	0.2		25.5	0	74.5		
PHF	.000	.948	.804	.937	.500	.250	.250	.417	.714	.912	.500	.878	.788	.000	.857	.936	.916

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-002 El Dorado Hills-Wilson
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

City of El Dorado Hills
Bicycles on Bank 1
Heavy Vehicles on Bank 2

File Name : 12-7225-003 El Dorado Hills-Serrano
Site Code : 00000000
Start Date : 5/22/2012
Page No : 1

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound					Serrano Pkwy Westbound					El Dorado Hills Blvd Northbound					Serrano Pkwy Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	2	282	3	0	287	118	1	10	0	129	2	91	42	0	135	13	5	17	0	35	0	586	586
07:15	14	335	2	0	351	141	2	16	0	159	2	98	33	0	133	2	3	21	0	26	0	669	669
07:30	32	362	5	0	399	146	3	15	1	164	6	98	45	0	149	5	7	12	0	24	1	736	737
07:45	23	405	7	1	435	188	9	28	0	225	10	135	43	0	188	4	2	8	0	14	1	862	863
Total	71	1384	17	1	1472	593	15	69	1	677	20	422	163	0	605	24	17	58	0	99	2	2853	2855
08:00	7	293	5	0	305	130	12	22	0	164	17	117	58	0	192	7	2	24	0	33	0	694	694
08:15	3	264	7	0	274	116	8	16	0	140	10	134	25	0	169	8	1	15	0	24	0	607	607
08:30	5	243	9	0	257	121	6	9	0	136	18	116	38	0	172	5	2	18	0	25	0	590	590
08:45	3	248	20	0	271	88	8	8	1	104	41	130	37	0	208	16	2	36	0	54	1	637	638
Total	18	1048	41	0	1107	455	34	55	1	544	86	497	158	0	741	36	7	93	0	136	1	2528	2529
16:00	6	139	6	0	151	73	3	2	0	78	24	240	100	0	364	7	1	15	0	23	0	616	616
16:15	5	167	14	0	186	67	6	6	0	79	18	286	99	0	403	5	4	8	0	17	0	685	685
16:30	11	171	10	0	192	75	4	2	0	81	22	271	105	0	398	11	7	16	0	34	0	705	705
16:45	8	180	9	0	197	60	7	12	0	79	22	296	112	0	430	11	2	14	1	27	1	733	734
Total	30	657	39	0	726	275	20	22	0	317	86	1093	416	0	1595	34	14	53	1	101	1	2739	2740
17:00	6	177	1	0	184	53	2	7	0	62	26	319	125	1	470	5	8	10	0	23	1	739	740
17:15	13	171	9	1	193	76	4	10	0	90	25	338	135	0	498	3	7	17	0	27	1	808	809
17:30	11	137	14	0	162	68	5	3	0	76	28	314	156	5	498	4	0	12	5	16	10	752	762
17:45	7	182	11	0	200	66	1	15	0	82	20	310	127	0	457	6	1	9	0	16	0	755	755
Total	37	667	35	1	739	263	12	35	0	310	99	1281	543	6	1923	18	16	48	5	82	12	3054	3066
Grand Total	156	3756	132	2	4044	1586	81	181	2	1848	291	3293	1280	6	4864	112	54	252	6	418	16	11174	11190
Apprch %	3.9	92.9	3.3			85.8	4.4	9.8			6	67.7	26.3			26.8	12.9	60.3					
Total %	1.4	33.6	1.2		36.2	14.2	0.7	1.6		16.5	2.6	29.5	11.5		43.5	1	0.5	2.3		3.7	0.1	99.9	

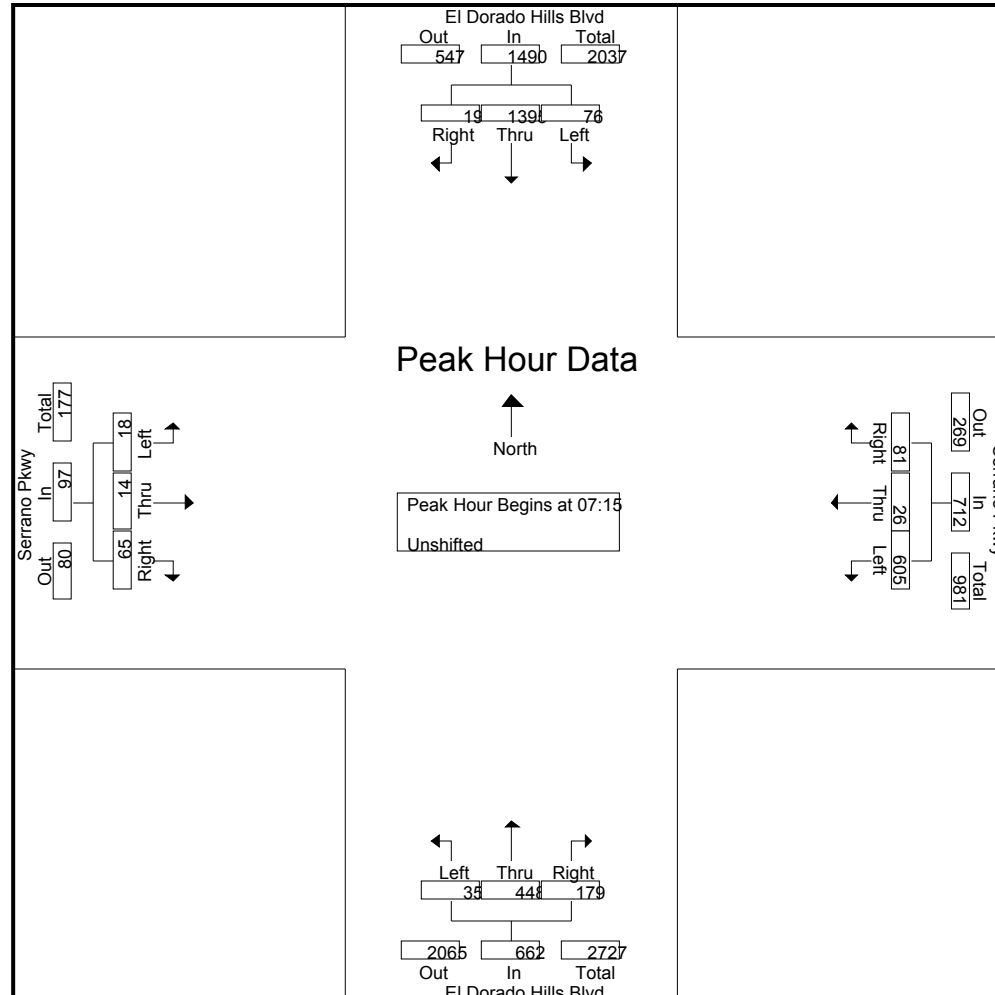
Start Time	El Dorado Hills Blvd Southbound				Serrano Pkwy Westbound				El Dorado Hills Blvd Northbound				Serrano Pkwy Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15

07:15	14	335	2	351	141	2	16	159	2	98	33	133	2	3	21	26	669
07:30	32	362	5	399	146	3	15	164	6	98	45	149	5	7	12	24	736
07:45	23	405	7	435	188	9	28	225	10	135	43	188	4	2	8	14	862
08:00	7	293	5	305	130	12	22	164	17	117	58	192	7	2	24	33	694
Total Volume	76	1395	19	1490	605	26	81	712	35	448	179	662	18	19	1670	2645	6438

% App. Total	5.1	93.6	1.3		85	3.7	11.4		5.3	67.7	27		18.6	14.4	67		
PHF	.594	.861	.679	.856	.805	.542	.723	.791	.515	.830	.772	.862	.643	.500	.677	.735	.859



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 17:00

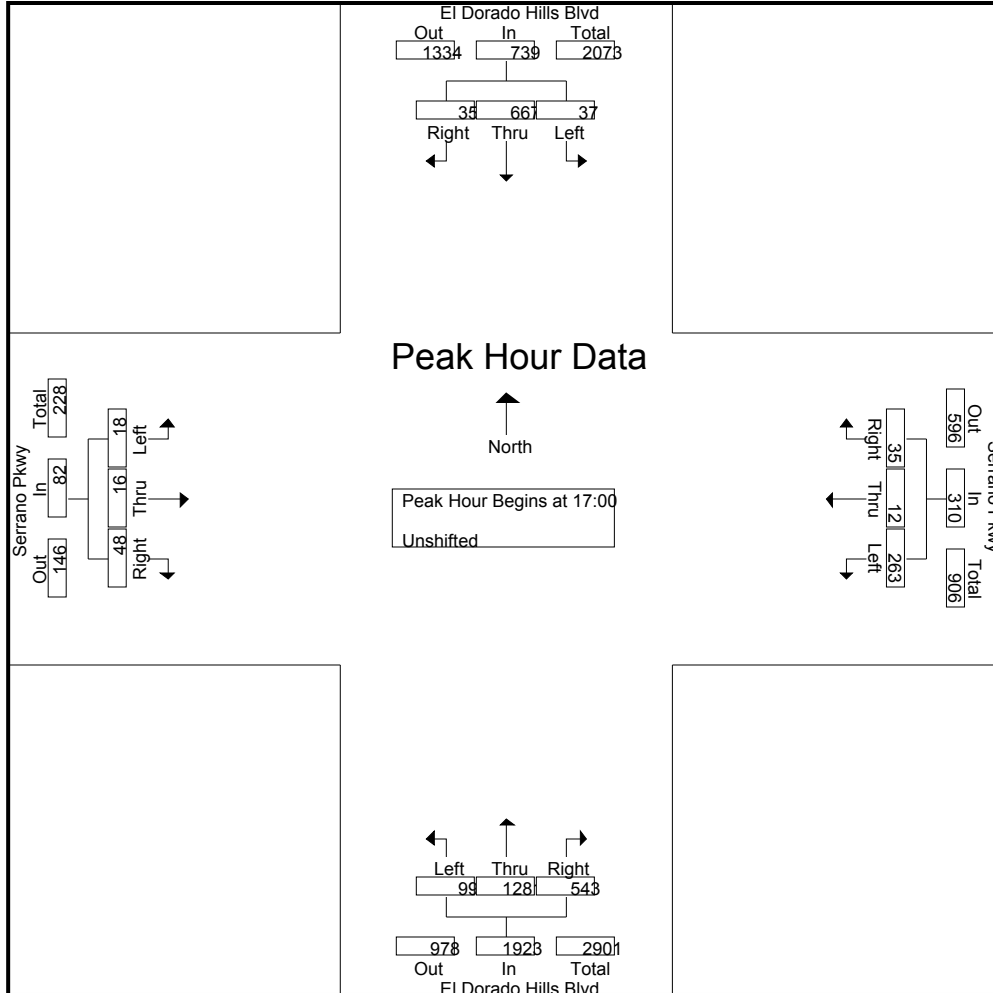
17:00	6	177	1	184	53	2	7	62	26	319	125	470	5	8	10	23	739
17:15	13	171	9	193	76	4	10	90	25	338	135	498	3	7	17	27	808
17:30	11	137	14	162	68	5	3	76	28	314	156	498	4	0	12	16	752
17:45	7	182	11	200	66	1	15	82	20	310	127	457	6	1	9	16	755
Total Volume	37	667	35	739	263	12	35	310	99	1281	543	1923	18	16	48	82	3054
% App. Total	5	90.3	4.7		84.8	3.9	11.3		5.1	66.6	28.2		22	19.5	58.5		
PHF	.712	.916	.625	.924	.865	.600	.583	.861	.884	.947	.870	.965	.750	.500	.706	.759	.945

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-003 El Dorado Hills-Serrano
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County
Bicycles on Bank 1
Heavy Vehicles on Bank 2

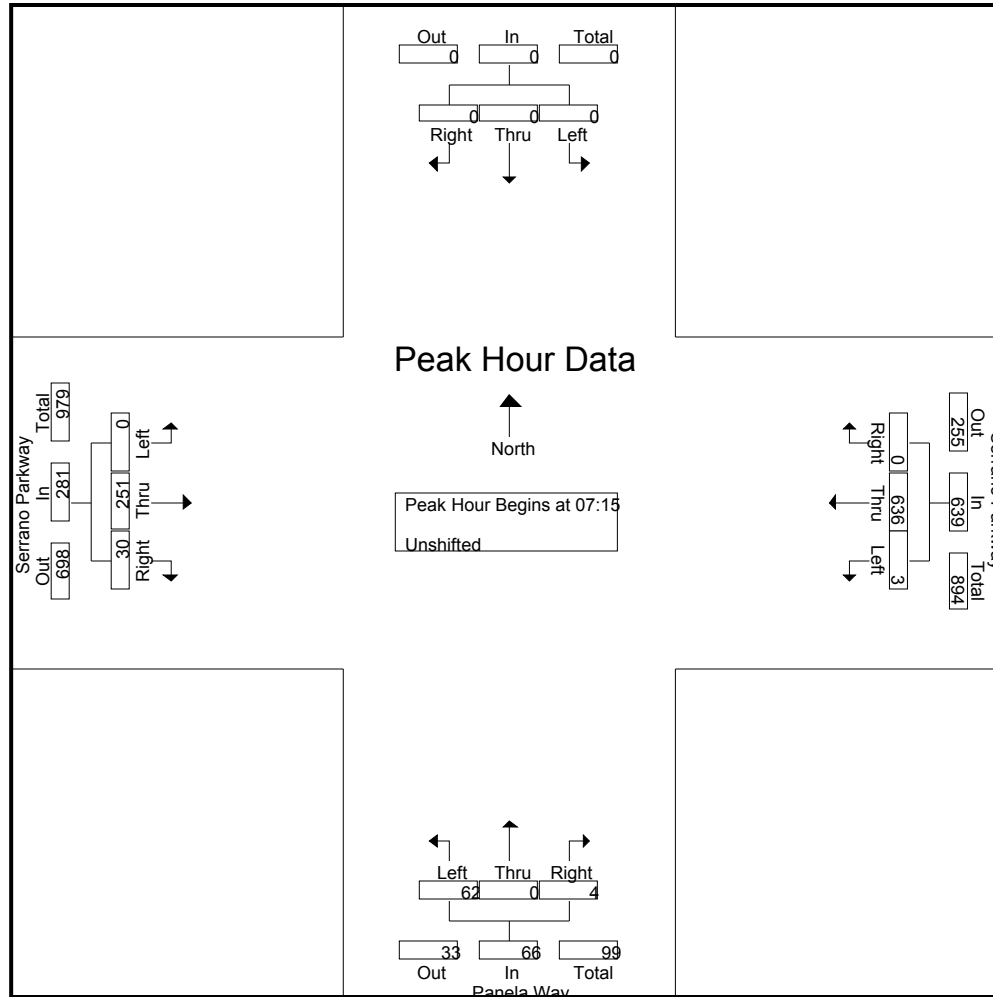
File Name : 12-7225-012 Panela-Serrano
Site Code : 00000000
Start Date : 5/22/2012
Page No : 1

Groups Printed- Unshifted

Start Time	Southbound					Serrano Parkway Westbound					Panela Way Northbound					Serrano Parkway Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thr	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	0	0	0	0	0	0	129	0	0	129	15	0	0	0	15	0	47	3	0	50	0	194	194
07:15	0	0	0	0	0	0	137	0	0	137	18	0	1	0	19	0	49	8	0	57	0	213	213
07:30	0	0	0	0	0	2	148	0	0	150	19	0	2	0	21	0	79	7	1	86	1	257	258
07:45	0	0	0	0	0	1	208	0	0	209	11	0	1	0	12	0	67	6	0	73	0	294	294
Total	0	0	0	0	0	3	622	0	0	625	63	0	4	0	67	0	242	24	1	266	1	958	959
08:00	0	0	0	0	0	0	143	0	0	143	14	0	0	0	14	0	56	9	0	65	0	222	222
08:15	0	0	0	0	0	2	121	0	0	123	15	0	0	0	15	0	29	3	0	32	0	170	170
08:30	0	0	0	0	0	0	131	0	0	131	8	0	0	0	8	0	44	3	0	47	0	186	186
08:45	0	0	0	0	0	1	104	0	0	105	9	0	2	0	11	0	40	4	0	44	0	160	160
Total	0	0	0	0	0	3	499	0	0	502	46	0	2	0	48	0	169	19	0	188	0	738	738
16:00	0	0	0	0	0	2	69	0	0	71	10	0	1	0	11	0	99	10	0	109	0	191	191
16:15	0	0	0	0	0	0	74	0	0	74	4	0	0	0	4	0	100	9	0	109	0	187	187
16:30	0	0	0	0	0	0	78	0	0	78	4	0	2	0	6	0	108	15	0	123	0	207	207
16:45	0	0	0	0	0	0	67	0	0	67	7	0	0	0	7	0	99	14	0	113	0	187	187
Total	0	0	0	0	0	2	288	0	0	290	25	0	3	0	28	0	406	48	0	454	0	772	772
17:00	0	0	0	0	0	0	59	0	0	59	8	0	1	0	9	0	132	12	1	144	1	212	213
17:15	0	0	0	0	0	0	78	0	0	78	8	0	1	2	9	0	143	11	0	154	2	241	243
17:30	0	0	0	0	0	1	61	0	0	62	13	0	1	0	14	0	137	16	0	153	0	229	229
17:45	0	0	0	0	0	1	79	0	0	80	8	0	0	0	8	0	131	14	0	145	0	233	233
Total	0	0	0	0	0	2	277	0	0	279	37	0	3	2	40	0	543	53	1	596	3	915	918
Grand Total	0	0	0	0	0	10	1686	0	0	1696	171	0	12	2	183	0	1360	144	2	1504	4	3383	3387
Apprch %	0	0	0	0	0	0.6	99.4	0	0	99.4	93.4	0	6.6	0	93.4	0	90.4	9.6	0	90.4	0.1	99.9	99.9
Total %	0	0	0	0	0	0.3	49.8	0	0	50.1	5.1	0	0.4	0	5.4	0	40.2	4.3	0	44.5	0.1	99.9	99.9

Start Time	Southbound				Serrano Parkway Westbound				Panela Way Northbound				Serrano Parkway Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15	0	0	0	0	0	137	0	137	18	0	1	19	0	49	8	57	213
07:30	0	0	0	0	2	148	0	150	19	0	2	21	0	79	7	86	257
07:45	0	0	0	0	1	208	0	209	11	0	1	12	0	67	6	73	294
08:00	0	0	0	0	0	143	0	143	14	0	0	14	0	56	9	65	222
Total Volume	0	0	0	0	3	636	0	639	62	0	4	66	0	194	24	248	986

% App. Total	0	0	0	0.5	99.5	0	93.9	0	6.1	0	89.3	10.7			
PHF	.000	.000	.000	.375	.764	.000	.816	.000	.500	.786	.000	.794	.833	.817	.838



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

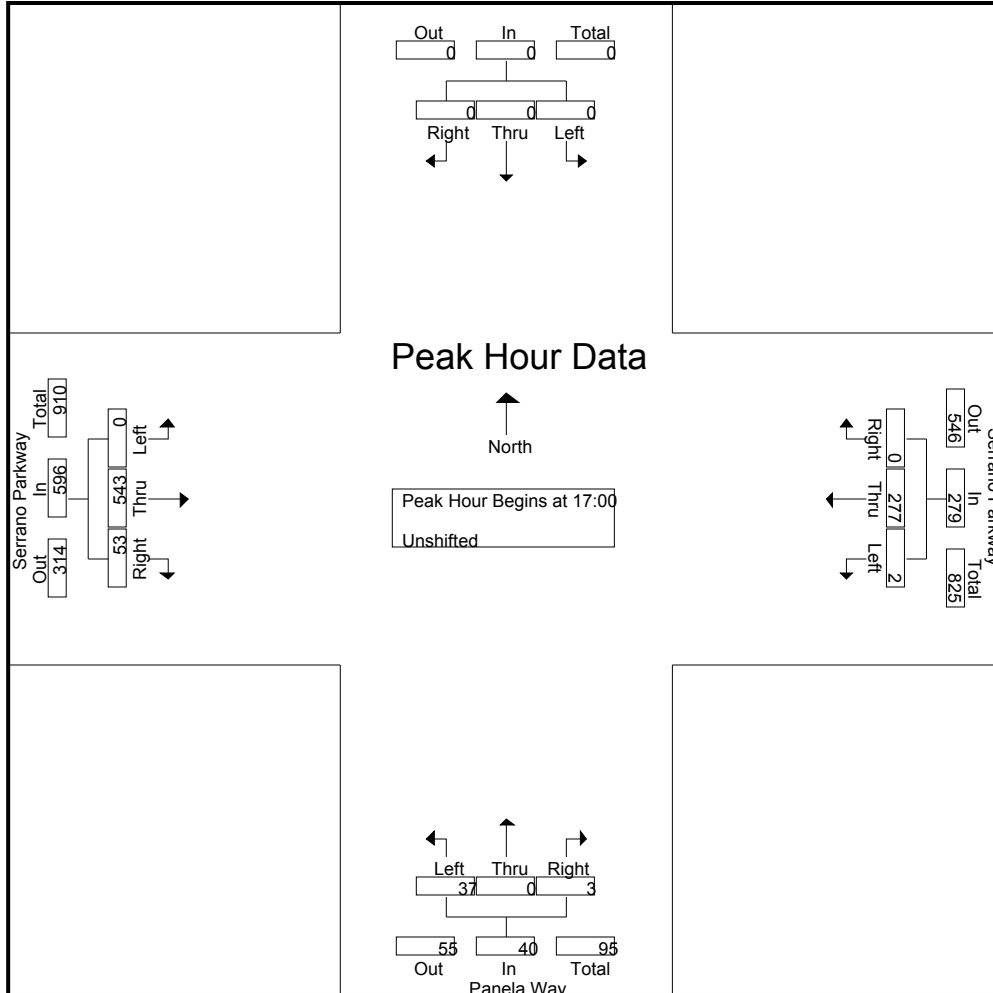
17:00	0	0	0	0	0	59	0	59	8	0	1	9	0	132	12	144	212
17:15	0	0	0	0	0	78	0	78	8	0	1	9	0	143	11	154	241
17:30	0	0	0	0	1	61	0	62	13	0	1	14	0	137	16	153	229
17:45	0	0	0	0	1	79	0	80	8	0	0	8	0	131	14	145	233
Total Volume	0	0	0	0	2	277	0	279	37	0	3	40	0	543	53	596	915
% App. Total	0	0	0	0	0.7	99.3	0	92.5	0	7.5	0	8.9	0	91.1	8.9		
PHF	.000	.000	.000	.000	.500	.877	.000	.872	.712	.000	.750	.714	.000	.949	.828	.968	.949

All Traffic Data

(916) 771-8700

El Dorado County
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-012 Panela-Serrano
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County
Bicycles on Bank 1
Heavy Vehicles on Bank 2

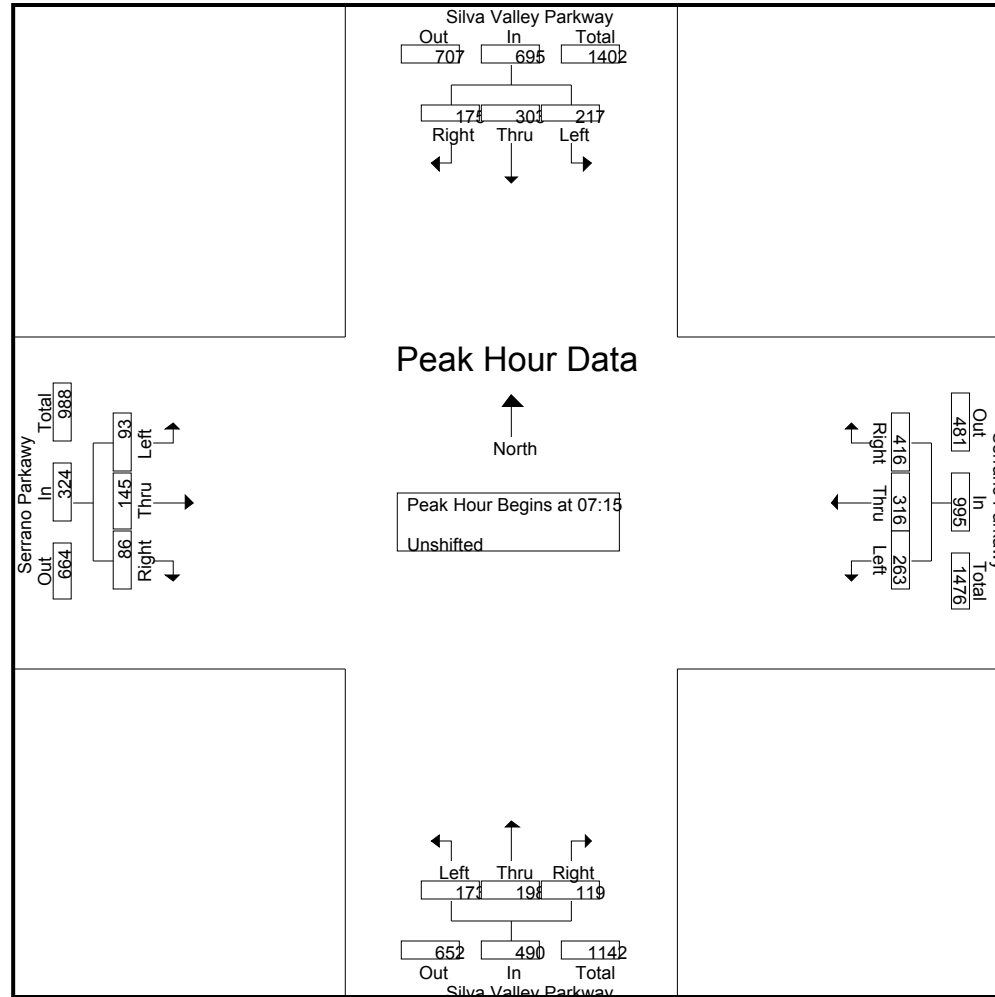
File Name : 12-7225-013 Silva Valley-Serrano
Site Code : 00000000
Start Date : 5/22/2012
Page No : 1

Groups Printed- Unshifted

Start Time	Silva Valley Parkway Southbound					Serrano Parkawy Westbound					Silva Valley Parkway Northbound					Serrano Parkawy Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	15	34	26	2	75	27	78	104	2	209	12	45	14	1	71	20	23	6	0	49	5	404	409
07:15	50	71	42	2	163	44	75	155	1	274	9	65	19	2	93	27	33	8	0	68	5	598	603
07:30	44	105	48	0	197	78	73	139	2	290	47	58	25	0	130	39	21	24	1	84	3	701	704
07:45	84	69	55	2	208	87	94	65	6	246	101	50	49	0	200	12	48	45	0	105	8	759	767
Total	193	279	171	6	643	236	320	463	11	1019	169	218	107	3	494	98	125	83	1	306	21	2462	2483
08:00	39	58	30	1	127	54	74	57	1	185	16	25	26	1	67	15	43	9	3	67	6	446	452
08:15	31	55	24	1	110	40	78	88	2	206	16	38	15	0	69	13	19	5	2	37	5	422	427
08:30	36	41	25	0	102	32	78	44	0	154	10	15	19	0	44	5	32	7	0	44	0	344	344
08:45	19	30	10	0	59	44	66	44	0	154	16	25	20	0	61	12	27	8	3	47	3	321	324
Total	125	184	89	2	398	170	296	233	3	699	58	103	80	1	241	45	121	29	8	195	14	1533	1547
16:00	31	28	15	0	74	29	35	36	2	100	9	63	74	0	146	22	59	12	1	93	3	413	416
16:15	30	25	13	0	68	40	45	41	0	126	20	53	48	0	121	18	62	12	1	92	1	407	408
16:30	46	38	23	0	107	26	50	32	1	108	16	39	68	1	123	22	70	13	2	105	4	443	447
16:45	42	25	15	0	82	29	50	32	0	111	17	59	54	0	130	29	56	6	1	91	1	414	415
Total	149	116	66	0	331	124	180	141	3	445	62	214	244	1	520	91	247	43	5	381	9	1677	1686
17:00	38	30	15	0	83	20	48	44	3	112	19	73	74	2	166	33	87	13	1	133	6	494	500
17:15	41	41	24	0	106	36	56	79	1	171	18	90	76	1	184	38	69	10	1	117	3	578	581
17:30	29	27	23	0	79	23	44	75	3	142	20	65	72	2	157	35	68	13	0	116	5	494	499
17:45	54	50	24	0	128	32	45	65	0	142	8	60	63	0	131	31	73	13	0	117	0	518	518
Total	162	148	86	0	396	111	193	263	7	567	65	288	285	5	638	137	297	49	2	483	14	2084	2098
Grand Total	629	727	412	8	1768	641	989	1100	24	2730	354	823	716	10	1893	371	790	204	16	1365	58	7756	7814
Apprch %	35.6	41.1	23.3			23.5	36.2	40.3			18.7	43.5	37.8			27.2	57.9	14.9					
Total %	8.1	9.4	5.3		22.8	8.3	12.8	14.2		35.2	4.6	10.6	9.2		24.4	4.8	10.2	2.6		17.6	0.7	99.3	

Start Time	Silva Valley Parkway Southbound				Serrano Parkawy Westbound				Silva Valley Parkway Northbound				Serrano Parkawy Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15	50	71	42	163	44	75	155	274	9	65	19	93	27	33	8	68	598
07:30	44	105	48	197	78	73	139	290	47	58	25	130	39	21	24	84	701
07:45	84	69	55	208	87	94	65	246	101	50	49	200	12	48	45	105	759
08:00	39	58	30	127	54	74	57	185	16	25	26	67	15	43	9	67	446
Total Volume	217	303	175	695	263	316	416	995	173	198	119	490	93	19-1670	2F-51	of 433	2504

% App. Total	31.2	43.6	25.2		26.4	31.8	41.8		35.3	40.4	24.3		28.7	44.8	26.5		
PHF	.646	.721	.795	.835	.756	.840	.671	.858	.428	.762	.607	.613	.596	.755	.478	.771	.825



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 17:00

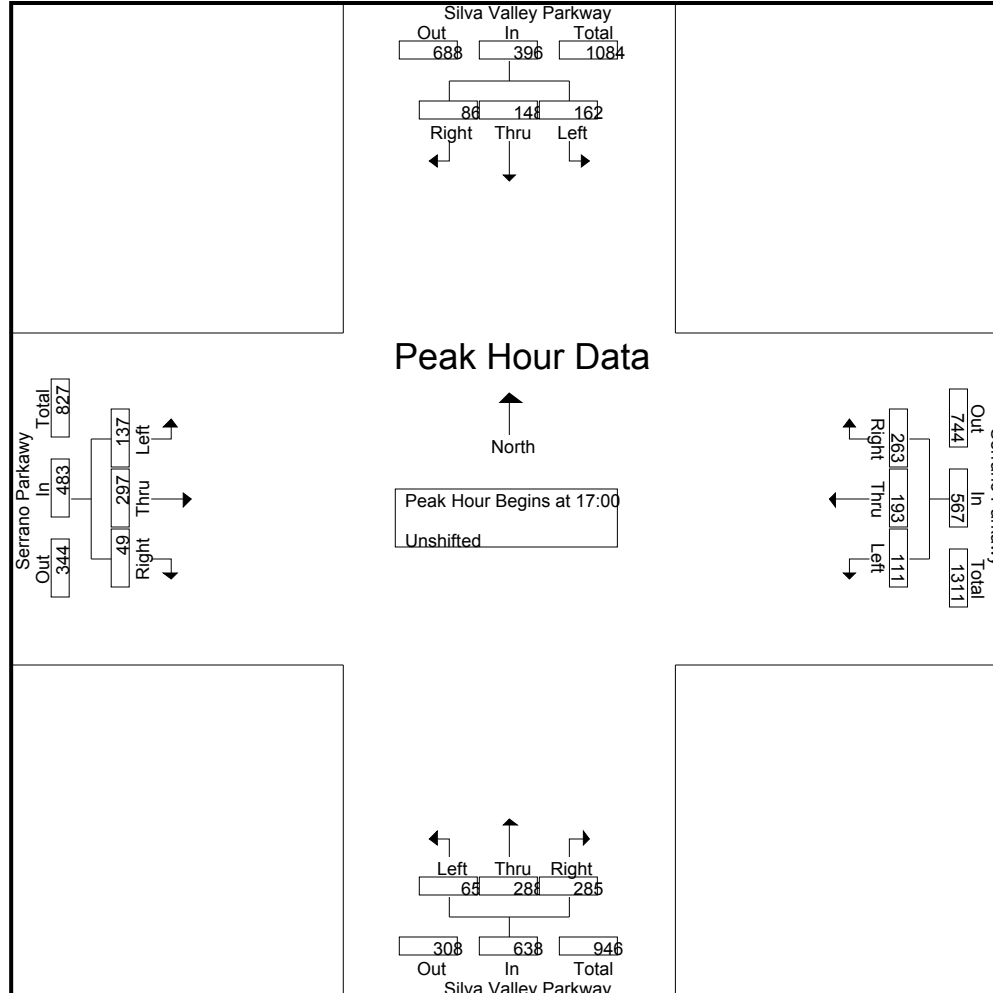
17:00	38	30	15	83	20	48	44	112	19	73	74	166	33	87	13	133	494
17:15	41	41	24	106	36	56	79	171	18	90	76	184	38	69	10	117	578
17:30	29	27	23	79	23	44	75	142	20	65	72	157	35	68	13	116	494
17:45	54	50	24	128	32	45	65	142	8	60	63	131	31	73	13	117	518
Total Volume	162	148	86	396	111	193	263	567	65	288	285	638	137	297	49	483	2084
% App. Total	40.9	37.4	21.7		19.6	34	46.4		10.2	45.1	44.7		28.4	61.5	10.1		
PHF	.750	.740	.896	.773	.771	.862	.832	.829	.813	.800	.938	.867	.901	.853	.942	.908	.901

All Traffic Data

(916) 771-8700

El Dorado County
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-013 Silva Valley-Serrano
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-005 El Dorado Hills-Park
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 1

Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound					Park Dr Westbound					El Dorado Hills Blvd Northbound					Eastbound				Exclu. Total	Inclu. Total	Int. Total	
	Left	Thr	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	App. Total				
07:00	11	356	0	0	367	40	0	7	0	47	0	124	35	0	159	0	0	0	0	0	0	573	573
07:15	17	459	0	0	476	50	0	12	0	62	0	122	47	0	169	0	0	0	0	0	0	707	707
07:30	15	484	0	0	499	55	0	9	0	64	0	139	40	0	179	0	0	0	0	0	0	742	742
07:45	21	532	0	0	553	62	0	16	0	78	0	182	53	0	235	0	0	0	0	0	0	866	866
Total	64	1831	0	0	1895	207	0	44	0	251	0	567	175	0	742	0	0	0	0	0	0	2888	2888
08:00	11	467	0	0	478	51	0	9	0	60	0	176	45	0	221	0	0	0	0	0	0	759	759
08:15	13	372	0	0	385	39	0	16	0	55	0	163	48	0	211	0	0	0	0	0	0	651	651
08:30	12	382	0	0	394	35	0	13	0	48	0	168	40	0	208	0	0	0	0	0	0	650	650
08:45	13	370	0	0	383	44	0	5	0	49	0	204	39	0	243	0	0	0	0	0	0	675	675
Total	49	1591	0	0	1640	169	0	43	0	212	0	711	172	0	883	0	0	0	0	0	0	2735	2735
16:00	9	208	0	0	217	55	0	27	0	82	0	320	91	0	411	0	0	0	0	0	0	710	710
16:15	10	202	0	0	212	57	0	20	0	77	0	311	73	0	384	0	0	0	0	0	0	673	673
16:30	14	235	0	0	249	45	0	20	0	65	0	359	72	0	431	0	0	0	0	0	0	745	745
16:45	15	209	0	0	224	41	0	24	2	65	0	342	75	0	417	0	0	0	0	0	2	706	708
Total	48	854	0	0	902	198	0	91	2	289	0	1332	311	0	1643	0	0	0	0	0	2	2834	2836
17:00	18	245	0	3	263	60	0	22	0	82	0	441	94	0	535	0	0	0	0	3	0	880	883
17:15	18	232	0	0	250	55	0	28	0	83	0	438	79	0	517	0	0	0	0	0	0	850	850
17:30	16	215	0	0	231	41	0	20	0	61	0	423	86	0	509	0	0	0	0	0	0	801	801
17:45	9	236	0	0	245	45	0	21	0	66	0	388	67	0	455	0	0	0	0	0	0	766	766
Total	61	928	0	3	989	201	0	91	0	292	0	1690	326	0	2016	0	0	0	0	3	0	3297	3300
Grand Total	222	5204	0	3	5426	775	0	269	2	1044	0	4300	984	0	5284	0	0	0	0	5	0	11754	11759
Apprch %	4.1	95.9	0			74.2	0	25.8			0	81.4	18.6			0	0	0					
Total %	1.9	44.3	0		46.2	6.6	0	2.3		8.9	0	36.6	8.4		45	0	0	0		0	0	100	

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-005 El Dorado Hills-Park
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 2

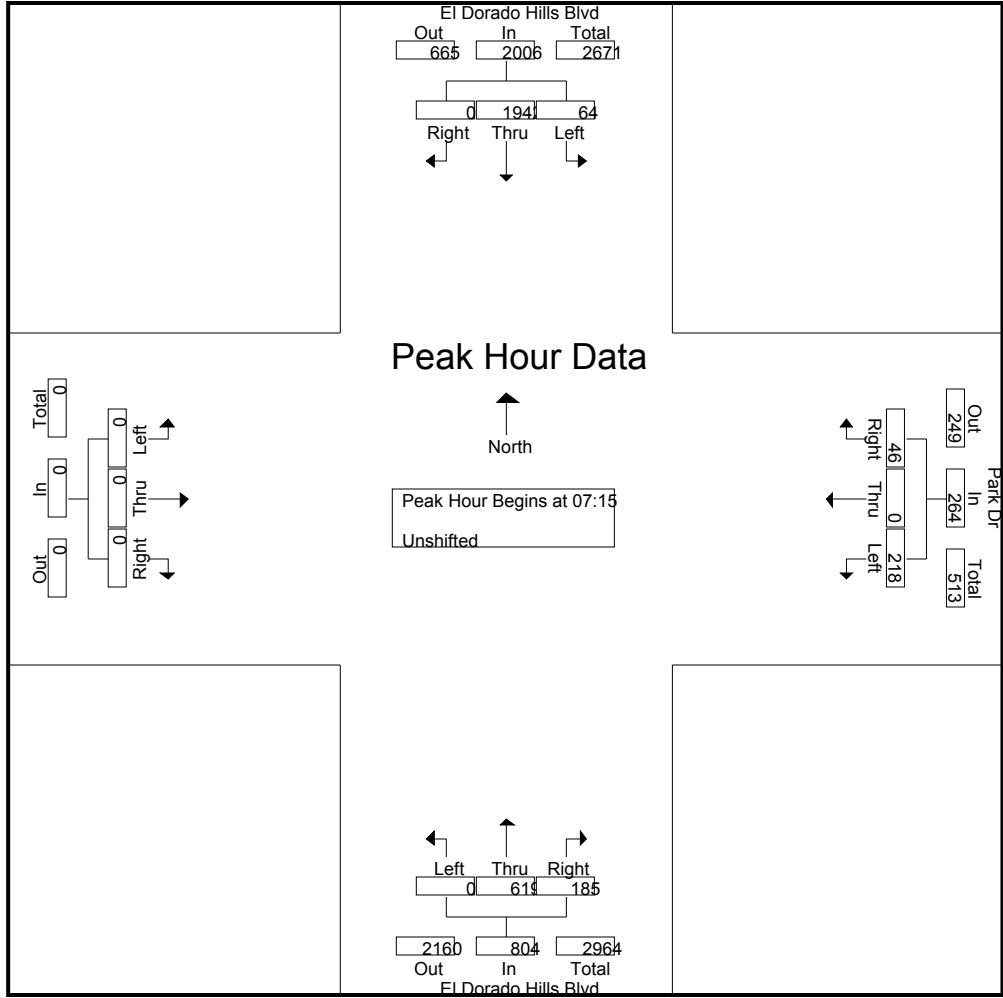
Start Time	El Dorado Hills Blvd Southbound				Park Dr Westbound				El Dorado Hills Blvd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	17	459	0	476	50	0	12	62	0	122	47	169	0	0	0	0	707
07:30	15	484	0	499	55	0	9	64	0	139	40	179	0	0	0	0	742
07:45	21	532	0	553	62	0	16	78	0	182	53	235	0	0	0	0	866
08:00	11	467	0	478	51	0	9	60	0	176	45	221	0	0	0	0	759
Total Volume	64	1942	0	2006	218	0	46	264	0	619	185	804	0	0	0	0	3074
% App. Total	3.2	96.8	0		82.6	0	17.4		0	77	23		0	0	0		
PHF	.762	.913	.000	.907	.879	.000	.719	.846	.000	.850	.873	.855	.000	.000	.000	.000	.887

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-005 El Dorado Hills-Park
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-005 El Dorado Hills-Park
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 4

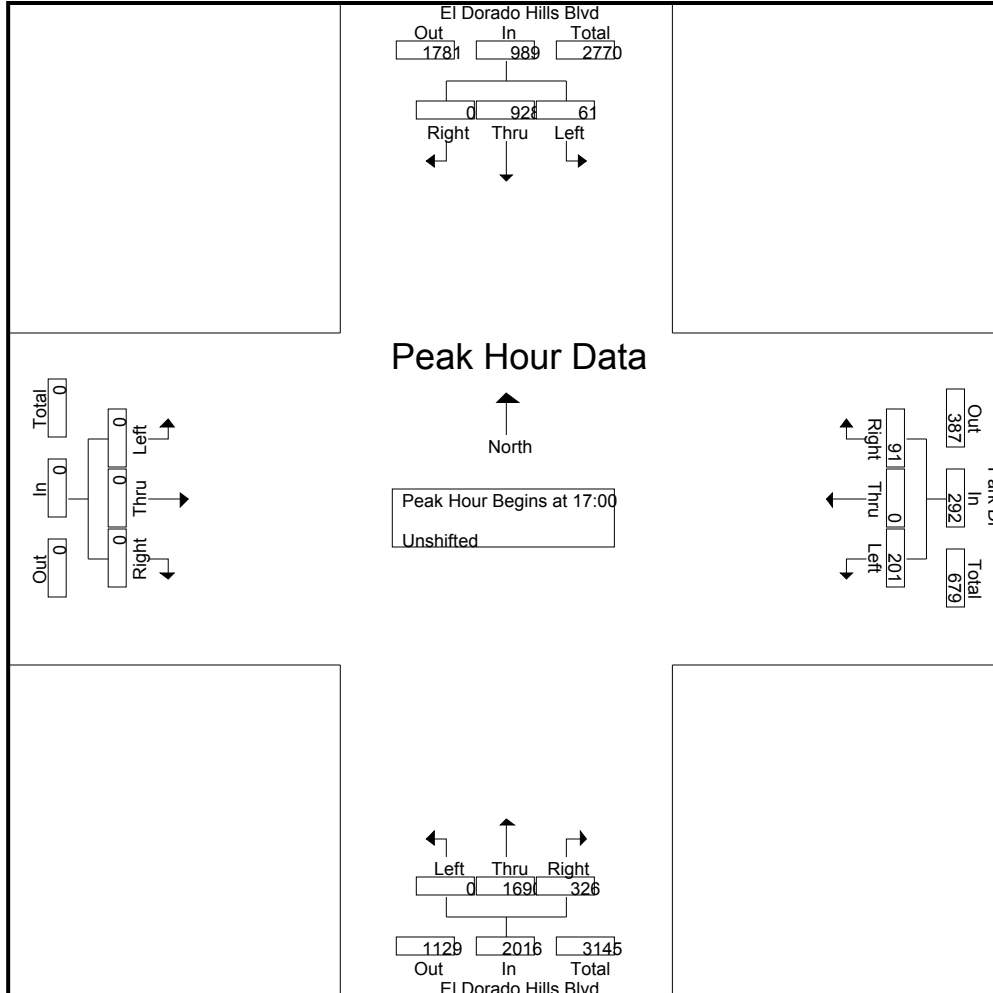
Start Time	El Dorado Hills Blvd Southbound				Park Dr Westbound				El Dorado Hills Blvd Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	18	245	0	263	60	0	22	82	0	441	94	535	0	0	0	0	880
17:15	18	232	0	250	55	0	28	83	0	438	79	517	0	0	0	0	850
17:30	16	215	0	231	41	0	20	61	0	423	86	509	0	0	0	0	801
17:45	9	236	0	245	45	0	21	66	0	388	67	455	0	0	0	0	766
Total Volume	61	928	0	989	201	0	91	292	0	1690	326	2016	0	0	0	0	3297
% App. Total	6.2	93.8	0		68.8	0	31.2		0	83.8	16.2		0	0	0		
PHF	.847	.947	.000	.940	.838	.000	.813	.880	.000	.958	.867	.942	.000	.000	.000	.000	.937

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-005 El Dorado Hills-Park
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 5



All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-004 El Dorado Hills-Saratoga
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 1

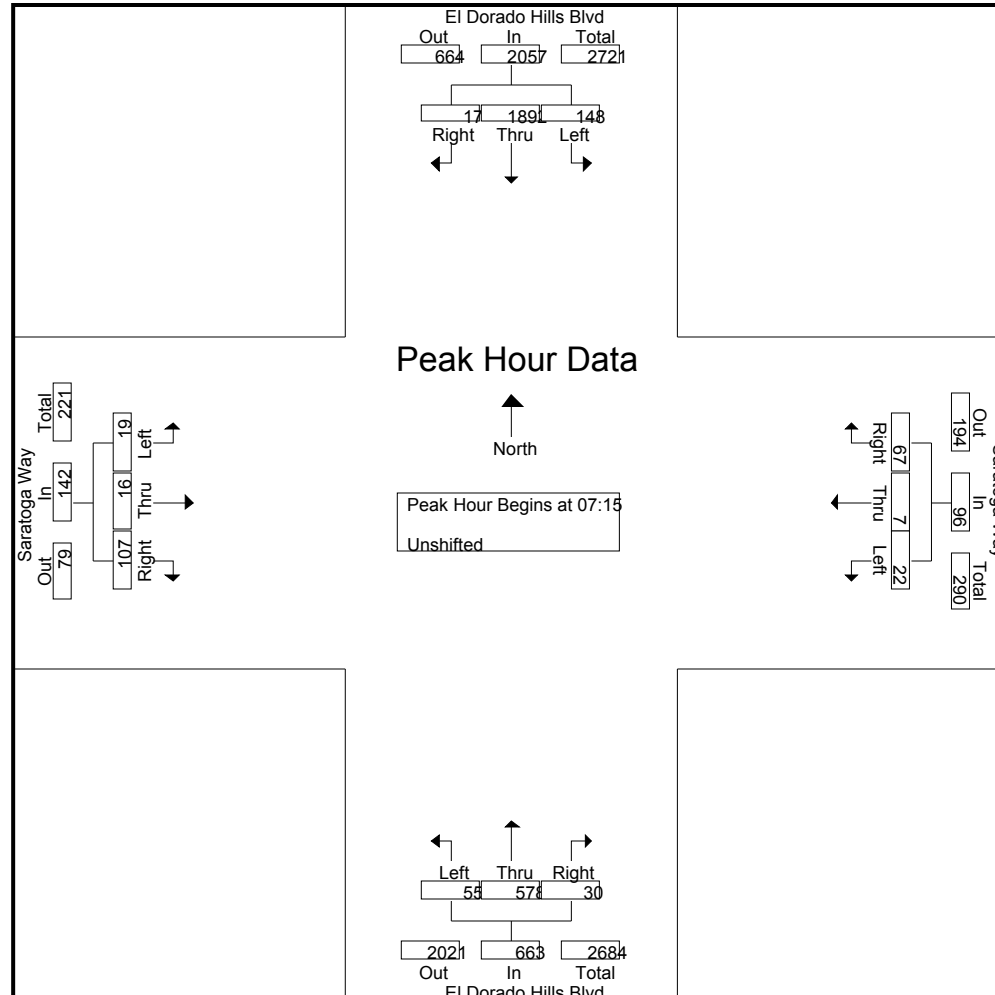
Groups Printed- Unshifted

Start Time	El Dorado Hills Blvd Southbound					Saratoga Way Westbound					El Dorado Hills Blvd Northbound					Saratoga Way Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	32	372	6	0	410	4	1	10	0	15	8	124	2	0	134	7	2	21	0	30	0	589	589
07:15	34	458	4	0	496	5	1	11	0	17	11	108	5	0	124	9	4	14	0	27	0	664	664
07:30	35	474	4	1	513	7	0	14	0	21	11	132	7	0	150	3	7	36	0	46	1	730	731
07:45	47	541	3	0	591	3	2	15	0	20	16	172	10	0	198	5	2	23	0	30	0	839	839
Total	148	1845	17	1	2010	19	4	50	0	73	46	536	24	0	606	24	15	94	0	133	1	2822	2823
08:00	32	419	6	0	457	7	4	27	0	38	17	166	8	0	191	2	3	34	0	39	0	725	725
08:15	38	365	1	1	404	4	1	10	0	15	16	162	13	0	191	5	1	24	0	30	1	640	641
08:30	29	348	5	0	382	4	5	17	0	26	11	150	13	0	174	5	3	33	0	41	0	623	623
08:45	35	325	4	2	364	3	3	18	1	24	30	166	16	0	212	4	5	44	0	53	3	653	656
Total	134	1457	16	3	1607	18	13	72	1	103	74	644	50	0	768	16	12	135	0	163	4	2641	2645
16:00	36	197	3	0	236	14	2	50	0	66	14	308	14	0	336	4	6	10	0	20	0	658	658
16:15	31	177	8	0	216	7	4	72	0	83	20	308	16	0	344	10	5	20	0	35	0	678	678
16:30	45	230	5	0	280	11	7	58	0	76	19	336	10	0	365	5	6	19	0	30	0	751	751
16:45	36	216	5	2	257	7	3	66	2	76	22	333	24	0	379	10	4	15	0	29	4	741	745
Total	148	820	21	2	989	39	16	246	2	301	75	1285	64	0	1424	29	21	64	0	114	4	2828	2832
17:00	33	211	6	0	250	20	6	67	0	93	24	433	17	0	474	11	3	17	0	31	0	848	848
17:15	41	212	7	1	260	14	4	60	0	78	37	409	11	0	457	8	5	19	0	32	1	827	828
17:30	41	199	6	1	246	11	7	71	1	89	27	410	15	0	452	8	3	25	0	36	2	823	825
17:45	25	201	4	0	230	10	5	68	0	83	23	378	16	0	417	11	2	11	0	24	0	754	754
Total	140	823	23	2	986	55	22	266	1	343	111	1630	59	0	1800	38	13	72	0	123	3	3252	3255
Grand Total	570	4945	77	8	5592	131	55	634	4	820	306	4095	197	0	4598	107	61	365	0	533	12	11543	11555
Apprch %	10.2	88.4	1.4			16	6.7	77.3			6.7	89.1	4.3			20.1	11.4	68.5					
Total %	4.9	42.8	0.7		48.4	1.1	0.5	5.5		7.1	2.7	35.5	1.7		39.8	0.9	0.5	3.2		4.6	0.1	99.9	

Start Time	El Dorado Hills Blvd Southbound				Saratoga Way Westbound				El Dorado Hills Blvd Northbound				Saratoga Way Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:15	34	458	4	496	5	1	11	17	11	108	5	124	9	4	14	27	664
07:30	35	474	4	513	7	0	14	21	11	132	7	150	3	7	36	46	730
07:45	47	541	3	591	3	2	15	20	16	172	10	198	5	2	23	30	839
08:00	32	419	6	457	7	4	27	38	17	166	8	191	2	3	34	39	725
Total Volume	148	1892	17	2057	22	7	67	96	55	578	30	663	19	19	1670	2159	2958

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15

% App. Total	7.2	92	0.8		22.9	7.3	69.8		8.3	87.2	4.5		13.4	11.3	75.4		
PHF	.787	.874	.708	.870	.786	.438	.620	.632	.809	.840	.750	.837	.528	.571	.743	.772	.881



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 17:00

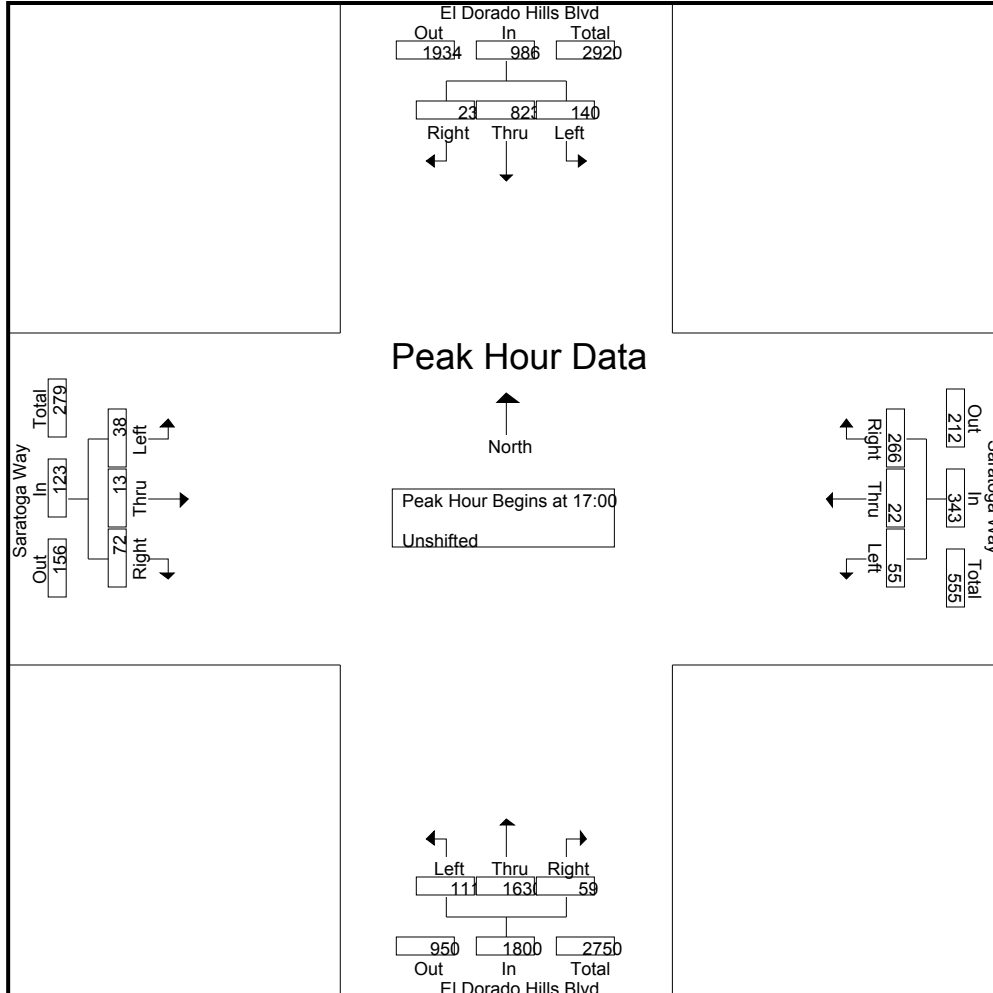
17:00	33	211	6	250	20	6	67	93	24	433	17	474	11	3	17	31	848
17:15	41	212	7	260	14	4	60	78	37	409	11	457	8	5	19	32	827
17:30	41	199	6	246	11	7	71	89	27	410	15	452	8	3	25	36	823
17:45	25	201	4	230	10	5	68	83	23	378	16	417	11	2	11	24	754
Total Volume	140	823	23	986	55	22	266	343	111	1630	59	1800	38	13	72	123	3252
% App. Total	14.2	83.5	2.3		16	6.4	77.6		6.2	90.6	3.3		30.9	10.6	58.5		
PHF	.854	.971	.821	.948	.688	.786	.937	.922	.750	.941	.868	.949	.864	.650	.720	.854	.959

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-004 El Dorado Hills-Saratoga
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-006 El Dorado Hills-US50 WB Ramps
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 1

Groups Printed- Unshifted

Start Time	El Dorado Hills Road Southbound					US-50 Westbound Ramps Westbound					El Dorado Hills Road Northbound					US-50 Westbound Ramps Eastbound					Exclu. Total	Inclu. Total	Int. Total	
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total				
07:00	0	114	286	0	400	117	0	43	0	160	85	122	0	0	207	0	0	0	0	0	0	0	767	767
07:15	0	192	328	0	520	137	0	57	0	194	90	108	0	0	198	0	0	0	0	0	0	0	912	912
07:30	0	197	331	0	528	145	0	51	0	196	101	124	0	0	225	0	0	0	0	0	0	0	949	949
07:45	0	295	320	0	615	207	1	70	1	278	100	173	0	0	273	0	0	0	0	0	0	1	1166	1167
Total	0	798	1265	0	2063	606	1	221	1	828	376	527	0	0	903	0	0	0	0	0	0	1	3794	3795
08:00	0	223	272	0	495	163	0	63	0	226	126	154	0	0	280	0	0	0	0	0	0	0	1001	1001
08:15	0	180	244	0	424	127	0	63	0	190	107	150	0	0	257	0	0	0	0	0	0	0	871	871
08:30	0	167	239	0	406	100	0	41	1	141	144	156	0	0	300	0	0	0	0	0	0	1	847	848
08:45	0	207	214	0	421	124	0	53	0	177	102	188	0	0	290	0	0	0	0	0	0	0	888	888
Total	0	777	969	0	1746	514	0	220	1	734	479	648	0	0	1127	0	0	0	0	0	0	1	3607	3608
16:00	0	127	139	0	266	72	0	48	0	120	240	352	0	0	592	0	0	0	0	0	0	0	978	978
16:15	0	151	111	0	262	58	2	55	1	115	181	341	0	0	522	0	0	0	0	0	0	1	899	900
16:30	0	131	130	0	261	60	0	48	0	108	311	381	0	0	692	0	0	0	0	0	0	0	1061	1061
16:45	0	142	120	0	262	78	0	41	3	119	214	385	0	0	599	0	0	0	0	0	0	3	980	983
Total	0	551	500	0	1051	268	2	192	4	462	946	1459	0	0	2405	0	0	0	0	0	0	4	3918	3922
17:00	0	182	127	0	309	61	0	65	0	126	322	457	0	0	779	0	0	0	0	0	0	0	1214	1214
17:15	0	153	124	0	277	92	1	69	1	162	262	443	0	0	705	0	0	0	0	0	0	1	1144	1145
17:30	0	141	112	0	253	62	0	51	1	113	251	456	0	0	707	0	0	0	0	0	0	1	1073	1074
17:45	0	152	124	0	276	82	0	60	0	142	186	393	0	0	579	0	0	0	0	0	0	0	997	997
Total	0	628	487	0	1115	297	1	245	2	543	1021	1749	0	0	2770	0	0	0	0	0	0	2	4428	4430
Grand Total	0	2754	3221	0	5975	1685	4	878	8	2567	2822	4383	0	0	7205	0	0	0	0	0	0	8	15747	15755
Apprch %	0	46.1	53.9			65.6	0.2	34.2			39.2	60.8	0	0		0	0	0						
Total %	0	17.5	20.5		37.9	10.7	0	5.6		16.3	17.9	27.8	0	0	45.8	0	0	0				0.1	99.9	

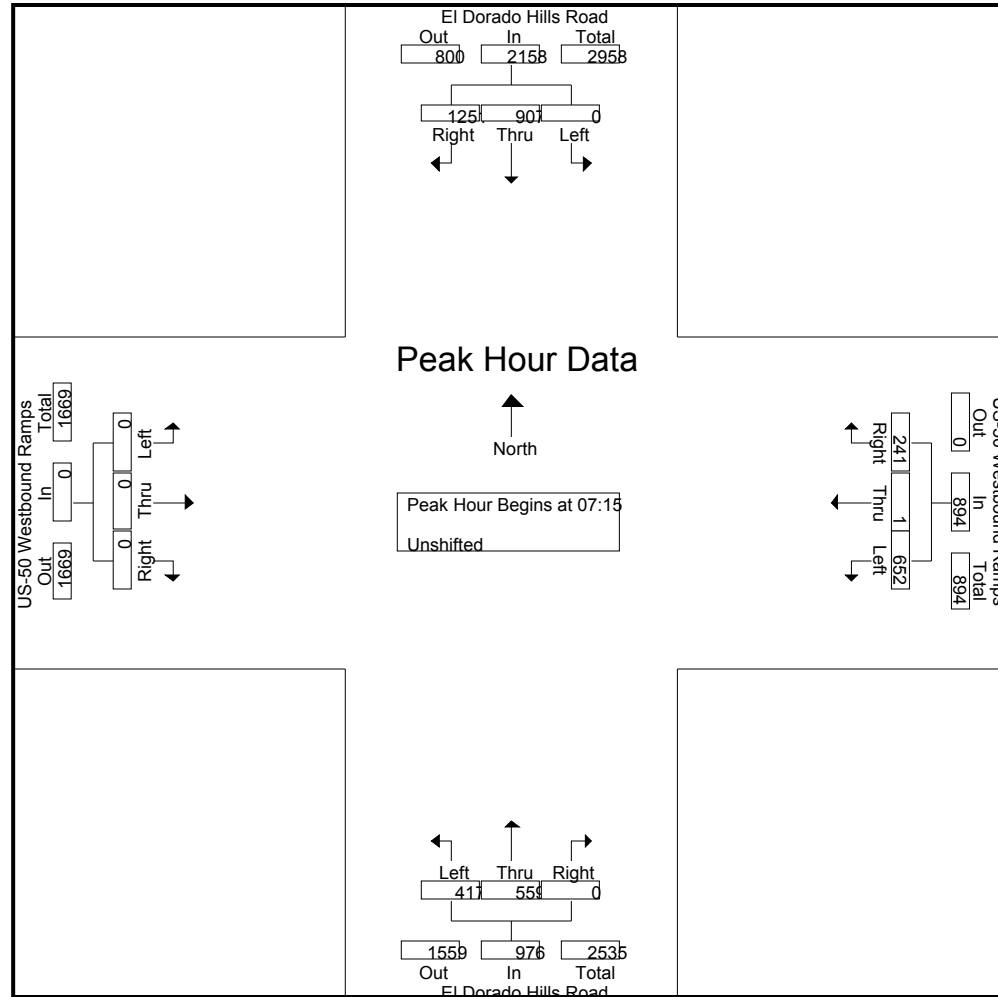
Start Time	El Dorado Hills Road Southbound				US-50 Westbound Ramps Westbound				El Dorado Hills Road Northbound				US-50 Westbound Ramps Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15

07:15	0	192	328	520	137	0	57	194	90	108	0	198	0	0	0	0	0	0	0	0	0	912
07:30	0	197	331	528	145	0	51	196	101	124	0	225	0	0	0	0	0	0	0	0	0	949
07:45	0	295	320	615	207	1	70	278	100	173	0	273	0	0	0	0	0	0	0	0	0	1166
08:00	0	223	272	495	163	0	63	226	126	154	0	280	0	0	0	0	0	0	0	0	0	1001
Total Volume	0	907	1251	2158	652	1	241	894	417	559	0	976	0	19-1670	2F 62 of 433							4028

% App. Total	0	42	58		72.9	0.1	27		42.7	57.3	0		0	0	0	
PHF	.000	.769	.945	.877	.787	.250	.861	.804	.827	.808	.000	.871	.000	.000	.000	.000



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 17:00

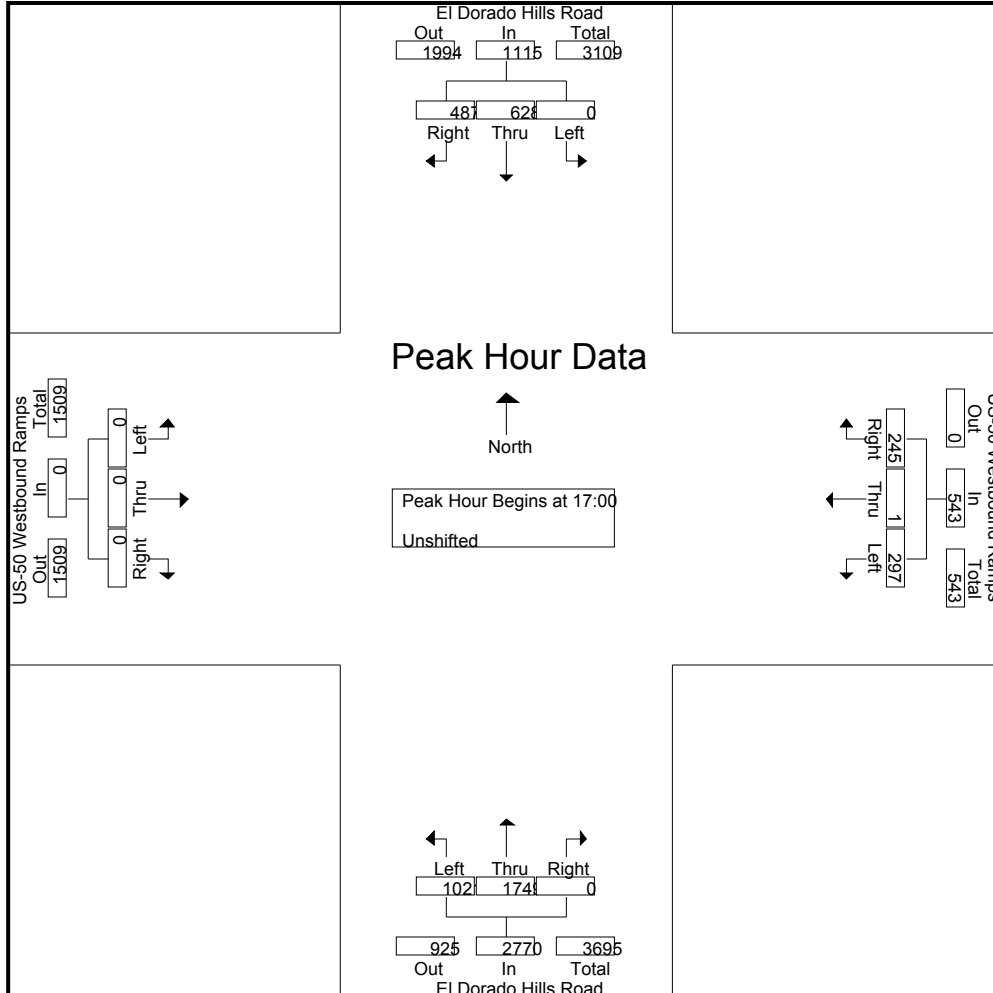
17:00	0	182	127	309	61	0	65	126	322	457	0	779	0	0	0	0	1214
17:15	0	153	124	277	92	1	69	162	262	443	0	705	0	0	0	0	1144
17:30	0	141	112	253	62	0	51	113	251	456	0	707	0	0	0	0	1073
17:45	0	152	124	276	82	0	60	142	186	393	0	579	0	0	0	0	997
Total Volume	0	628	487	1115	297	1	245	543	1021	1749	0	2770	0	0	0	0	4428
% App. Total	0	56.3	43.7		54.7	0.2	45.1		36.9	63.1	0		0	0	0		
PHF	.000	.863	.959	.902	.807	.250	.888	.838	.793	.957	.000	.889	.000	.000	.000	.000	.912

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-006 El Dorado Hills-US50 WB Ramps
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-007 Latrobe-US50 EB Ramps
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 1

Groups Printed- Unshifted

Start Time	Latrobe Rd Southbound					US 50 EB Ramps Westbound					Latrobe Rd Northbound					US 50 EB Ramps Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	37	198	0	0	235	0	0	65	0	65	0	147	43	0	190	0	0	209	0	209	0	699	699
07:15	52	264	0	0	316	0	0	52	0	52	0	132	38	0	170	0	0	238	0	238	0	776	776
07:30	71	302	0	0	373	0	0	74	0	74	0	154	47	0	201	0	0	256	0	256	0	904	904
07:45	83	398	0	0	481	0	0	96	1	96	0	167	42	0	209	0	0	309	0	309	1	1095	1096
Total	243	1162	0	0	1405	0	0	287	1	287	0	600	170	0	770	0	0	1012	0	1012	1	3474	3475
08:00	48	362	0	0	410	0	0	85	0	85	0	187	50	0	237	0	0	284	0	284	0	1016	1016
08:15	35	280	0	0	315	0	0	77	0	77	0	199	59	0	258	0	0	305	0	305	0	955	955
08:30	41	230	0	0	271	0	0	83	1	83	0	214	63	0	277	0	0	225	0	225	1	856	857
08:45	37	280	0	0	317	0	0	78	0	78	0	211	39	0	250	0	0	222	0	222	0	867	867
Total	161	1152	0	0	1313	0	0	323	1	323	0	811	211	0	1022	0	0	1036	0	1036	1	3694	3695
16:00	38	160	0	0	198	0	0	202	0	202	0	402	144	0	546	0	0	146	0	146	0	1092	1092
16:15	47	176	0	0	223	0	0	185	1	185	0	334	123	0	457	0	0	174	0	174	1	1039	1040
16:30	38	145	0	0	183	0	0	235	0	235	0	432	182	0	614	0	0	181	0	181	0	1213	1213
16:45	44	175	0	0	219	0	0	221	0	221	0	405	179	0	584	0	0	197	0	197	0	1221	1221
Total	167	656	0	0	823	0	0	843	1	843	0	1573	628	0	2201	0	0	698	0	698	1	4565	4566
17:00	77	168	0	0	245	0	0	251	1	251	0	542	196	0	738	0	0	160	0	160	1	1394	1395
17:15	40	201	0	0	241	0	0	170	1	170	0	522	226	0	748	0	0	202	0	202	1	1361	1362
17:30	40	155	0	0	195	0	0	279	1	279	0	387	146	0	533	0	0	195	0	195	1	1202	1203
17:45	54	198	0	0	252	0	0	249	0	249	0	336	134	0	470	0	0	212	0	212	0	1183	1183
Total	211	722	0	0	933	0	0	949	3	949	0	1787	702	0	2489	0	0	769	0	769	3	5140	5143
Grand Total	782	3692	0	0	4474	0	0	2402	6	2402	0	4771	1711	0	6482	0	0	3515	0	3515	6	16873	16879
Apprch %	17.5	82.5	0			0	0	100			0	73.6	26.4			0	0	100			0	16873	16879
Total %	4.6	21.9	0		26.5	0	0	14.2		14.2	0	28.3	10.1		38.4	0	0	20.8		20.8	0	100	

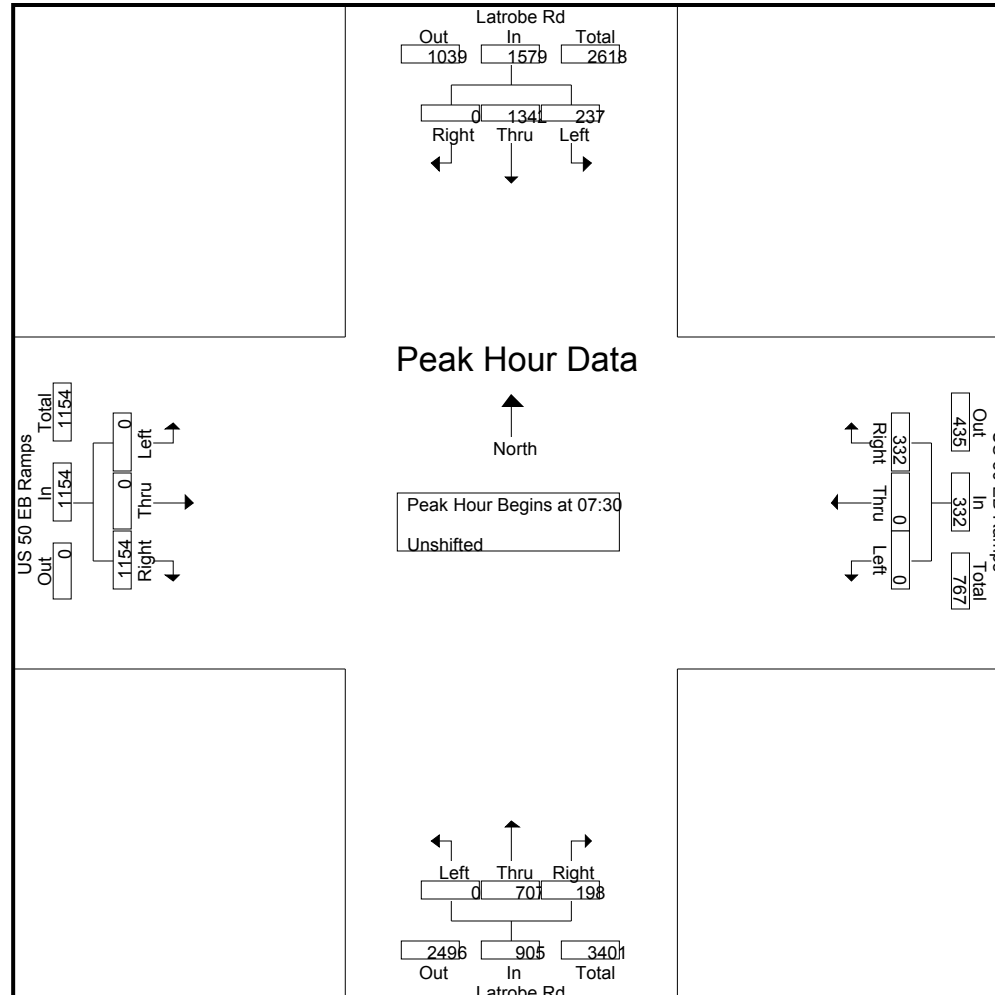
Start Time	Latrobe Rd Southbound				US 50 EB Ramps Westbound				Latrobe Rd Northbound				US 50 EB Ramps Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30

07:30	71	302	0	373	0	0	74	74	0	154	47	201	0	0	256	256	904
07:45	83	398	0	481	0	0	96	96	0	167	42	209	0	0	309	309	1095
08:00	48	362	0	410	0	0	85	85	0	187	50	237	0	0	284	284	1016
08:15	35	280	0	315	0	0	77	77	0	199	59	258	0	0	305	305	955
Total Volume	237	1342	0	1579	0	0	332	332	0	707	198	905	0	0	1916	2156	3970

% App. Total	15	85	0	0	0	100	0	78.1	21.9	0	0	100					
PHF	.714	.843	.000	.821	.000	.000	.865	.865	.000	.888	.839	.877	.000	.000	.934	.934	.906



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 16:30

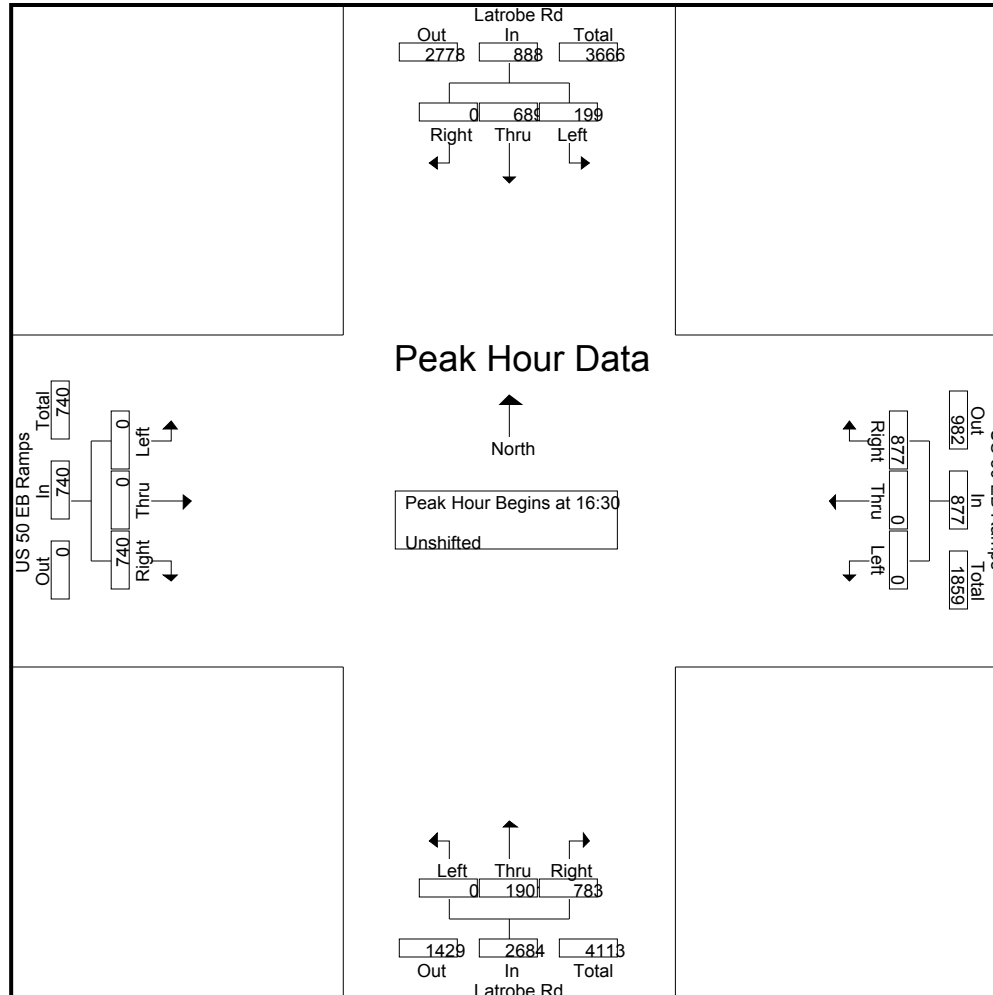
16:30	38	145	0	183	0	0	235	235	0	432	182	614	0	0	181	181	1213
16:45	44	175	0	219	0	0	221	221	0	405	179	584	0	0	197	197	1221
17:00	77	168	0	245	0	0	251	251	0	542	196	738	0	0	160	160	1394
17:15	40	201	0	241	0	0	170	170	0	522	226	748	0	0	202	202	1361
Total Volume	199	689	0	888	0	0	877	877	0	1901	783	2684	0	0	740	740	5189
% App. Total	22.4	77.6	0	100	0	0	100	100	0	70.8	29.2	100	0	0	100	100	100
PHF	.646	.857	.000	.906	.000	.000	.874	.874	.000	.877	.866	.897	.000	.000	.916	.916	.931

All Traffic Data

(916) 771-8700

City of El Dorado Hills
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-007 Latrobe-US50 EB Ramps
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County
Bicycles on Bank 1
Heavy Vehicles on Bank 2

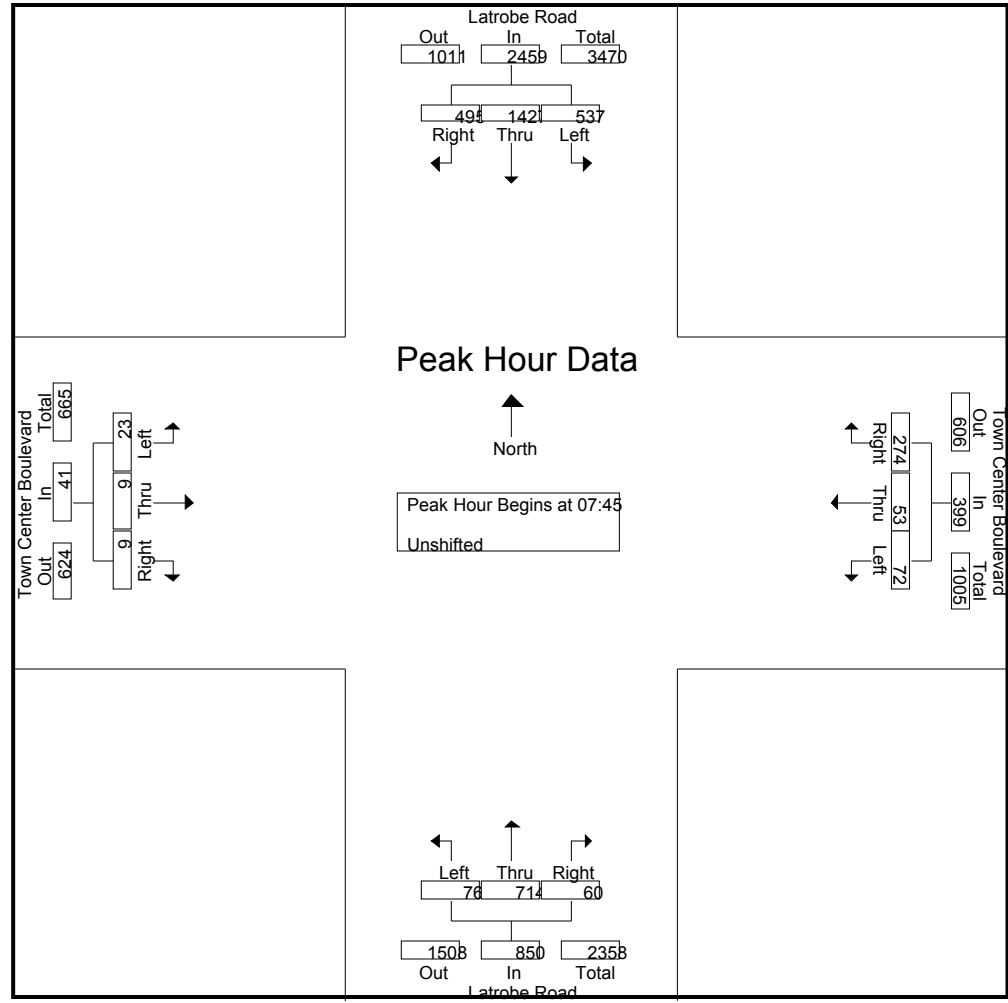
File Name : 12-7225-008 Latrobe-Town Center
Site Code : 00000000
Start Date : 5/22/2012
Page No : 1

Groups Printed- Unshifted

Start Time	Latrobe Road Southbound					Town Center Boulevard Westbound					Latrobe Road Northbound					Town Center Boulevard Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	88	243	61	0	392	15	8	40	0	63	10	146	12	0	168	2	1	1	0	4	0	627	627
07:15	110	306	106	0	522	13	11	53	0	77	15	130	8	0	153	3	0	1	0	4	0	756	756
07:30	115	297	124	0	536	15	10	48	0	73	15	144	5	4	164	5	0	0	3	5	7	778	785
07:45	158	423	169	0	750	21	15	57	0	93	26	164	15	1	205	4	3	3	0	10	1	1058	1059
Total	471	1269	460	0	2200	64	44	198	0	306	66	584	40	5	690	14	4	5	3	23	8	3219	3227
08:00	116	408	145	0	669	23	12	60	0	95	15	174	16	1	205	7	4	3	0	14	1	983	984
08:15	126	347	103	0	576	17	16	67	0	100	15	183	12	1	210	4	0	0	0	4	1	890	891
08:30	137	249	78	0	464	11	10	90	0	111	20	193	17	0	230	8	2	3	0	13	0	818	818
08:45	142	288	71	0	501	14	7	98	0	119	13	157	25	5	195	3	2	2	0	7	5	822	827
Total	521	1292	397	0	2210	65	45	315	0	425	63	707	70	7	840	22	8	8	0	38	7	3513	3520
16:00	117	152	4	0	273	16	1	162	0	179	4	314	27	0	345	83	9	13	0	105	0	902	902
16:15	159	196	5	0	360	7	2	156	0	165	4	263	27	2	294	63	17	18	3	98	5	917	922
16:30	122	188	5	0	315	12	3	176	0	191	1	316	12	0	329	112	17	26	0	155	0	990	990
16:45	159	192	9	0	360	11	2	191	0	204	0	356	39	0	395	84	11	28	0	123	0	1082	1082
Total	557	728	23	0	1308	46	8	685	0	739	9	1249	105	2	1363	342	54	85	3	481	5	3891	3896
17:00	147	183	6	0	336	16	3	191	0	210	1	428	37	2	466	113	32	51	2	196	4	1208	1212
17:15	204	253	4	0	461	19	2	225	0	246	1	397	37	0	435	103	10	40	0	153	0	1295	1295
17:30	121	214	4	0	339	13	2	154	0	169	1	292	29	0	322	65	7	13	0	85	0	915	915
17:45	167	225	10	0	402	10	2	141	0	153	0	279	24	0	303	57	5	11	0	73	0	931	931
Total	639	875	24	0	1538	58	9	711	0	778	3	1396	127	2	1526	338	54	115	2	507	4	4349	4353
Grand Total	2188	4164	904	0	7256	233	106	1909	0	2248	141	3936	342	16	4419	716	120	213	8	1049	24	14972	14996
Apprch %	30.2	57.4	12.5			10.4	4.7	84.9			3.2	89.1	7.7			68.3	11.4	20.3					
Total %	14.6	27.8	6		48.5	1.6	0.7	12.8		15	0.9	26.3	2.3		29.5	4.8	0.8	1.4		7	0.2	99.8	

Start Time	Latrobe Road Southbound				Town Center Boulevard Westbound				Latrobe Road Northbound				Town Center Boulevard Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:45	158	423	169	750	21	15	57	93	26	164	15	205	4	3	3	10	1058
08:00	116	408	145	669	23	12	60	95	15	174	16	205	7	4	3	14	983
08:15	126	347	103	576	17	16	67	100	15	183	12	210	4	0	0	4	890
08:30	137	249	78	464	11	10	90	111	20	193	17	230	8	2	3	13	818
Total Volume	537	1427	495	2459	72	53	274	399	76	714	60	850	23	19	1670	2668	3749

% App. Total	21.8	58	20.1		18	13.3	68.7		8.9	84	7.1		56.1	22	22		
PHF	.850	.843	.732	.820	.783	.828	.761	.899	.731	.925	.882	.924	.719	.563	.750	.732	.886



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 16:30

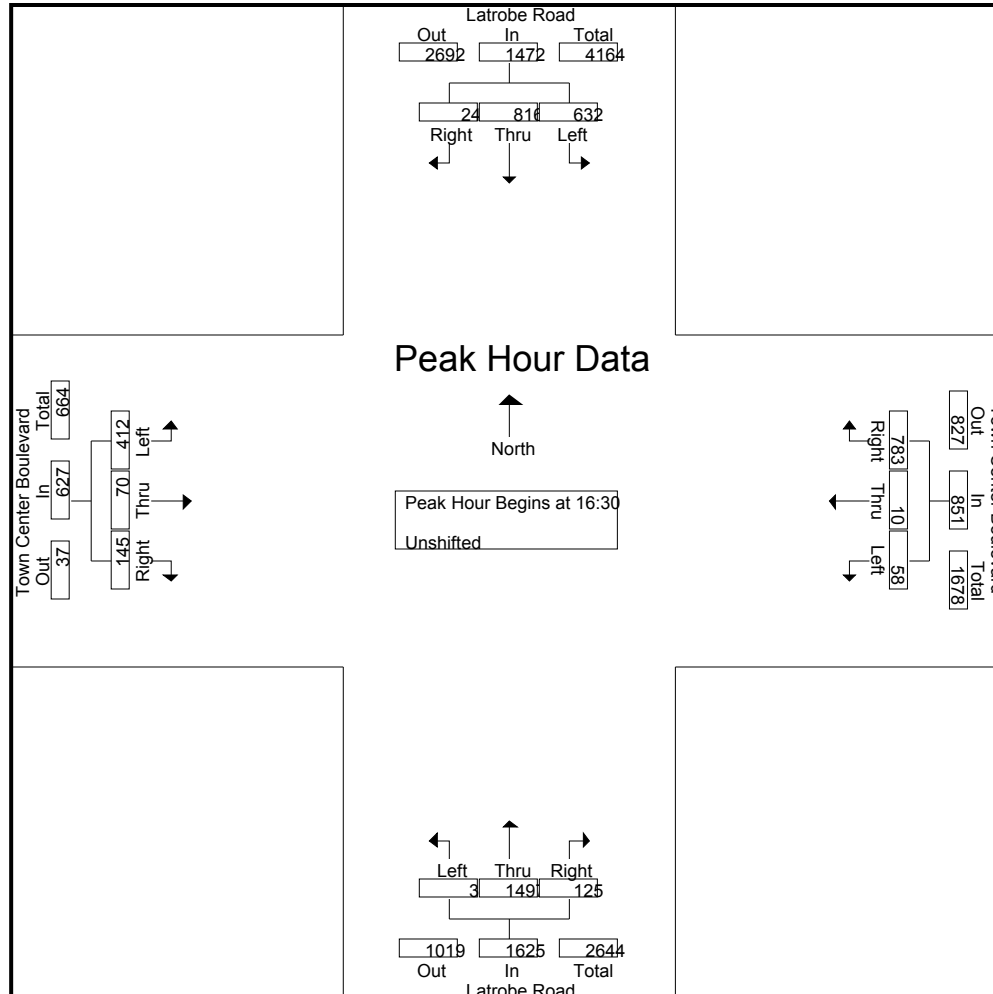
16:30	122	188	5	315	12	3	176	191	1	316	12	329	112	17	26	155	990
16:45	159	192	9	360	11	2	191	204	0	356	39	395	84	11	28	123	1082
17:00	147	183	6	336	16	3	191	210	1	428	37	466	113	32	51	196	1208
17:15	204	253	4	461	19	2	225	246	1	397	37	435	103	10	40	153	1295
Total Volume	632	816	24	1472	58	10	783	851	3	1497	125	1625	412	70	145	627	4575
% App. Total	42.9	55.4	1.6		6.8	1.2	92		0.2	92.1	7.7		65.7	11.2	23.1		
PHF	.775	.806	.667	.798	.763	.833	.870	.865	.750	.874	.801	.872	.912	.547	.711	.800	.883

All Traffic Data

(916) 771-8700

El Dorado County
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-008 Latrobe-Town Center
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County
Bicycles on Bank 1
Heavy Vehicles on Bank 2

File Name : 12-7225-009 Latrobe-White Rock
Site Code : 00000000
Start Date : 5/22/2012
Page No : 1

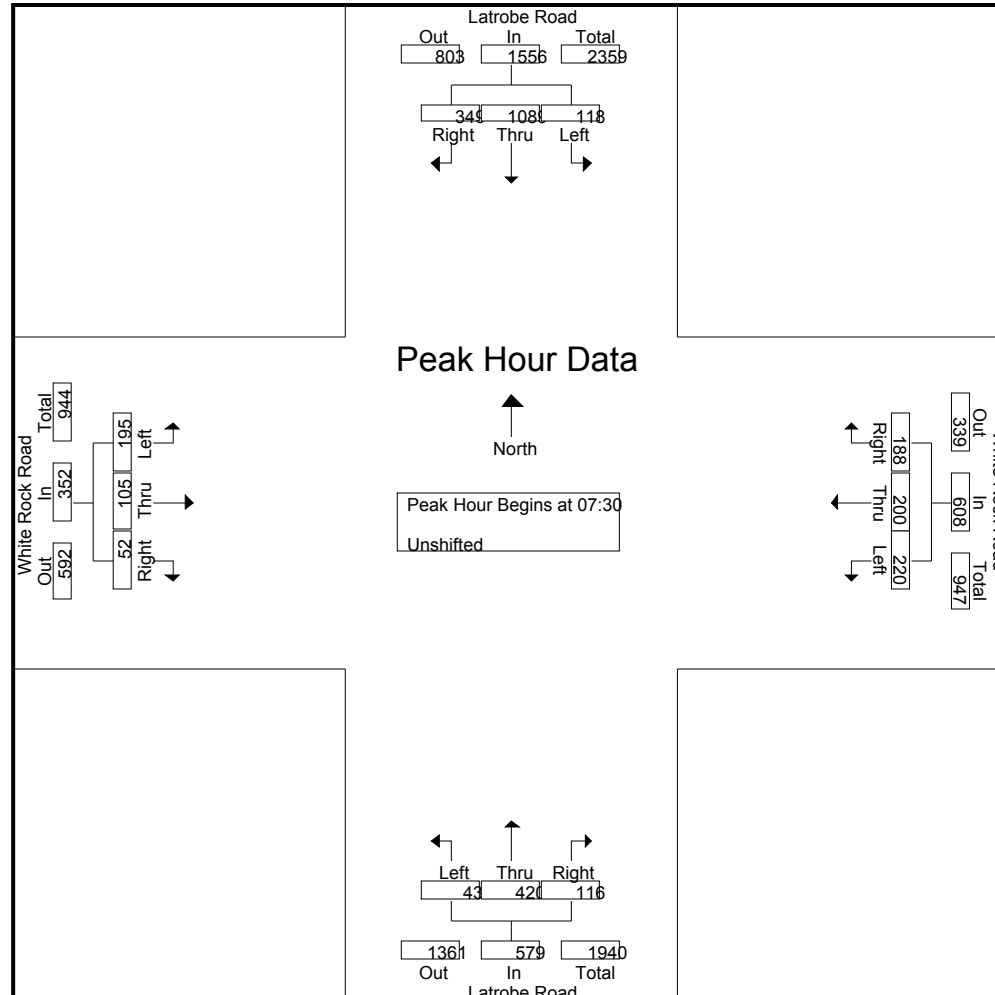
Groups Printed- Unshifted

Start Time	Latrobe Road Southbound					White Rock Road Westbound					Latrobe Road Northbound					White Rock Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	17	207	48	0	272	22	27	32	0	81	5	97	12	0	114	44	17	9	0	70	0	537	537
07:15	28	215	61	0	304	37	41	46	0	124	11	69	12	0	92	27	21	7	0	55	0	575	575
07:30	32	219	71	0	322	31	50	54	0	135	13	82	18	3	113	45	37	8	0	90	3	660	663
07:45	28	305	97	0	430	66	63	49	0	178	8	105	17	0	130	49	20	15	0	84	0	822	822
Total	105	946	277	0	1328	156	181	181	0	518	37	353	59	3	449	165	95	39	0	299	3	2594	2597
08:00	30	283	107	0	420	66	37	42	0	145	11	116	44	1	171	55	22	17	0	94	1	830	831
08:15	28	282	74	0	384	57	50	43	1	150	11	117	37	1	165	46	26	12	0	84	2	783	785
08:30	24	190	55	0	269	60	28	50	0	138	14	128	31	2	173	44	19	14	0	77	2	657	659
08:45	32	220	54	0	306	41	18	45	0	104	10	101	30	0	141	54	22	11	0	87	0	638	638
Total	114	975	290	0	1379	224	133	180	1	537	46	462	142	4	650	199	89	54	0	342	5	2908	2913
16:00	61	77	43	0	181	31	27	56	0	114	22	281	65	0	368	79	55	11	0	145	0	808	808
16:15	79	85	48	0	212	41	28	49	0	118	16	173	41	0	230	57	53	16	0	126	0	686	686
16:30	77	105	48	1	230	34	32	59	1	125	20	289	79	0	388	53	54	11	0	118	2	861	863
16:45	77	114	57	0	248	30	29	41	0	100	17	233	82	0	332	77	58	14	0	149	0	829	829
Total	294	381	196	1	871	136	116	205	1	457	75	976	267	0	1318	266	220	52	0	538	2	3184	3186
17:00	81	87	64	0	232	28	37	76	0	141	32	323	89	1	444	110	79	12	0	201	1	1018	1019
17:15	83	137	66	2	286	50	23	62	0	135	11	216	65	0	292	68	61	25	1	154	3	867	870
17:30	98	129	41	0	268	27	22	55	0	104	27	236	66	0	329	55	53	22	0	130	0	831	831
17:45	90	115	46	0	251	40	37	44	0	121	13	192	38	0	243	53	50	23	0	126	0	741	741
Total	352	468	217	2	1037	145	119	237	0	501	83	967	258	1	1308	286	243	82	1	611	4	3457	3461
Grand Total	865	2770	980	3	4615	661	549	803	2	2013	241	2758	726	8	3725	916	647	227	1	1790	14	12143	12157
Apprch %	18.7	60	21.2			32.8	27.3	39.9			6.5	74	19.5			51.2	36.1	12.7			14	12143	12157
Total %	7.1	22.8	8.1		38	5.4	4.5	6.6		16.6	2	22.7	6		30.7	7.5	5.3	1.9		14.7	0.1	99.9	

Start Time	Latrobe Road Southbound				White Rock Road Westbound				Latrobe Road Northbound				White Rock Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30	32	219	71	322	31	50	54	135	13	82	18	113	45	37	8	90	660
07:45	28	305	97	430	66	63	49	178	8	105	17	130	49	20	15	84	822
08:00	30	283	107	420	66	37	42	145	11	116	44	171	55	22	17	94	830
08:15	28	282	74	384	57	50	43	150	11	117	37	165	46	26	12	84	783
Total Volume	118	1089	349	1556	220	200	188	608	43	420	116	579	195	191	25	309	3095

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30

% App. Total	7.6	70	22.4		36.2	32.9	30.9		7.4	72.5	20		55.4	29.8	14.8		
PHF	.922	.893	.815	.905	.833	.794	.870	.854	.827	.897	.659	.846	.886	.709	.765	.936	.932



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 16:30

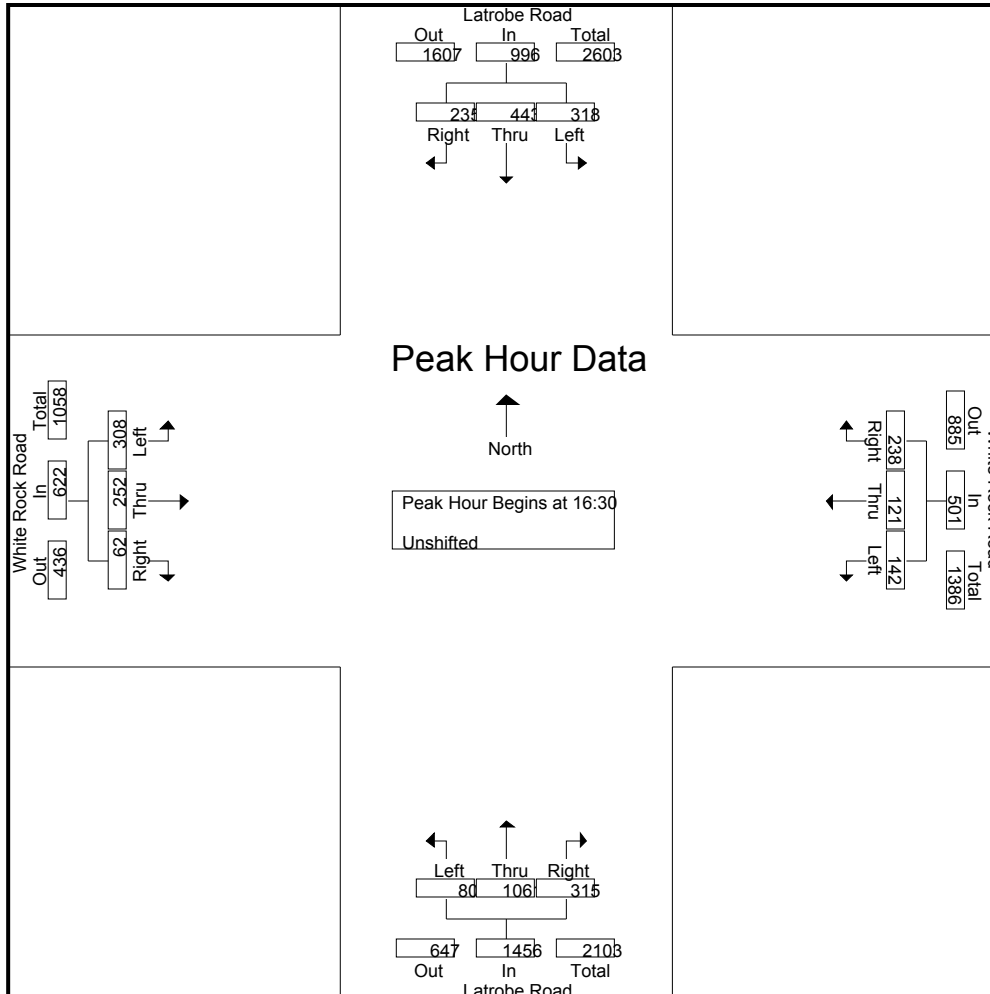
16:30	77	105	48	230	34	32	59	125	20	289	79	388	53	54	11	118	861
16:45	77	114	57	248	30	29	41	100	17	233	82	332	77	58	14	149	829
17:00	81	87	64	232	28	37	76	141	32	323	89	444	110	79	12	201	1018
17:15	83	137	66	286	50	23	62	135	11	216	65	292	68	61	25	154	867
Total Volume	318	443	235	996	142	121	238	501	80	1061	315	1456	308	252	62	622	3575
% App. Total	31.9	44.5	23.6		28.3	24.2	47.5		5.5	72.9	21.6		49.5	40.5	10		
PHF	.958	.808	.890	.871	.710	.818	.783	.888	.625	.821	.885	.820	.700	.797	.620	.774	.878

All Traffic Data

(916) 771-8700

El Dorado County
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-009 Latrobe-White Rock
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County
Bicycles on Bank 1
Heavy Vehicles on Bank 2

File Name : 12-7225-010 Post-White Rock
Site Code : 00000000
Start Date : 5/22/2012
Page No : 1

Groups Printed- Unshifted

Start Time	Post Street Southbound					White Rock Road Westbound					Post Street Northbound					White Rock Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	10	0	21	1	31	3	58	31	1	92	4	0	0	0	4	14	28	0	0	42	2	169	171
07:15	11	1	27	0	39	7	105	44	0	156	11	0	0	0	11	13	46	0	0	59	0	265	265
07:30	11	3	23	0	37	3	93	35	0	131	13	1	2	0	16	12	50	0	0	62	0	246	246
07:45	9	1	35	0	45	5	136	58	0	199	5	1	1	0	7	16	38	0	0	54	0	305	305
Total	41	5	106	1	152	18	392	168	1	578	33	2	3	0	38	55	162	0	0	217	2	985	987
08:00	16	2	27	0	45	3	92	56	0	151	12	2	7	0	21	29	45	1	1	75	1	292	293
08:15	15	2	36	1	53	8	105	47	0	160	10	0	2	0	12	39	44	0	0	83	1	308	309
08:30	12	1	49	1	62	2	77	49	0	128	11	1	1	0	13	24	41	0	1	65	2	268	270
08:45	19	3	28	0	50	5	81	37	0	123	4	1	0	0	5	27	44	0	0	71	0	249	249
Total	62	8	140	2	210	18	355	189	0	562	37	4	10	0	51	119	174	1	2	294	4	1117	1121
16:00	34	4	45	0	83	6	57	29	0	92	18	3	8	0	29	33	132	1	0	166	0	370	370
16:15	35	3	22	0	60	6	85	32	0	123	12	2	3	1	17	42	120	1	0	163	1	363	364
16:30	33	4	38	1	75	2	80	34	0	116	6	5	1	0	12	48	139	0	0	187	1	390	391
16:45	39	5	40	0	84	6	66	34	0	106	4	7	7	0	18	55	129	0	1	184	1	392	393
Total	141	16	145	1	302	20	288	129	0	437	40	17	19	1	76	178	520	2	1	700	3	1515	1518
17:00	35	4	44	0	83	1	89	27	0	117	11	2	3	2	16	58	171	4	1	233	3	449	452
17:15	59	3	48	0	110	3	83	29	0	115	4	5	4	0	13	31	155	1	0	187	0	425	425
17:30	48	1	27	1	76	2	78	32	0	112	1	1	2	0	4	36	164	0	0	200	1	392	393
17:45	46	2	28	0	76	5	91	41	0	137	7	1	3	0	11	37	132	2	1	171	1	395	396
Total	188	10	147	1	345	11	341	129	0	481	23	9	12	2	44	162	622	7	2	791	5	1661	1666
Grand Total	432	39	538	5	1009	67	1376	615	1	2058	133	32	44	3	209	514	1478	10	5	2002	14	5278	5292
Apprch %	42.8	3.9	53.3			3.3	66.9	29.9			63.6	15.3	21.1			25.7	73.8	0.5					
Total %	8.2	0.7	10.2		19.1	1.3	26.1	11.7		39	2.5	0.6	0.8		4	9.7	28	0.2		37.9	0.3	99.7	

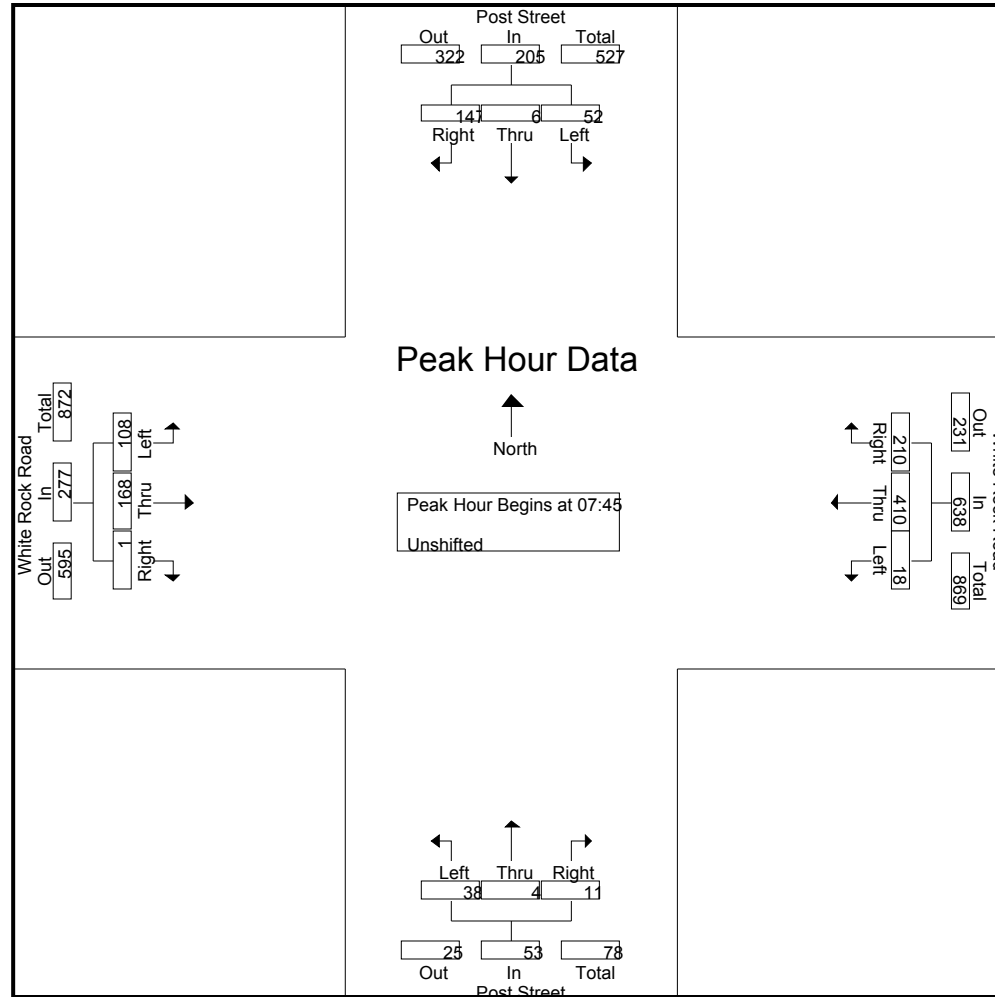
Start Time	Post Street Southbound				White Rock Road Westbound				Post Street Northbound				White Rock Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:45

07:45	9	1	35	45	5	136	58	199	5	1	1	7	16	38	0	54	305
08:00	16	2	27	45	3	92	56	151	12	2	7	21	29	45	1	75	292
08:15	15	2	36	53	8	105	47	160	10	0	2	12	39	44	0	83	308
08:30	12	1	49	62	2	77	49	128	11	1	1	13	24	41	0	65	268
Total Volume	52	6	147	205	18	410	210	638	38	4	11	53	108	167	2	74	1173

% App. Total	25.4	2.9	71.7		2.8	64.3	32.9		71.7	7.5	20.8		39	60.6	0.4		
PHF	.813	.750	.750	.827	.563	.754	.905	.802	.792	.500	.393	.631	.692	.933	.250	.834	.952



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 17:00

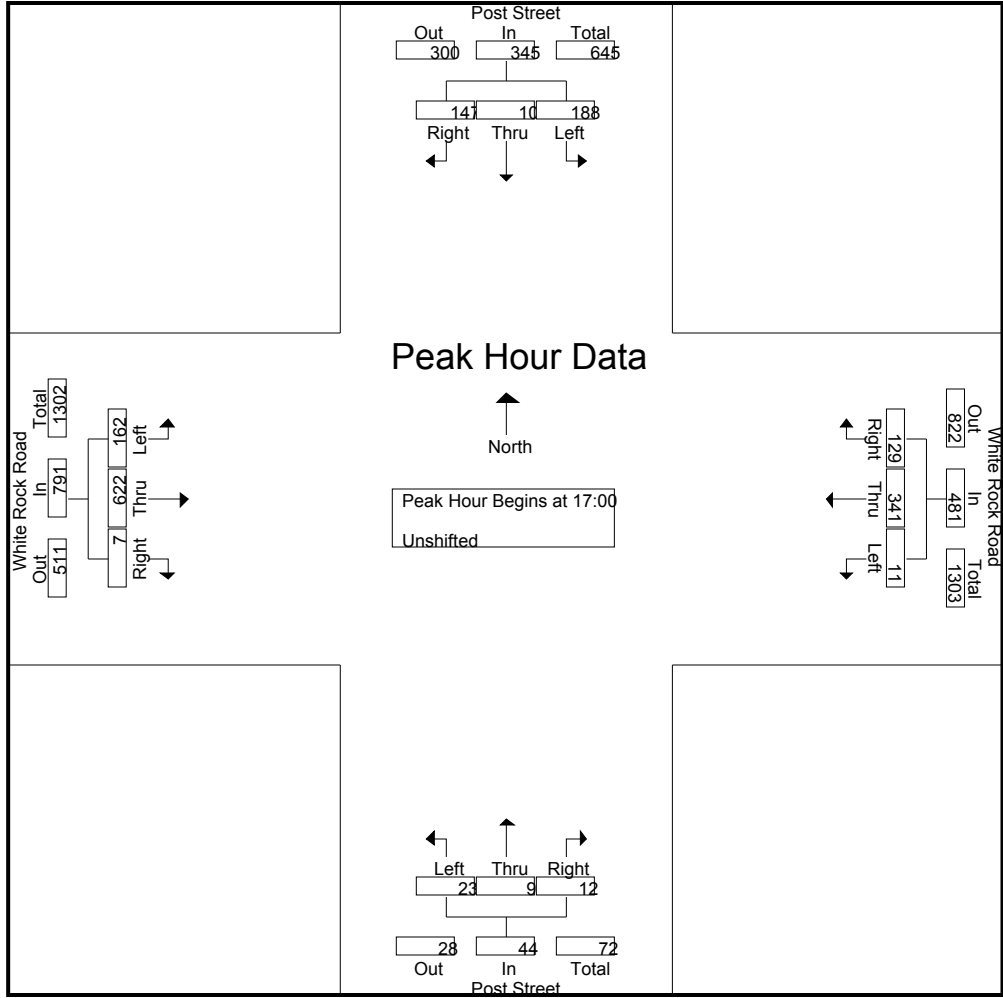
17:00	35	4	44	83	1	89	27	117	11	2	3	16	58	171	4	233	449
17:15	59	3	48	110	3	83	29	115	4	5	4	13	31	155	1	187	425
17:30	48	1	27	76	2	78	32	112	1	1	2	4	36	164	0	200	392
17:45	46	2	28	76	5	91	41	137	7	1	3	11	37	132	2	171	395
Total Volume	188	10	147	345	11	341	129	481	23	9	12	44	162	622	7	791	1661
% App. Total	54.5	2.9	42.6		2.3	70.9	26.8		52.3	20.5	27.3		20.5	78.6	0.9		
PHF	.797	.625	.766	.784	.550	.937	.787	.878	.523	.450	.750	.688	.698	.909	.438	.849	.925

All Traffic Data

(916) 771-8700

El Dorado County
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-010 Post-White Rock
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



All Traffic Data

(916) 771-8700

El Dorado County
Bicycles on Bank 1
Heavy Vehicles on Bank 2

File Name : 12-7225-011 Valley View-White Rock
Site Code : 00000000
Start Date : 5/22/2012
Page No : 1

Groups Printed- Unshifted

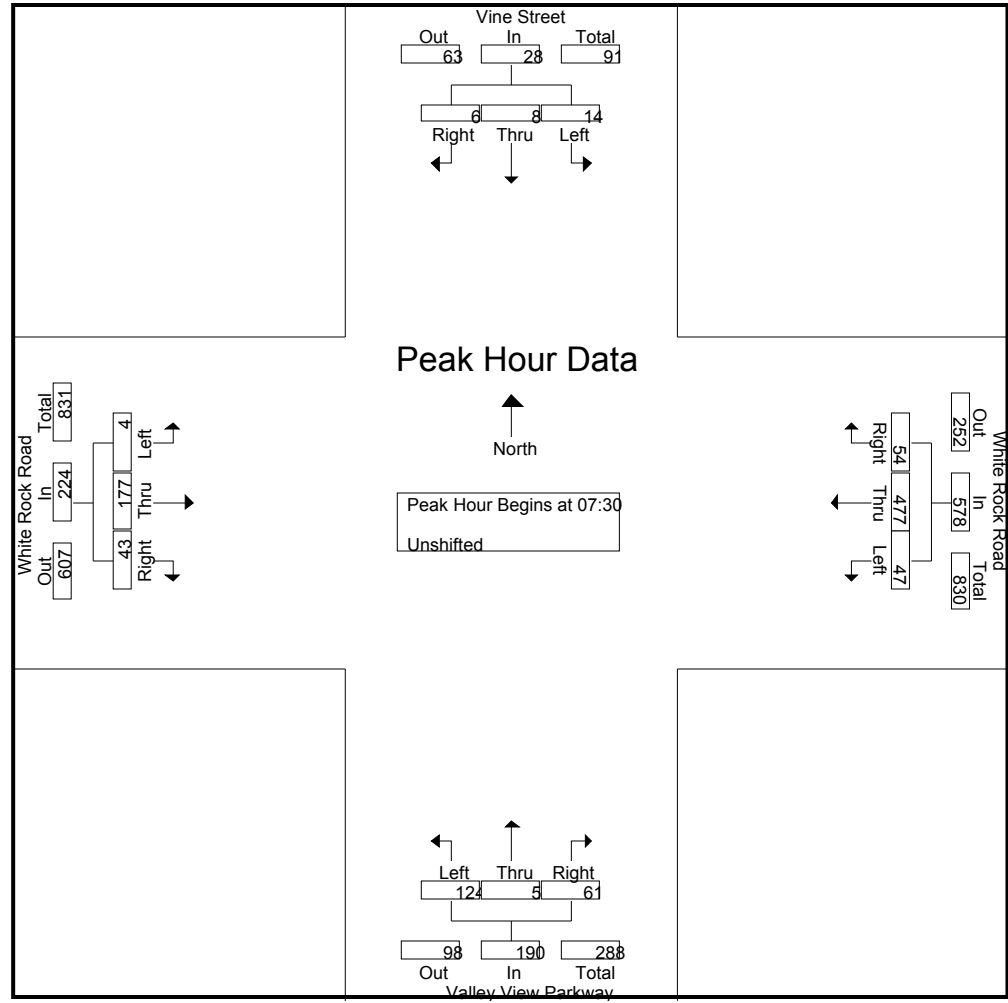
Start Time	Vine Street Southbound					White Rock Road Westbound					Valley View Parkway Northbound					White Rock Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
	Left	Thru	Rig	Ped	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total			
07:00	3	1	0	0	4	2	57	2	0	61	28	1	7	0	36	0	32	4	1	36	1	137	138
07:15	2	0	0	0	2	4	97	3	0	104	35	2	21	1	58	1	47	6	1	54	2	218	220
07:30	3	2	2	0	7	12	89	11	0	112	31	0	23	0	54	1	55	7	1	63	1	236	237
07:45	1	3	1	0	5	18	178	14	0	210	31	3	21	0	55	1	48	13	1	62	1	332	333
Total	9	6	3	0	18	36	421	30	0	487	125	6	72	1	203	3	182	30	4	215	5	923	928
08:00	4	2	1	1	7	9	105	19	2	133	28	2	6	0	36	2	40	12	1	54	4	230	234
08:15	6	1	2	0	9	8	105	10	0	123	34	0	11	0	45	0	34	11	0	45	0	222	222
08:30	8	1	3	1	12	7	79	11	0	97	22	4	4	0	30	2	29	10	6	41	7	180	187
08:45	7	4	1	0	12	4	71	15	0	90	20	6	6	0	32	4	39	7	2	50	2	184	186
Total	25	8	7	2	40	28	360	55	2	443	104	12	27	0	143	8	142	40	9	190	13	816	829
16:00	41	5	6	0	52	5	44	20	0	69	15	2	7	0	24	14	107	18	0	139	0	284	284
16:15	29	8	10	0	47	4	68	18	0	90	16	5	4	0	25	14	82	14	3	110	3	272	275
16:30	24	7	16	0	47	7	51	24	0	82	12	10	4	0	26	10	108	18	0	136	0	291	291
16:45	35	7	8	0	50	7	51	16	0	74	13	4	11	0	28	19	107	28	3	154	3	306	309
Total	129	27	40	0	196	23	214	78	0	315	56	21	26	0	103	57	404	78	6	539	6	1153	1159
17:00	42	7	12	0	61	4	50	13	0	67	21	3	6	0	30	16	133	25	3	174	3	332	335
17:15	40	5	19	0	64	2	50	18	0	70	15	2	10	0	27	9	113	31	3	153	3	314	317
17:30	38	8	7	0	53	2	42	17	0	61	20	3	7	0	30	8	125	32	4	165	4	309	313
17:45	32	14	6	0	52	6	65	22	0	93	26	6	7	0	39	15	101	28	1	144	1	328	329
Total	152	34	44	0	230	14	207	70	0	291	82	14	30	0	126	48	472	116	11	636	11	1283	1294
Grand Total	315	75	94	2	484	101	1202	233	2	1536	367	53	155	1	575	116	1200	264	30	1580	35	4175	4210
Apprch %	65.1	15.5	19.4			6.6	78.3	15.2			63.8	9.2	27			7.3	75.9	16.7					
Total %	7.5	1.8	2.3		11.6	2.4	28.8	5.6		36.8	8.8	1.3	3.7		13.8	2.8	28.7	6.3		37.8	0.8	99.2	

Start Time	Vine Street Southbound				White Rock Road Westbound				Valley View Parkway Northbound				White Rock Road Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:30	3	2	2	7	12	89	11	112	31	0	23	54	1	55	7	63	236
07:45	1	3	1	5	18	178	14	210	31	3	21	55	1	48	13	62	332
08:00	4	2	1	7	9	105	19	133	28	2	6	36	2	40	12	54	230
08:15	6	1	2	9	8	105	10	123	34	0	11	45	0	34	11	45	222
Total Volume	14	8	6	28	47	477	54	578	124	5	61	190	4	167	24	433	1020

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30

% App. Total	50	28.6	21.4		8.1	82.5	9.3		65.3	2.6	32.1		1.8	79	19.2		
PHF	.583	.667	.750	.778	.653	.670	.711	.688	.912	.417	.663	.864	.500	.805	.827	.889	.768



Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 17:00

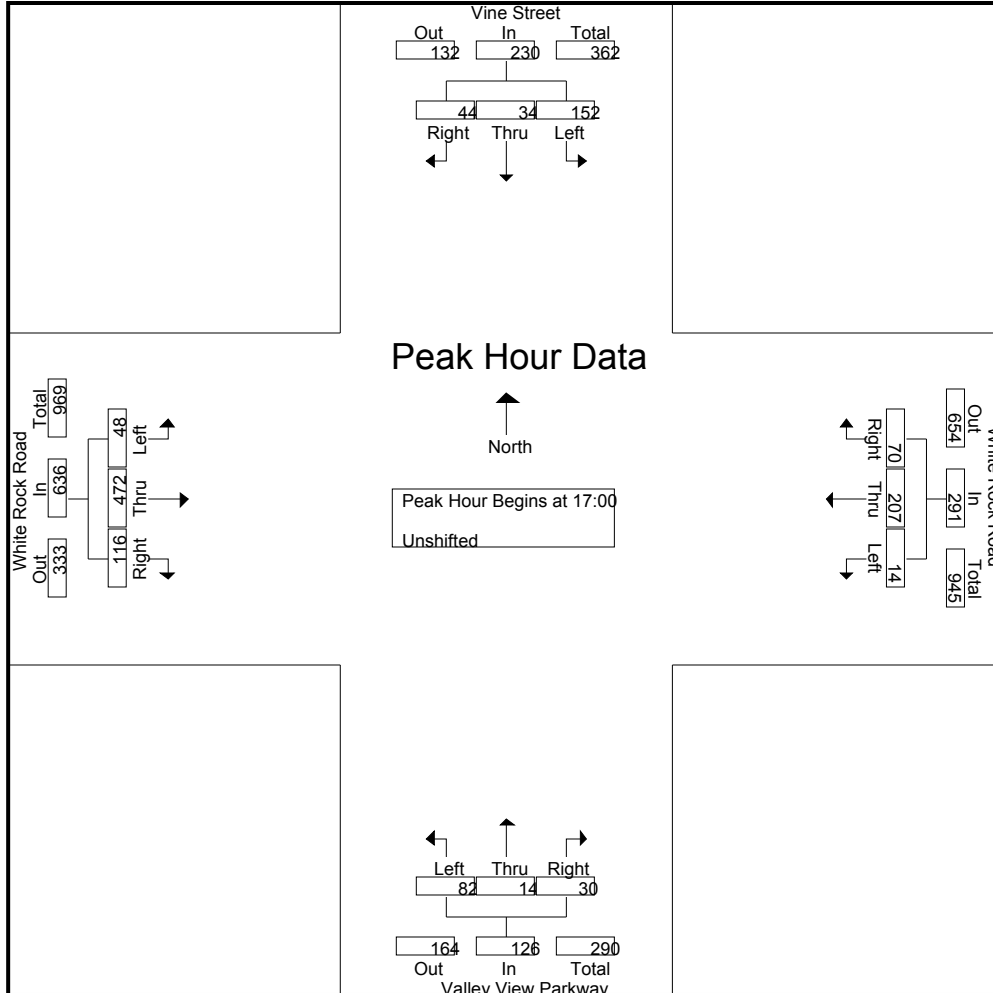
17:00	42	7	12	61	4	50	13	67	21	3	6	30	16	133	25	174	332
17:15	40	5	19	64	2	50	18	70	15	2	10	27	9	113	31	153	314
17:30	38	8	7	53	2	42	17	61	20	3	7	30	8	125	32	165	309
17:45	32	14	6	52	6	65	22	93	26	6	7	39	15	101	28	144	328
Total Volume	152	34	44	230	14	207	70	291	82	14	30	126	48	472	116	636	1283
% App. Total	66.1	14.8	19.1		4.8	71.1	24.1		65.1	11.1	23.8		7.5	74.2	18.2		
PHF	.905	.607	.579	.898	.583	.796	.795	.782	.788	.583	.750	.808	.750	.887	.906	.914	.966

All Traffic Data

(916) 771-8700

El Dorado County
 Bicycles on Bank 1
 Heavy Vehicles on Bank 2

File Name : 12-7225-011 Valley View-White Rock
 Site Code : 00000000
 Start Date : 5/22/2012
 Page No : 3



**EL DORADO COUNTY
COMMUNITY DEVELOPMENT AGENCY: TRANSPORTATION DIVISION**

Count Summary Beginning: December 16, 2014

Count Station:	1600219	Counter ID:	72
City/Town:	El Dorado Hills	Mile Post:	3.56
Road Name:	El Dorado Hills Blvd.	Location:	300 ft S. of Francisco Dr.
Lanes:	2	Direction:	NORTHBOUND

Date	21	22	16	17	18	19	20	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			29						29
200			20						20
300			9						9
400			10						10
500			18						18
600			74						74
700			177						177
800			469						469
900			501						501
1000			337						337
1100			374						374
1200			412						412
1300			433						433
1400			412						412
1500			518						518
1600			611						611
1700			712						712
1800			699						699
1900			521						521
2000			356						356
2100			286						286
2200			208						208
2300			139						139
2400			64						64
Totals			7389						7389
AM Peak Hr			9:00						9:00
AM Count			501						501
PM Peak Hr			5:00						5:00
PM Count			712						712

TOTAL ADT: 15,444

**EL DORADO COUNTY
COMMUNITY DEVELOPMENT AGENCY: TRANSPORTATION DIVISION**

Count Summary Beginning: December 16, 2014

Count Station:	1600219	Counter ID:	72
City/Town:	El Dorado Hills	Mile Post:	3.56
Road Name:	El Dorado Hills Blvd.	Location:	300 ft S. of Francisco Dr.
Lanes:	2	Direction:	SOUTHBOUND

Date	21	22	16	17	18	19	20	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100			22						22
200			11						11
300			15						15
400			15						15
500			49						49
600			159						159
700			462						462
800			823						823
900			741						741
1000			431						431
1100			398						398
1200			475						475
1300			419						419
1400			450						450
1500			607						607
1600			525						525
1700			587						587
1800			584						584
1900			450						450
2000			293						293
2100			227						227
2200			169						169
2300			103						103
2400			40						40
Totals			8055						8055
AM Peak Hr			8:00						8:00
AM Count			823						823
PM Peak Hr			3:00						3:00
PM Count			607						607

TOTAL ADT: 15,444

13-7462-001 El Dorado Hills Mainline Count

US-50 between El Dorado Hills Blvd and East Bidwell Street

Tuesday, August 20, 2013

	Eastbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
6:00 AM	202	12	9	0	223
6:15 AM	266	21	11	0	298
6:30 AM	385	22	17	0	424
6:45 AM	496	24	16	0	536
7:00 AM	477	35	12	0	524
7:15 AM	558	24	26	0	608
7:30 AM	566	20	27	0	613
7:45 AM	714	20	28	0	762
8:00 AM	617	23	30	0	670
8:15 AM	611	37	34	0	682
8:30 AM	598	33	32	0	663
8:45 AM	580	31	33	0	644
Totals:	6070	302	275	0	6647

	Westbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
6:00 AM	626	14	61	4	705
6:15 AM	765	16	58	0	839
6:30 AM	887	16	79	1	983
6:45 AM	938	15	80	1	1034
7:00 AM	1086	11	80	0	1177
7:15 AM	1072	18	118	1	1209
7:30 AM	893	6	123	0	1022
7:45 AM	725	19	144	1	889
8:00 AM	852	21	119	0	992
8:15 AM	872	20	103	0	995
8:30 AM	881	23	76	0	980
8:45 AM	771	17	58	0	846
Totals:	10368	196	1099	8	11671

	Eastbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
3:00 PM	716	12	76	0	804
3:15 PM	815	9	84	0	908
3:30 PM	887	13	129	0	1029
3:45 PM	972	8	109	0	1089
4:00 PM	974	12	119	0	1105
4:15 PM	970	5	121	0	1096
4:30 PM	1009	8	122	0	1139
4:45 PM	1068	3	148	0	1219
5:00 PM	1066	8	123	0	1197
5:15 PM	1133	8	129	0	1270
5:30 PM	1052	2	102	0	1156
5:45 PM	997	6	111	0	1114
Totals:	11659	94	1373	0	13126

	Westbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
3:00 PM	655	22	56	1	734
3:15 PM	643	23	79	0	745
3:30 PM	683	34	74	1	792
3:45 PM	631	17	62	0	710
4:00 PM	664	19	66	0	749
4:15 PM	731	16	58	0	805
4:30 PM	698	19	53	0	770
4:45 PM	667	27	57	1	752
5:00 PM	784	16	65	0	865
5:15 PM	778	4	67	0	849
5:30 PM	714	6	66	0	786
5:45 PM	680	12	66	0	758
Totals:	8328	215	769	3	9315

13-7462-001 El Dorado Hills Mainline Count
US-50 between El Dorado Hills Blvd and East Bidwell Street
 Wednesday, August 21, 2013

	Eastbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
6:00 AM	218	12	12	0	242
6:15 AM	248	25	10	0	283
6:30 AM	361	28	30	0	419
6:45 AM	532	43	21	0	596
7:00 AM	426	32	25	0	483
7:15 AM	562	29	29	0	620
7:30 AM	631	35	43	0	709
7:45 AM	674	22	43	0	739
8:00 AM	558	29	40	0	627
8:15 AM	581	30	28	0	639
8:30 AM	582	25	33	0	640
8:45 AM	557	31	27	0	615
Totals:	5930	341	341	0	6612

	Westbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
6:00 AM	579	14	55	0	648
6:15 AM	718	15	59	0	792
6:30 AM	876	15	81	0	972
6:45 AM	959	12	67	0	1038
7:00 AM	1028	17	88	0	1133
7:15 AM	1047	14	141	0	1202
7:30 AM	1016	25	164	0	1205
7:45 AM	944	19	124	1	1088
8:00 AM	965	20	99	0	1084
8:15 AM	820	26	72	0	918
8:30 AM	777	28	80	0	885
8:45 AM	769	28	57	0	854
Totals:	10498	233	1087	1	11819

	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
	3:00 PM	785	8	103	0
3:15 PM	777	9	76	0	862
3:30 PM	868	9	121	0	998
3:45 PM	994	8	119	0	1121
4:00 PM	932	7	117	0	1056
4:15 PM	1038	6	129	0	1173
4:30 PM	1068	8	108	0	1184
4:45 PM	988	4	135	0	1127
5:00 PM	1044	6	125	0	1175
5:15 PM	1066	5	136	0	1207
5:30 PM	1046	8	128	0	1182
5:45 PM	1006	6	137	0	1149
Totals:	11612	84	1434	0	13130

	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
	3:00 PM	680	28	69	0
3:15 PM	663	22	67	0	752
3:30 PM	655	34	68	0	757
3:45 PM	659	23	63	0	745
4:00 PM	700	13	47	1	761
4:15 PM	681	17	51	0	749
4:30 PM	730	10	60	0	800
4:45 PM	717	17	68	1	803
5:00 PM	711	15	59	0	785
5:15 PM	770	11	56	0	837
5:30 PM	638	14	50	0	702
5:45 PM	655	11	46	0	712
Totals:	8259	215	704	2	9180

13-7462-001 El Dorado Hills Mainline Count

US-50 between El Dorado Hills Blvd and East Bidwell Street

Thursday, August 22, 2013

	Eastbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
6:00 AM	179	22	5	0	206
6:15 AM	254	27	13	0	294
6:30 AM	408	28	19	0	455
6:45 AM	490	20	27	0	537
7:00 AM	451	22	25	0	498
7:15 AM	581	21	48	0	650
7:30 AM	675	33	53	0	761
7:45 AM	673	22	25	0	720
8:00 AM	596	22	33	0	651
8:15 AM	646	36	35	0	717
8:30 AM	627	40	41	0	708
8:45 AM	682	19	34	0	735
Totals:	6262	312	358	0	6932

	Westbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
6:00 AM	599	10	49	0	658
6:15 AM	677	11	50	0	738
6:30 AM	860	18	83	0	961
6:45 AM	949	16	79	0	1044
7:00 AM	1000	15	91	0	1106
7:15 AM	1012	19	125	1	1157
7:30 AM	985	17	122	1	1125
7:45 AM	964	21	129	0	1114
8:00 AM	915	22	112	3	1052
8:15 AM	849	15	65	0	929
8:30 AM	807	15	72	0	894
8:45 AM	738	20	53	0	811
Totals:	10355	199	1030	5	11589

	Eastbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
3:00 PM	839	15	105	0	959
3:15 PM	871	14	115	1	1001
3:30 PM	869	17	128	0	1014
3:45 PM	981	5	115	0	1101
4:00 PM	951	9	108	0	1068
4:15 PM	1044	9	129	0	1182
4:30 PM	1048	4	125	0	1177
4:45 PM	1149	6	165	0	1320
5:00 PM	1067	4	148	0	1219
5:15 PM	1137	7	141	0	1285
5:30 PM	1095	5	140	0	1240
5:45 PM	1026	2	137	0	1165
Totals:	12077	97	1556	1	13731

	Westbound				
	Non-HOV		HOV Lane		Total
	Vehicles	Trucks	HOV Lane	HOV Trucks	
3:00 PM	645	36	67	1	749
3:15 PM	671	36	70	0	777
3:30 PM	694	29	60	1	784
3:45 PM	681	23	85	0	789
4:00 PM	675	19	71	0	765
4:15 PM	736	15	78	0	829
4:30 PM	678	21	58	0	757
4:45 PM	712	23	81	0	816
5:00 PM	744	17	56	0	817
5:15 PM	730	11	62	0	803
5:30 PM	697	11	51	0	759
5:45 PM	617	22	60	0	699
Totals:	8280	263	799	2	9344

HCM Signalized Intersection Capacity Analysis
 1: Green Valley Rd & Francisco Dr

Serrano Westside EIR
 Existing Conditions - AM Peak Hour





















Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	153	218	229	25	35	699	75	290	168	7	91	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Lane Util. Factor	0.97	0.95	1.00		1.00	0.95	1.00	0.97	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Fr _t	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	1.00
Fl _t Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	1546		1770	3539	1560	3433	3516		1770	1863
Fl _t Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	1546		1770	3539	1560	3433	3516		1770	1863
Peak-hour factor, PHF	0.96	0.96	0.96	0.90	0.90	0.90	0.90	0.84	0.84	0.84	0.85	0.85
Adj. Flow (vph)	159	227	239	28	39	777	83	345	200	8	107	325
RTOR Reduction (vph)	0	0	175	0	0	0	62	0	2	0	0	0
Lane Group Flow (vph)	159	227	64	0	67	777	21	345	206	0	107	325
Confl. Peds. (#/hr)			2				2			2		
Turn Type	Prot		Perm	Prot	Prot		Perm	Prot			Prot	
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2				6					
Actuated Green, G (s)	7.7	29.6	29.6		5.9	27.8	27.8	13.7	45.6		9.3	41.7
Effective Green, g (s)	7.7	29.6	29.6		5.9	27.8	27.8	13.7	45.6		9.3	41.7
Actuated g/C Ratio	0.07	0.27	0.27		0.05	0.25	0.25	0.12	0.41		0.08	0.38
Clearance Time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Vehicle Extension (s)	0.2	1.9	1.9		0.2	1.9	1.9	0.2	2.1		0.2	2.6
Lane Grp Cap (vph)	240	952	416		95	894	394	428	1458		150	706
v/s Ratio Prot	c0.05	0.06			0.04	c0.22		c0.10	0.06		0.06	0.17
v/s Ratio Perm			0.04				0.01					
v/c Ratio	0.66	0.24	0.15		0.71	0.87	0.05	0.81	0.14		0.71	0.46
Uniform Delay, d1	49.9	31.4	30.7		51.2	39.4	31.1	46.9	20.0		49.1	25.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.2	0.0	0.1		17.6	8.7	0.0	10.0	0.2		12.5	2.2
Delay (s)	55.1	31.4	30.7		68.8	48.1	31.2	56.9	20.2		61.6	27.8
Level of Service	E	C	C		E	D	C	E	C		E	C
Approach Delay (s)		37.2				48.1			43.1			32.8
Approach LOS		D				D			D			C
Intersection Summary												
HCM Average Control Delay			40.4			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)			19.1			
Intersection Capacity Utilization			69.2%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

Movement	SBR
Lane Configurations	7
Volume (vph)	367
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.4
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1562
Flt Permitted	1.00
Satd. Flow (perm)	1562
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	432
RTOR Reduction (vph)	129
Lane Group Flow (vph)	303
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	41.7
Effective Green, g (s)	41.7
Actuated g/C Ratio	0.38
Clearance Time (s)	5.4
Vehicle Extension (s)	2.6
Lane Grp Cap (vph)	592
v/s Ratio Prot	
v/s Ratio Perm	c0.19
v/c Ratio	0.51
Uniform Delay, d1	26.3
Progression Factor	1.00
Incremental Delay, d2	3.1
Delay (s)	29.4
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
 2: Green Valley Rd & El Dorado Hills Blvd / Salmon Falls Rd

Serrano Westside EIR
 Existing Conditions - AM Peak Hour






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	267	17	60	716	47	36	63	25	106	229	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1846		1770	1843		1770	1770			1834	1544
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	1846		1770	1843		1770	1770			1834	1544
Peak-hour factor, PHF	0.84	0.84	0.84	0.89	0.89	0.89	0.66	0.66	0.66	0.80	0.80	0.80
Adj. Flow (vph)	27	318	20	67	804	53	55	95	38	132	286	199
RTOR Reduction (vph)	0	2	0	0	2	0	0	12	0	0	0	129
Lane Group Flow (vph)	27	336	0	67	855	0	55	121	0	0	418	70
Confl. Peds. (#/hr)						2			2			2
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	4.3	32.0		17.6	45.3		11.4	11.4			23.2	23.2
Effective Green, g (s)	4.3	32.0		17.6	45.3		11.4	11.4			23.2	23.2
Actuated g/C Ratio	0.04	0.31		0.17	0.43		0.11	0.11			0.22	0.22
Clearance Time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	73	564		298	797		193	193			406	342
v/s Ratio Prot	c0.02	0.18		0.04	c0.46		0.03	c0.07			c0.23	
v/s Ratio Perm												0.05
v/c Ratio	0.37	0.60		0.22	1.07		0.28	0.63			1.03	0.20
Uniform Delay, d1	48.9	30.9		37.7	29.7		42.9	44.6			40.8	33.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	2.3	2.5		0.3	53.4		0.3	4.6			52.5	0.1
Delay (s)	51.2	33.4		37.9	83.1		43.2	49.2			93.2	33.3
Level of Service	D	C		D	F		D	D			F	C
Approach Delay (s)		34.7			79.8			47.4			73.9	
Approach LOS		C			E			D			E	
Intersection Summary												
HCM Average Control Delay			67.3			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			104.7			Sum of lost time (s)		20.5				
Intersection Capacity Utilization			84.8%			ICU Level of Service		E				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

3: Green Valley Rd & Silva Valley Pkwy




















Serrano Westside EIR
Existing Conditions - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	205	191	59	539	19	281	49	33	5	38	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1545	1770	1852		1770	1735			1833	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1545	1770	1852		1770	1735			1833	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.71	0.71	0.71	0.77	0.77	0.77
Adj. Flow (vph)	2	220	205	65	592	21	396	69	46	6	49	4
RTOR Reduction (vph)	0	0	143	0	1	0	0	17	0	0	2	0
Lane Group Flow (vph)	2	220	62	65	612	0	396	98	0	0	57	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Split				Split	
Protected Phases	1	6		5	2		8	8			4	4
Permitted Phases			6									
Actuated Green, G (s)	0.8	25.9	25.9	6.7	31.8		26.9	26.9			7.8	
Effective Green, g (s)	0.8	25.9	25.9	6.7	31.8		26.9	26.9			7.8	
Actuated g/C Ratio	0.01	0.30	0.30	0.08	0.37		0.31	0.31			0.09	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	17	564	467	139	688		556	545			167	
v/s Ratio Prot	0.00	0.12		c0.04	c0.33		c0.22	0.06			c0.03	
v/s Ratio Perm			0.04									
v/c Ratio	0.12	0.39	0.13	0.47	0.89		0.71	0.18			0.34	
Uniform Delay, d1	42.0	23.6	21.7	37.7	25.2		25.9	21.3			36.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	2.2	0.4	0.1	1.8	13.4		4.0	0.1			0.9	
Delay (s)	44.3	24.1	21.8	39.6	38.6		29.9	21.4			37.4	
Level of Service	D	C	C	D	D		C	C			D	
Approach Delay (s)		23.1			38.7			28.0			37.4	
Approach LOS		C			D			C			D	
Intersection Summary												
HCM Average Control Delay			31.4			HCM Level of Service					C	
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			85.6			Sum of lost time (s)			18.3			
Intersection Capacity Utilization			67.0%			ICU Level of Service					C	
Analysis Period (min)			15									

c Critical Lane Group

















HCM Unsignalized Intersection Capacity Analysis
 4: Francisco Dr & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Conditions - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	49	453	45	63	42	361	115	37	125	248	3
Peak Hour Factor	0.86	0.86	0.86	0.52	0.52	0.52	0.92	0.92	0.92	0.75	0.75	0.75
Hourly flow rate (vph)	2	57	527	87	121	81	392	125	40	167	331	4
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	586	288	392	165	167	335						
Volume Left (vph)	2	87	392	0	167	0						
Volume Right (vph)	527	81	0	40	0	4						
Hadj (s)	-0.50	-0.07	0.53	-0.14	0.53	0.03						
Departure Headway (s)	8.1	9.1	9.4	8.8	9.6	9.1						
Degree Utilization, x	1.31	0.73	1.03	0.40	0.45	0.85						
Capacity (veh/h)	452	387	392	406	360	390						
Control Delay (s)	180.0	33.1	84.5	16.4	18.9	44.8						
Approach Delay (s)	180.0	33.1	64.3		36.2							
Approach LOS	F	D	F		E							
Intersection Summary												
Delay			87.5									
HCM Level of Service			F									
Intersection Capacity Utilization			86.2%	ICU Level of Service	E							
Analysis Period (min)			15									















HCM Unsignalized Intersection Capacity Analysis
5: Apian Way & Silva Valley Pkwy

Serrano Westside EIR
Existing Conditions - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	35	1	83	154	2	62	20	190	41	23	226	19
Peak Hour Factor	0.68	0.68	0.68	0.70	0.70	0.70	0.63	0.63	0.63	0.69	0.69	0.69
Hourly flow rate (vph)	51	1	122	220	3	89	32	302	65	33	328	28
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	175	311	398	388								
Volume Left (vph)	51	220	32	33								
Volume Right (vph)	122	89	65	28								
Hadj (s)	-0.33	0.00	-0.05	0.01								
Departure Headway (s)	7.2	7.0	6.6	6.7								
Degree Utilization, x	0.35	0.61	0.73	0.72								
Capacity (veh/h)	402	465	509	510								
Control Delay (s)	14.0	20.4	25.4	25.0								
Approach Delay (s)	14.0	20.4	25.4	25.0								
Approach LOS	B	C	D	C								
Intersection Summary												
Delay			22.5									
HCM Level of Service			C									
Intersection Capacity Utilization			44.9%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
6: Harvard Way & El Dorado Hills Blvd

Serrano Westside EIR
Existing Conditions - AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Volume (vph)	399	147	309	328	265	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	6.0		4.0	6.0
Lane Util. Factor	1.00	1.00	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.98	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Fr t	1.00	0.85	0.92		1.00	1.00
Fl t Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1545	3229		3433	3539
Fl t Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1545	3229		3433	3539
Peak-hour factor, PHF	0.72	0.72	0.83	0.83	0.90	0.90
Adj. Flow (vph)	554	204	372	395	294	900
RTOR Reduction (vph)	0	83	154	0	0	0
Lane Group Flow (vph)	554	121	613	0	294	900
Confl. Peds. (#/hr)		8		8		
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	41.2	41.2	22.5		13.0	39.5
Effective Green, g (s)	41.2	41.2	22.5		13.0	39.5
Actuated g/C Ratio	0.43	0.43	0.24		0.14	0.41
Clearance Time (s)	4.6	4.6	6.0		4.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	763	666	760		467	1462
v/s Ratio Prot	c0.31		c0.19		0.09	c0.25
v/s Ratio Perm		0.08				
v/c Ratio	0.73	0.18	0.81		0.63	0.62
Uniform Delay, d1	22.5	16.8	34.5		39.0	22.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.9	0.0	5.9		1.9	0.5
Delay (s)	25.5	16.8	40.4		40.9	22.6
Level of Service	C	B	D		D	C
Approach Delay (s)	23.1		40.4			27.1
Approach LOS	C		D			C
Intersection Summary						
HCM Average Control Delay			29.8		HCM Level of Service	C
HCM Volume to Capacity ratio			0.70			
Actuated Cycle Length (s)			95.6		Sum of lost time (s)	14.9
Intersection Capacity Utilization			61.3%		ICU Level of Service	B
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy













Serrano Westside EIR
Existing Conditions - AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	89	221	113	66	10	426	212	37	33	170	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00		1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1525	1770	1818		1770	1807		1770	1863	1520
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1525	1770	1818		1770	1807		1770	1863	1520
Peak-hour factor, PHF	0.57	0.57	0.57	0.78	0.78	0.78	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	121	156	388	145	85	13	473	236	41	37	189	336
RTOR Reduction (vph)	0	0	330	0	3	0	0	3	0	0	0	276
Lane Group Flow (vph)	121	156	58	145	95	0	473	274	0	37	189	60
Confl. Peds. (#/hr)			8			8			8			8
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	16.8	16.8	16.8	17.7	17.7		40.2	54.1		6.4	20.3	20.3
Effective Green, g (s)	16.8	16.8	16.8	17.7	17.7		40.2	54.1		6.4	20.3	20.3
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16		0.36	0.48		0.06	0.18	0.18
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	263	277	227	277	285		630	866		100	335	273
v/s Ratio Prot	0.07	c0.08		c0.08	0.05		c0.27	0.15		0.02	c0.10	
v/s Ratio Perm			0.04									0.04
v/c Ratio	0.46	0.56	0.25	0.52	0.33		0.75	0.32		0.37	0.56	0.22
Uniform Delay, d1	43.9	44.6	42.5	43.7	42.3		31.9	18.1		51.3	42.3	39.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	1.6	0.2	1.8	0.7		4.8	0.2		1.7	1.8	0.3
Delay (s)	44.4	46.2	42.7	45.5	43.0		36.7	18.2		53.0	44.0	39.8
Level of Service	D	D	D	D	D		D	B		D	D	D
Approach Delay (s)		43.8			44.5			29.9			42.1	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM Average Control Delay			38.8				HCM Level of Service			D		
HCM Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			112.9				Sum of lost time (s)			17.9		
Intersection Capacity Utilization			64.7%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 8: Olson Ln & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Conditions - AM Peak Hour






















						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	60	161	44	558	1177	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.8	3.8	3.6	5.7	5.7	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Fr t	1.00	0.85	1.00	1.00	1.00	
Fl t Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1560	1770	3539	3521	
Fl t Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1560	1770	3539	3521	
Peak-hour factor, PHF	0.75	0.75	0.95	0.95	0.88	0.88
Adj. Flow (vph)	80	215	46	587	1338	40
RTOR Reduction (vph)	0	176	0	0	1	0
Lane Group Flow (vph)	80	39	46	587	1377	0
Confl. Peds. (#/hr)		4				2
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	11.7	11.7	4.0	43.1	35.5	
Effective Green, g (s)	11.7	11.7	4.0	43.1	35.5	
Actuated g/C Ratio	0.18	0.18	0.06	0.67	0.55	
Clearance Time (s)	3.8	3.8	3.6	5.7	5.7	
Vehicle Extension (s)	3.1	3.1	2.2	3.2	3.2	
Lane Grp Cap (vph)	322	284	110	2372	1944	
v/s Ratio Prot	c0.05		c0.03	0.17	c0.39	
v/s Ratio Perm		0.03				
v/c Ratio	0.25	0.14	0.42	0.25	0.71	
Uniform Delay, d1	22.5	22.1	29.0	4.2	10.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.2	1.3	0.1	1.2	
Delay (s)	23.0	22.3	30.3	4.2	11.8	
Level of Service	C	C	C	A	B	
Approach Delay (s)	22.5			6.1	11.8	
Approach LOS	C			A	B	
Intersection Summary						
HCM Average Control Delay			11.6		HCM Level of Service	B
HCM Volume to Capacity ratio			0.58			
Actuated Cycle Length (s)			64.3		Sum of lost time (s)	13.1
Intersection Capacity Utilization			54.0%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

9: Wilson Blvd & El Dorado Hills Blvd























Serrano Westside EIR
Existing Conditions - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	107	1	199	4	0	0	58	495	5	8	1347	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.6		3.7	5.7		3.7	5.7	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00	0.98		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Fr _t		1.00	0.85		1.00		1.00	1.00		1.00	0.99	
Fl _t Protected		0.95	1.00		0.95		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1775	1556		1770		1770	3533		1766	3516	
Fl _t Permitted		0.95	1.00		0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1775	1556		1770		1770	3533		1766	3516	
Peak-hour factor, PHF	0.94	0.94	0.94	0.42	0.42	0.42	0.88	0.88	0.88	0.94	0.94	0.94
Adj. Flow (vph)	114	1	212	10	0	0	66	562	6	9	1433	56
RTOR Reduction (vph)	0	0	187	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	115	25	0	10	0	66	568	0	9	1488	0
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)		11.3	11.3		3.9		6.8	60.4		0.6	54.2	
Effective Green, g (s)		11.3	11.3		3.9		6.8	60.4		0.6	54.2	
Actuated g/C Ratio		0.12	0.12		0.04		0.07	0.63		0.01	0.57	
Clearance Time (s)		5.3	5.3		4.6		3.7	5.7		3.7	5.7	
Vehicle Extension (s)		3.3	3.3		2.0		2.0	3.3		2.0	3.3	
Lane Grp Cap (vph)		210	184		72		126	2234		11	1995	
v/s Ratio Prot		c0.06			c0.01		c0.04	0.16		0.01	c0.42	
v/s Ratio Perm			0.02									
v/c Ratio		0.55	0.14		0.14		0.52	0.25		0.82	0.75	
Uniform Delay, d1		39.7	37.7		44.2		42.8	7.7		47.4	15.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.1	0.4		0.3		1.8	0.1		162.4	1.6	
Delay (s)		42.8	38.1		44.5		44.6	7.8		209.8	17.1	
Level of Service		D	D		D		D	A		F	B	
Approach Delay (s)		39.8			44.5			11.6			18.2	
Approach LOS		D			D			B			B	
Intersection Summary												
HCM Average Control Delay			19.5				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			95.5				Sum of lost time (s)			19.3		
Intersection Capacity Utilization			69.1%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: Serrano Parkway & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Conditions - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	19	14	65	605	26	83	35	456	191	76	1455	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	5.7	4.0	4.0	5.7	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1632		1681	1644		1770	3539	1583	1770	3531	
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1632		1681	1644		1770	3539	1583	1770	3531	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	15	71	658	28	90	38	496	208	83	1582	21
RTOR Reduction (vph)	0	67	0	0	7	0	0	0	208	0	1	0
Lane Group Flow (vph)	21	19	0	395	374	0	38	496	0	83	1602	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot		NA	Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.1	5.1		25.3	25.3		4.2	37.3	0.0	7.4	40.5	
Effective Green, g (s)	5.1	5.1		25.3	25.3		4.2	37.3	0.0	7.4	40.5	
Actuated g/C Ratio	0.05	0.05		0.27	0.27		0.05	0.40	0.00	0.08	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	5.7		4.0	5.7	
Vehicle Extension (s)	2.0	2.0		4.0	4.0		2.0	4.2		2.0	4.2	
Lane Grp Cap (vph)	97	90		458	448		80	1422	0	141	1541	
v/s Ratio Prot	c0.01	0.01		c0.23	0.23		0.02	0.14		c0.05	c0.45	
v/s Ratio Perm												
v/c Ratio	0.22	0.21		0.86	0.84		0.47	0.35	0.00	0.59	1.04	
Uniform Delay, d1	41.9	41.9		32.1	31.8		43.2	19.3	46.4	41.2	26.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.4		15.8	13.2		1.6	0.2	0.0	4.0	34.0	
Delay (s)	42.3	42.3		47.9	45.0		44.8	19.5	46.4	45.2	60.2	
Level of Service	D	D		D	D		D	B	D	D	E	
Approach Delay (s)		42.3			46.5			28.4			59.4	
Approach LOS		D			D			C			E	
Intersection Summary												
HCM Average Control Delay			48.9			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			92.8			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			82.2%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group



























HCM Unsignalized Intersection Capacity Analysis
 11: Serrano Parkway & Penela Way

Serrano Westside EIR
 Existing Conditions - AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↖	↗	
Volume (veh/h)	251	30	3	652	62	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.76	0.76	0.79	0.79
Hourly flow rate (vph)	306	37	4	858	78	5
Pedestrians	2			2		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			343		1192	326
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			343		1192	326
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		62	99
cM capacity (veh/h)			1216		206	714
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	343	4	858	84		
Volume Left	0	4	0	78		
Volume Right	37	0	0	5		
cSH	1700	1216	1700	215		
Volume to Capacity	0.20	0.00	0.50	0.39		
Queue Length 95th (ft)	0	0	0	43		
Control Delay (s)	0.0	8.0	0.0	32.0		
Lane LOS		A		D		
Approach Delay (s)	0.0	0.0		32.0		
Approach LOS				D		
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			45.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
 12: Serrano Parkway & Silva Valley Parkway
























Serrano Westside EIR
 Existing Conditions - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	93	145	86	263	316	416	173	198	119	217	303	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.91		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3324		1770	3211		1770	3539	1560	1770	3327	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3324		1770	3211		1770	3539	1560	1770	3327	
Peak-hour factor, PHF	0.78	0.78	0.78	0.86	0.86	0.86	0.62	0.62	0.62	0.83	0.83	0.83
Adj. Flow (vph)	119	186	110	306	367	484	279	319	192	261	365	211
RTOR Reduction (vph)	0	74	0	0	183	0	0	0	151	0	66	0
Lane Group Flow (vph)	119	222	0	306	668	0	279	319	41	261	510	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	12.1	20.2		20.6	28.7		20.6	21.6	21.6	20.3	21.3	
Effective Green, g (s)	12.1	20.2		20.6	28.7		20.6	21.6	21.6	20.3	21.3	
Actuated g/C Ratio	0.12	0.20		0.20	0.28		0.20	0.21	0.21	0.20	0.21	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	211	663		360	910		360	755	333	355	700	
v/s Ratio Prot	0.07	0.07		c0.17	c0.21		c0.16	0.09		0.15	c0.15	
v/s Ratio Perm									0.03			
v/c Ratio	0.56	0.34		0.85	0.73		0.78	0.42	0.12	0.74	0.73	
Uniform Delay, d1	42.1	34.8		38.9	32.9		38.2	34.5	32.2	38.0	37.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.8	0.2		16.6	2.9		9.6	0.3	0.1	7.3	3.6	
Delay (s)	44.9	35.0		55.5	35.8		47.8	34.7	32.3	45.3	40.9	
Level of Service	D	D		E	D		D	C	C	D	D	
Approach Delay (s)		37.8			41.0			38.8			42.2	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM Average Control Delay			40.4			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			101.3			Sum of lost time (s)		13.3				
Intersection Capacity Utilization			67.0%			ICU Level of Service		C				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
18: White Rock Road & Latrobe Road























Serrano Westside EIR
Existing Conditions - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	176	100	47	200	191	191	43	373	91	118	1059	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3353		3433	3539	1561	1770	6408	1561	3433	5085	1561
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3353		3433	3539	1561	1770	6408	1561	3433	5085	1561
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.82	0.82	0.74	0.74	0.74	0.86	0.86	0.86
Adj. Flow (vph)	205	116	55	244	233	233	58	504	123	137	1231	391
RTOR Reduction (vph)	0	48	0	0	0	203	0	0	25	0	0	143
Lane Group Flow (vph)	205	123	0	244	233	30	58	504	98	137	1231	248
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	14.2	17.6		15.6	18.9	18.9	8.9	81.1	81.1	11.3	83.5	83.5
Effective Green, g (s)	14.2	17.6		15.6	18.9	18.9	8.9	81.1	81.1	11.3	83.5	83.5
Actuated g/C Ratio	0.10	0.12		0.11	0.13	0.13	0.06	0.55	0.55	0.08	0.56	0.56
Clearance Time (s)	6.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	329	399		362	452	199	106	3511	855	262	2869	881
v/s Ratio Prot	0.06	0.04		c0.07	c0.07		0.03	0.08		c0.04	c0.24	
v/s Ratio Perm						0.02			0.06			0.16
v/c Ratio	0.62	0.31		0.67	0.52	0.15	0.55	0.14	0.11	0.52	0.43	0.28
Uniform Delay, d1	64.3	59.6		63.8	60.3	57.4	67.6	16.4	16.1	65.8	18.5	16.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	0.4		4.9	1.0	0.3	5.7	0.1	0.3	1.9	0.5	0.8
Delay (s)	68.0	60.1		68.6	61.3	57.8	73.3	16.5	16.4	67.6	19.0	17.5
Level of Service	E	E		E	E	E	E	B	B	E	B	B
Approach Delay (s)		64.4			62.7			21.3			22.5	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM Average Control Delay			34.8									C
HCM Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			148.0								11.0	
Intersection Capacity Utilization			70.4%									C
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 19: White Rock Road & Post Street

Serrano Westside EIR
 Existing Conditions - AM Peak Hour





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	238	1	18	429	193	41	4	10	47	7	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1539	1770	3346		1770	1618		1770	1578	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1539	1770	3346		1770	1618		1770	1578	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	84	287	1	22	536	241	48	5	12	51	8	122
RTOR Reduction (vph)	0	0	0	0	23	0	0	12	0	0	111	0
Lane Group Flow (vph)	84	287	1	22	754	0	48	5	0	51	19	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		7	3		4	8	
Permitted Phases			2									
Actuated Green, G (s)	9.8	92.5	92.5	3.2	85.2		6.4	2.8		15.5	12.7	
Effective Green, g (s)	9.8	92.5	92.5	3.2	85.2		6.4	2.8		15.5	12.7	
Actuated g/C Ratio	0.07	0.69	0.69	0.02	0.63		0.05	0.02		0.11	0.09	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Vehicle Extension (s)	1.0	3.6	3.6	1.0	3.6		1.0	1.0		3.0	3.0	
Lane Grp Cap (vph)	128	2425	1055	42	2112		84	34		203	148	
v/s Ratio Prot	c0.05	0.08		0.01	c0.23		c0.03	0.00		c0.03	0.01	
v/s Ratio Perm			0.00									
v/c Ratio	0.66	0.12	0.00	0.52	0.36		0.57	0.15		0.25	0.13	
Uniform Delay, d1	61.0	7.3	6.7	65.1	11.9		63.0	64.9		54.5	56.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.9	0.1	0.0	5.3	0.5		5.7	0.8		0.7	0.4	
Delay (s)	69.8	7.4	6.7	70.5	12.3		68.7	65.7		55.1	56.5	
Level of Service	E	A	A	E	B		E	E		E	E	
Approach Delay (s)		21.5			13.9			67.9			56.1	
Approach LOS		C			B			E			E	
Intersection Summary												
HCM Average Control Delay			23.8			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			135.0			Sum of lost time (s)			20.9			
Intersection Capacity Utilization			45.5%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

20: White Rock Road & Vine Street












Serrano Westside EIR
Existing Conditions - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	177	43	47	477	54	124	5	61	14	8	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.86		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1768	1800		1770	1830		1770	1571		1770	1730	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1768	1800		1770	1830		1770	1571		1770	1730	
Peak-hour factor, PHF	0.89	0.89	0.89	0.69	0.69	0.69	0.86	0.86	0.86	0.81	0.81	0.81
Adj. Flow (vph)	4	199	48	68	691	78	144	6	71	17	10	7
RTOR Reduction (vph)	0	4	0	0	2	0	0	60	0	0	6	0
Lane Group Flow (vph)	4	243	0	68	767	0	144	17	0	17	11	0
Confl. Peds. (#/hr)	2		2			2			2			3
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)	0.8	40.9		6.5	47.3		13.3	13.3		6.3	6.3	
Effective Green, g (s)	0.8	40.9		6.5	47.3		13.3	13.3		6.3	6.3	
Actuated g/C Ratio	0.01	0.48		0.08	0.56		0.16	0.16		0.07	0.07	
Clearance Time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	3.7		2.0	3.0		3.6	3.6		3.6	3.6	
Lane Grp Cap (vph)	17	867		136	1020		277	246		131	128	
v/s Ratio Prot	0.00	0.13		c0.04	c0.42		c0.08	0.01		c0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.24	0.28		0.50	0.75		0.52	0.07		0.13	0.08	
Uniform Delay, d1	41.7	13.2		37.6	14.3		32.9	30.5		36.7	36.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	0.2		1.1	3.2		2.0	0.1		0.5	0.3	
Delay (s)	44.3	13.4		38.7	17.5		34.8	30.7		37.3	36.9	
Level of Service	D	B		D	B		C	C		D	D	
Approach Delay (s)		13.9			19.2			33.4			37.1	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM Average Control Delay			21.0			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			84.9			Sum of lost time (s)			17.2			
Intersection Capacity Utilization			57.4%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 21: Project Dwy & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Conditions - AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	0	602	1338	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	654	1454	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1141	
pX, platoon unblocked	0.72	0.72	0.72			
vC, conflicting volume	1782	727	1454			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1307	0	853			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	109	781	563			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	327	327	970	485
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.19	0.19	0.57	0.29
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			40.3%		ICU Level of Service	A
Analysis Period (min)			15			

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Conditions
AM Peak Hour

Intersection 13

El Dorado Hills Boulevard/Saratoga Way-Park Drive

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	55	53	96.7%	51.1	4.0	D
	Through	579	600	103.5%	9.5	2.4	A
	Right Turn	30	32	107.0%	5.2	1.6	A
	Subtotal	664	685	103.1%	12.5	2.3	B
SB	Left Turn	148	147	99.4%	78.6	13.5	E
	Through	1892	1915	101.2%	43.1	10.3	D
	Right Turn	17	14	81.2%	45.0	18.5	D
	Subtotal	2057	2076	100.9%	45.6	10.4	D
EB	Left Turn	19	17	88.9%	43.2	6.9	D
	Through	16	17	105.6%	51.3	9.5	D
	Right Turn	107	111	104.1%	14.9	2.1	B
	Subtotal	142	145	102.3%	22.4	2.5	C
WB	Left Turn	22	21	94.5%	45.9	6.5	D
	Through	7	7	101.4%	40.9	10.0	D
	Right Turn	67	72	107.5%	5.7	1.6	A
	Subtotal	96	100	104.1%	16.6	2.8	B
Total		2959	3006	101.6%	35.9	7.3	D

Intersection 14

El Dorado Hills Boulevard/Saratoga Way

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	618	633	102.4%	5.2	0.6	A
	Right Turn	185	196	105.9%	2.5	0.6	A
	Subtotal	803	829	103.2%	4.6	0.5	A
SB	Left Turn	64	64	99.2%	58.1	6.2	E
	Through	1957	1871	95.6%	78.2	9.5	E
	Right Turn						
	Subtotal	2021	1935	95.7%	77.5	9.3	E
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	218	225	103.0%	71.0	24.9	E
	Through						
	Right Turn	46	52	113.3%	8.9	9.0	A
	Subtotal	264	277	104.8%	59.4	22.7	E
Total		3088	3040	98.5%	56.0	5.9	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Conditions
AM Peak Hour

Intersection 15

El Dorado Hills Boulevard/US 50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	417	408	97.8%	141.5	52.3	F
	Through	562	591	105.1%	9.6	0.9	A
	Right Turn						
	Subtotal	979	999	102.0%	63.6	22.1	E
SB	Left Turn						
	Through	924	886	95.9%	17.4	0.8	B
	Right Turn	1251	1207	96.5%	8.0	0.5	A
	Subtotal	2175	2093	96.2%	12.0	0.5	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	652	656	100.6%	107.4	29.3	F
	Through						
	Right Turn	241	246	101.9%	53.8	26.5	D
	Subtotal	893	902	101.0%	92.8	28.6	F
Total		4047	3993	98.7%	43.2	8.1	D

Intersection 16

Latrobe Road/US 50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	672	690	102.7%	12.0	10.9	B
	Right Turn	177	181	102.1%	8.4	1.1	A
	Subtotal	849	871	102.6%	11.2	8.7	B
SB	Left Turn	254	243	95.7%	42.6	3.2	D
	Through	1322	1294	97.9%	8.0	0.5	A
	Right Turn						
	Subtotal	1576	1537	97.5%	13.4	0.8	B
EB	Left Turn						
	Through						
	Right Turn	1087	1127	103.7%	24.7	2.0	C
	Subtotal	1087	1127	103.7%	24.7	2.0	C
WB	Left Turn						
	Through						
	Right Turn	307	314	102.3%	2.9	0.3	A
	Subtotal	307	314	102.3%	2.9	0.3	A
Total		3819	3849	100.8%	15.4	1.9	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Conditions
AM Peak Hour

Intersection 17

Latrobe Road/Town Center Boulevard

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	71	70	99.0%	88.3	5.9	F
	Through	612	630	102.9%	25.8	2.5	C
	Right Turn	44	45	101.4%	7.1	1.9	A
	Subtotal	727	745	102.4%	30.5	2.7	C
SB	Left Turn	499	501	100.4%	77.6	3.0	E
	Through	1366	1363	99.8%	15.6	1.3	B
	Right Turn	544	550	101.0%	7.3	0.5	A
	Subtotal	2409	2414	100.2%	26.6	1.4	C
EB	Left Turn	19	18	96.3%	83.4	11.0	F
	Through	7	9	124.3%	85.6	21.1	F
	Right Turn	7	8	108.6%	16.5	9.1	B
	Subtotal	33	35	104.8%	68.8	7.2	E
WB	Left Turn	72	75	103.9%	81.2	5.0	F
	Through	48	50	105.0%	75.9	4.1	E
	Right Turn	218	231	105.7%	18.6	2.1	B
	Subtotal	338	356	105.2%	39.9	1.6	D
Total		3507	3549	101.2%	29.2	1.3	C

HCM Signalized Intersection Capacity Analysis
 1: Green Valley Rd & Francisco Dr

Serrano Westside EIR
 Existing Conditions - PM Peak Hour





















Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	418	689	314	80	61	433	67	308	248	17	105	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Lane Util. Factor	0.97	0.95	1.00		1.00	0.95	1.00	0.97	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Fr _t	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	1.00
Fl _t Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	1546		1770	3539	1560	3433	3502		1770	1863
Fl _t Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	1546		1770	3539	1560	3433	3502		1770	1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.89	0.84	0.84	0.84	0.90	0.90
Adj. Flow (vph)	449	741	338	90	69	487	75	367	295	20	117	228
RTOR Reduction (vph)	0	0	253	0	0	0	59	0	4	0	0	0
Lane Group Flow (vph)	449	741	85	0	159	487	16	367	311	0	117	228
Confl. Peds. (#/hr)			2				2			2		
Turn Type	Prot		Perm	Prot	Prot		Perm	Prot			Prot	
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2				6					
Actuated Green, G (s)	15.5	27.8	27.8		11.5	23.8	23.8	13.8	41.4		9.7	37.8
Effective Green, g (s)	15.5	27.8	27.8		11.5	23.8	23.8	13.8	41.4		9.7	37.8
Actuated g/C Ratio	0.14	0.25	0.25		0.10	0.22	0.22	0.13	0.38		0.09	0.34
Clearance Time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Vehicle Extension (s)	0.2	1.9	1.9		0.2	1.9	1.9	0.2	2.1		0.2	2.6
Lane Grp Cap (vph)	484	894	391		185	766	338	431	1318		156	640
v/s Ratio Prot	c0.13	c0.21			0.09	0.14		c0.11	0.09		0.07	c0.12
v/s Ratio Perm			0.06				0.01					
v/c Ratio	0.93	0.83	0.22		0.86	0.64	0.05	0.85	0.24		0.75	0.36
Uniform Delay, d ₁	46.7	38.9	32.5		48.5	39.2	34.1	47.1	23.5		49.0	27.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d ₂	23.7	6.1	0.1		29.6	1.3	0.0	14.4	0.4		16.3	1.5
Delay (s)	70.3	45.0	32.6		78.0	40.4	34.2	61.5	23.9		65.3	28.5
Level of Service	E	D	C		E	D	C	E	C		E	C
Approach Delay (s)		49.7				48.1			44.1			34.9
Approach LOS		D				D			D			C
Intersection Summary												
HCM Average Control Delay			45.9			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)			19.1			
Intersection Capacity Utilization			73.7%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

Movement	SBR
Lane Configurations	7
Volume (vph)	200
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.4
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1562
Flt Permitted	1.00
Satd. Flow (perm)	1562
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	222
RTOR Reduction (vph)	146
Lane Group Flow (vph)	76
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	37.8
Effective Green, g (s)	37.8
Actuated g/C Ratio	0.34
Clearance Time (s)	5.4
Vehicle Extension (s)	2.6
Lane Grp Cap (vph)	537
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.14
Uniform Delay, d1	24.9
Progression Factor	1.00
Incremental Delay, d2	0.6
Delay (s)	25.5
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
2: Green Valley Rd & El Dorado Hills Blvd





















Serrano Westside EIR
Existing Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	758	24	30	460	77	55	153	57	49	70	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1854		1770	1817		1770	1774			1825	1544
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	1854		1770	1817		1770	1774			1825	1544
Peak-hour factor, PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.84	0.84	0.84	0.89	0.89	0.89
Adj. Flow (vph)	123	815	26	36	548	92	65	182	68	55	79	106
RTOR Reduction (vph)	0	1	0	0	4	0	0	10	0	0	0	94
Lane Group Flow (vph)	123	840	0	36	636	0	65	240	0	0	134	12
Confl. Peds. (#/hr)						2			2			2
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	16.1	57.0		4.8	45.7		19.0	19.0			13.3	13.3
Effective Green, g (s)	16.1	57.0		4.8	45.7		19.0	19.0			13.3	13.3
Actuated g/C Ratio	0.14	0.50		0.04	0.40		0.17	0.17			0.12	0.12
Clearance Time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	249	922		74	725		293	294			212	179
v/s Ratio Prot	c0.07	c0.45		0.02	0.35		0.04	c0.14			c0.07	
v/s Ratio Perm												0.01
v/c Ratio	0.49	0.91		0.49	0.88		0.22	0.82			0.63	0.07
Uniform Delay, d1	45.5	26.5		53.7	31.9		41.4	46.1			48.3	45.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.1	13.6		3.6	12.5		0.1	15.1			4.5	0.1
Delay (s)	46.6	40.1		57.3	44.3		41.5	61.2			52.8	45.2
Level of Service	D	D		E	D		D	E			D	D
Approach Delay (s)		41.0			45.0			57.2			49.4	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM Average Control Delay			45.5			HCM Level of Service					D	
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			114.6			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			81.1%			ICU Level of Service					D	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Green Valley Rd & Silva Valley Pkwy




















Serrano Westside EIR
Existing Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	590	268	34	354	3	211	15	56	2	7	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.98			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Fr _t	1.00	1.00	0.85	1.00	1.00		1.00	0.88			0.97	
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1545	1770	1860		1770	1612			1791	
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1545	1770	1860		1770	1612			1791	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90	0.69	0.69	0.69
Adj. Flow (vph)	6	615	279	37	385	3	234	17	62	3	10	3
RTOR Reduction (vph)	0	0	117	0	0	0	0	48	0	0	3	0
Lane Group Flow (vph)	6	615	162	37	388	0	234	31	0	0	13	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Split				Split	
Protected Phases	1	6		5	2		8	8			4	4
Permitted Phases			6									
Actuated Green, G (s)	0.8	33.7	33.7	3.9	36.8		16.9	16.9			3.5	
Effective Green, g (s)	0.8	33.7	33.7	3.9	36.8		16.9	16.9			3.5	
Actuated g/C Ratio	0.01	0.44	0.44	0.05	0.48		0.22	0.22			0.05	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	19	823	682	90	897		392	357			82	
v/s Ratio Prot	0.00	c0.33		c0.02	c0.21		c0.13	0.02			c0.01	
v/s Ratio Perm			0.11									
v/c Ratio	0.32	0.75	0.24	0.41	0.43		0.60	0.09			0.16	
Uniform Delay, d1	37.5	17.8	13.3	35.1	12.9		26.6	23.6			35.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	6.8	3.7	0.2	2.2	0.3		2.0	0.1			0.7	
Delay (s)	44.3	21.5	13.5	37.3	13.3		28.7	23.6			35.7	
Level of Service	D	C	B	D	B		C	C			D	
Approach Delay (s)		19.2			15.3			27.4			35.7	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM Average Control Delay			19.9			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			76.3			Sum of lost time (s)			24.0			
Intersection Capacity Utilization			58.0%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group













HCM Unsignalized Intersection Capacity Analysis
4: Francisco Dr & El Dorado Hills Blvd

Serrano Westside EIR
Existing Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	41	449	26	35	40	504	281	19	9	156	2
Peak Hour Factor	0.89	0.89	0.89	0.60	0.60	0.60	0.94	0.94	0.94	0.84	0.84	0.84
Hourly flow rate (vph)	0	46	504	43	58	67	536	299	20	11	186	2
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	551	168	536	319	11	188						
Volume Left (vph)	0	43	536	0	11	0						
Volume Right (vph)	504	67	0	20	0	2						
Hadj (s)	-0.52	-0.15	0.53	-0.01	0.53	0.03						
Departure Headway (s)	6.4	7.9	8.2	7.6	9.0	8.5						
Degree Utilization, x	0.98	0.37	1.22	0.68	0.03	0.44						
Capacity (veh/h)	558	443	445	462	391	417						
Control Delay (s)	58.4	15.4	142.8	23.9	11.0	16.8						
Approach Delay (s)	58.4	15.4	98.4		16.5							
Approach LOS	F	C	F		C							
Intersection Summary												
Delay			68.9									
HCM Level of Service			F									
Intersection Capacity Utilization			76.7%	ICU Level of Service	D							
Analysis Period (min)			15									















HCM Unsignalized Intersection Capacity Analysis
5: Apian Way & Silva Valley Pkwy

Serrano Westside EIR
Existing Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	17	4	39	56	2	43	70	243	89	47	191	89
Peak Hour Factor	0.79	0.79	0.79	0.87	0.87	0.87	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	22	5	49	64	2	49	82	286	105	55	225	105
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	76	116	473	385								
Volume Left (vph)	22	64	82	55								
Volume Right (vph)	49	49	105	105								
Hadj (s)	-0.30	-0.11	-0.06	-0.10								
Departure Headway (s)	6.0	6.1	5.0	5.0								
Degree Utilization, x	0.13	0.20	0.65	0.54								
Capacity (veh/h)	492	508	699	684								
Control Delay (s)	9.9	10.5	16.8	13.8								
Approach Delay (s)	9.9	10.5	16.8	13.8								
Approach LOS	A	B	C	B								
Intersection Summary												
Delay			14.5									
HCM Level of Service			B									
Intersection Capacity Utilization			49.3%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
6: Harvard Way & El Dorado Hills Blvd























Serrano Westside EIR
Existing Conditions - PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Volume (vph)	141	125	844	184	162	539
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	6.0		4.0	6.0
Lane Util. Factor	1.00	1.00	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Fr t	1.00	0.85	0.97		1.00	1.00
Fl t Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1549	3432		3433	3539
Fl t Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1549	3432		3433	3539
Peak-hour factor, PHF	0.84	0.84	0.94	0.94	0.87	0.87
Adj. Flow (vph)	168	149	898	196	186	620
RTOR Reduction (vph)	0	123	11	0	0	0
Lane Group Flow (vph)	168	26	1083	0	186	620
Confl. Peds. (#/hr)		8		8		
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	12.8	12.8	33.2		9.6	46.8
Effective Green, g (s)	12.8	12.8	33.2		9.6	46.8
Actuated g/C Ratio	0.17	0.17	0.45		0.13	0.63
Clearance Time (s)	4.6	4.6	6.0		4.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	305	267	1534		444	2229
v/s Ratio Prot	c0.09		c0.32		c0.05	0.18
v/s Ratio Perm		0.02				
v/c Ratio	0.55	0.10	0.71		0.42	0.28
Uniform Delay, d1	28.1	25.9	16.6		29.8	6.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	0.1	1.2		0.2	0.0
Delay (s)	29.3	25.9	17.8		30.0	6.2
Level of Service	C	C	B		C	A
Approach Delay (s)	27.7		17.8			11.7
Approach LOS	C		B			B
Intersection Summary						
HCM Average Control Delay			17.0		HCM Level of Service	B
HCM Volume to Capacity ratio			0.62			
Actuated Cycle Length (s)			74.3		Sum of lost time (s)	18.7
Intersection Capacity Utilization			55.6%		ICU Level of Service	B
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy













Serrano Westside EIR
Existing Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	121	10	185	8	10	5	177	284	10	9	195	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1534	1770	1757		1770	1850		1770	1863	1531
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1534	1770	1757		1770	1850		1770	1863	1531
Peak-hour factor, PHF	0.87	0.87	0.87	0.60	0.60	0.60	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	139	11	213	13	17	8	208	334	12	10	217	74
RTOR Reduction (vph)	0	0	175	0	7	0	0	1	0	0	0	52
Lane Group Flow (vph)	139	11	38	13	18	0	208	345	0	10	217	22
Confl. Peds. (#/hr)			8			8			8			8
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	13.0	13.0	13.0	6.4	6.4		16.2	35.6		0.8	20.2	20.2
Effective Green, g (s)	13.0	13.0	13.0	6.4	6.4		16.2	35.6		0.8	20.2	20.2
Actuated g/C Ratio	0.18	0.18	0.18	0.09	0.09		0.22	0.48		0.01	0.27	0.27
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	312	329	271	154	153		389	894		19	511	420
v/s Ratio Prot	c0.08	0.01		0.01	c0.01		c0.12	c0.19		0.01	0.12	
v/s Ratio Perm			0.02									0.01
v/c Ratio	0.45	0.03	0.14	0.08	0.12		0.53	0.39		0.53	0.42	0.05
Uniform Delay, d1	27.1	25.1	25.6	31.0	31.0		25.4	12.1		36.3	22.0	19.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	0.1	0.2	0.3		1.1	0.2		18.6	0.4	0.0
Delay (s)	27.5	25.2	25.7	31.2	31.4		26.5	12.3		54.9	22.4	19.7
Level of Service	C	C	C	C	C		C	B		D	C	B
Approach Delay (s)		26.4			31.3			17.6			22.8	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM Average Control Delay			21.8				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			73.7				Sum of lost time (s)			12.6		
Intersection Capacity Utilization			48.9%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: Olson Ln & El Dorado Hills Blvd

Serrano Westside EIR
Existing Conditions - PM Peak Hour






















						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	28	73	170	1039	653	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.8	3.8	3.6	5.7	5.7	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Fr _t	1.00	0.85	1.00	1.00	1.00	
Fl _t Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1563	1770	3539	3523	
Fl _t Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1563	1770	3539	3523	
Peak-hour factor, PHF	0.87	0.87	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	84	185	1129	710	20
RTOR Reduction (vph)	0	71	0	0	2	0
Lane Group Flow (vph)	32	13	185	1129	728	0
Confl. Peds. (#/hr)		2				2
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.1	8.1	11.4	36.6	21.6	
Effective Green, g (s)	8.1	8.1	11.4	36.6	21.6	
Actuated g/C Ratio	0.15	0.15	0.21	0.68	0.40	
Clearance Time (s)	3.8	3.8	3.6	5.7	5.7	
Vehicle Extension (s)	3.1	3.1	2.2	3.2	3.2	
Lane Grp Cap (vph)	265	234	372	2390	1404	
v/s Ratio Prot	c0.02		0.10	c0.32	0.21	
v/s Ratio Perm		0.01				
v/c Ratio	0.12	0.05	0.50	0.47	0.52	
Uniform Delay, d ₁	20.0	19.8	18.9	4.2	12.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d ₂	0.2	0.1	0.5	0.2	0.3	
Delay (s)	20.2	19.9	19.4	4.4	12.7	
Level of Service	C	B	B	A	B	
Approach Delay (s)	20.0			6.5	12.7	
Approach LOS	B			A	B	
Intersection Summary						
HCM Average Control Delay			9.3	HCM Level of Service		A
HCM Volume to Capacity ratio			0.41			
Actuated Cycle Length (s)			54.2	Sum of lost time (s)		9.5
Intersection Capacity Utilization			45.1%	ICU Level of Service		A
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

9: Wilson Blvd & El Dorado Hills Blvd























Serrano Westside EIR
Existing Conditions - PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	41	0	120	2	1	2	177	1166	2	0	681	45	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.3	5.3		4.6		3.7	5.7			5.7		
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			0.95		
Frbp, ped/bikes		1.00	0.98		0.99		1.00	1.00			1.00		
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00		
Frft		1.00	0.85		0.94		1.00	1.00			0.99		
Flt Protected		0.95	1.00		0.98		0.95	1.00			1.00		
Satd. Flow (prot)		1770	1557		1712		1770	3538			3501		
Flt Permitted		0.95	1.00		0.98		0.95	1.00			1.00		
Satd. Flow (perm)		1770	1557		1712		1770	3538			3501		
Peak-hour factor, PHF	0.94	0.94	0.94	0.42	0.42	0.42	0.88	0.88	0.88	0.94	0.94	0.94	
Adj. Flow (vph)	44	0	128	5	2	5	201	1325	2	0	724	48	
RTOR Reduction (vph)	0	0	112	0	5	0	0	0	0	0	3	0	
Lane Group Flow (vph)	0	44	16	0	7	0	201	1327	0	0	769	0	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2	
Turn Type	Split		Perm	Split			Prot				Prot		
Protected Phases	4	4		3	3		5	2			1	6	
Permitted Phases			4										
Actuated Green, G (s)		8.7	8.7		4.0		14.2	43.2			25.3		
Effective Green, g (s)		8.7	8.7		4.0		14.2	43.2			25.3		
Actuated g/C Ratio		0.12	0.12		0.06		0.20	0.60			0.35		
Clearance Time (s)		5.3	5.3		4.6		3.7	5.7			5.7		
Vehicle Extension (s)		3.3	3.3		2.0		2.0	3.3			3.3		
Lane Grp Cap (vph)		215	189		96		352	2138			1239		
v/s Ratio Prot		c0.02			c0.00		0.11	c0.38			0.22		
v/s Ratio Perm			0.01										
v/c Ratio		0.20	0.08		0.08		0.57	0.62			0.62		
Uniform Delay, d1		28.3	27.9		32.0		25.9	9.0			19.1		
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00		
Incremental Delay, d2		0.5	0.2		0.1		1.4	0.6			1.0		
Delay (s)		28.8	28.1		32.1		27.3	9.5			20.1		
Level of Service		C	C		C		C	A			C		
Approach Delay (s)		28.3			32.1			11.9			20.1		
Approach LOS		C			C			B			C		
Intersection Summary													
HCM Average Control Delay			15.7				HCM Level of Service				B		
HCM Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			71.5				Sum of lost time (s)			15.6			
Intersection Capacity Utilization			53.5%				ICU Level of Service			A			
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: Serrano Parkway & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	18	16	48	263	16	35	99	1292	543	37	731	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.89		1.00	0.97		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1652		1681	1649		1770	3539	1544	1770	3511	
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1652		1681	1649		1770	3539	1544	1770	3511	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	17	52	286	17	38	108	1404	590	40	795	38
RTOR Reduction (vph)	0	49	0	0	7	0	0	0	156	0	2	0
Lane Group Flow (vph)	20	20	0	172	162	0	108	1404	434	40	831	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot			Perm	Prot	
Protected Phases	7	7		8	8		5	2			1	6
Permitted Phases									2			
Actuated Green, G (s)	5.0	5.0		16.2	16.2		10.3	51.4	51.4	4.3	45.4	
Effective Green, g (s)	5.0	5.0		16.2	16.2		10.3	51.4	51.4	4.3	45.4	
Actuated g/C Ratio	0.05	0.05		0.17	0.17		0.11	0.54	0.54	0.05	0.48	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Vehicle Extension (s)	2.0	2.0		4.0	4.0		2.0	4.2	4.2	2.0	4.2	
Lane Grp Cap (vph)	94	87		288	282		193	1923	839	80	1685	
v/s Ratio Prot	0.01	c0.01		c0.10	0.10		c0.06	c0.40		0.02	0.24	
v/s Ratio Perm									0.28			
v/c Ratio	0.21	0.23		0.60	0.57		0.56	0.73	0.52	0.50	0.49	
Uniform Delay, d1	42.9	42.9		36.2	36.0		40.0	16.3	13.7	44.1	16.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.5		3.9	3.3		2.0	1.6	0.8	1.8	0.3	
Delay (s)	43.3	43.4		40.1	39.4		42.0	17.9	14.5	45.9	17.1	
Level of Service	D	D		D	D		D	B	B	D	B	
Approach Delay (s)		43.4			39.7			18.2			18.4	
Approach LOS		D			D			B			B	
Intersection Summary												
HCM Average Control Delay			21.1			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			94.6			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			66.3%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 11: Serrano Parkway & Penela Way

Serrano Westside EIR
 Existing Conditions - PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↖	↗	
Volume (veh/h)	543	53	2	277	37	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.76	0.76	0.79	0.79
Hourly flow rate (vph)	662	65	3	364	47	4
Pedestrians	2			2		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			727		1066	697
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			727		1066	697
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		81	99
cM capacity (veh/h)			876		245	441
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	727	3	364	51		
Volume Left	0	3	0	47		
Volume Right	65	0	0	4		
cSH	1700	876	1700	253		
Volume to Capacity	0.43	0.00	0.21	0.20		
Queue Length 95th (ft)	0	0	0	18		
Control Delay (s)	0.0	9.1	0.0	22.7		
Lane LOS		A		C		
Approach Delay (s)	0.0	0.1		22.7		
Approach LOS				C		
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			42.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
 12: Serrano Parkway & Silva Valley Parkway
























Serrano Westside EIR
 Existing Conditions - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	297	49	111	193	263	65	288	285	162	148	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.91		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3457		1770	3207		1770	3539	1561	1770	3327	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3457		1770	3207		1770	3539	1561	1770	3327	
Peak-hour factor, PHF	0.77	0.77	0.77	0.86	0.86	0.86	0.61	0.61	0.61	0.84	0.84	0.84
Adj. Flow (vph)	178	386	64	129	224	306	107	472	467	193	176	102
RTOR Reduction (vph)	0	11	0	0	218	0	0	0	317	0	58	0
Lane Group Flow (vph)	178	439	0	129	312	0	107	472	150	193	220	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	13.8	17.5		11.7	15.4		8.8	20.7	20.7	14.7	26.6	
Effective Green, g (s)	13.8	17.5		11.7	15.4		8.8	20.7	20.7	14.7	26.6	
Actuated g/C Ratio	0.17	0.21		0.14	0.19		0.11	0.25	0.25	0.18	0.32	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	294	727		249	594		187	880	388	313	1064	
v/s Ratio Prot	c0.10	c0.13		0.07	0.10		0.06	c0.13		c0.11	0.07	
v/s Ratio Perm									0.10			
v/c Ratio	0.61	0.60		0.52	0.53		0.57	0.54	0.39	0.62	0.21	
Uniform Delay, d1	32.2	29.7		33.1	30.6		35.4	27.1	26.0	31.6	20.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.0	1.2		1.4	0.6		3.4	0.5	0.5	3.1	0.1	
Delay (s)	35.1	30.9		34.5	31.2		38.8	27.6	26.4	34.7	20.7	
Level of Service	D	C		C	C		D	C	C	C	C	
Approach Delay (s)		32.1			31.9			28.2			26.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			29.7			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			83.2			Sum of lost time (s)			13.3			
Intersection Capacity Utilization			55.2%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 18: White Rock Road & Latrobe Road
























Serrano Westside EIR
 Existing Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	286	243	82	145	129	237	83	1057	258	352	479	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3394		3433	3539	1561	1770	6408	1561	3433	5085	1561
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3394		3433	3539	1561	1770	6408	1561	3433	5085	1561
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.82	0.82	0.74	0.74	0.74	0.86	0.86	0.86
Adj. Flow (vph)	333	283	95	177	157	289	112	1428	349	409	557	252
RTOR Reduction (vph)	0	28	0	0	0	223	0	0	30	0	0	125
Lane Group Flow (vph)	333	350	0	177	157	66	112	1428	319	409	557	127
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	19.5	24.4		12.9	17.7	17.7	13.6	68.6	68.6	19.7	74.7	74.7
Effective Green, g (s)	19.5	24.4		12.9	17.7	17.7	13.6	68.6	68.6	19.7	74.7	74.7
Actuated g/C Ratio	0.13	0.16		0.09	0.12	0.12	0.09	0.46	0.46	0.13	0.50	0.50
Clearance Time (s)	6.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	452	560		299	423	187	163	2970	724	457	2567	788
v/s Ratio Prot	c0.10	c0.10		0.05	0.04		0.06	c0.22		c0.12	0.11	
v/s Ratio Perm						0.04			0.20			0.08
v/c Ratio	0.74	0.63		0.59	0.37	0.35	0.69	0.48	0.44	0.89	0.22	0.16
Uniform Delay, d1	61.8	57.5		65.0	60.0	59.9	65.1	27.4	26.8	63.1	20.4	19.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.2	2.2		3.1	0.6	1.2	11.4	0.6	1.9	19.6	0.2	0.4
Delay (s)	67.9	59.7		68.1	60.6	61.1	76.5	28.0	28.7	82.7	20.6	20.2
Level of Service	E	E		E	E	E	E	C	C	F	C	C
Approach Delay (s)		63.6			62.9			31.0			41.4	
Approach LOS		E			E			C			D	
Intersection Summary												
HCM Average Control Delay			43.5									HCM Level of Service D
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			148.0									Sum of lost time (s) 22.4
Intersection Capacity Utilization			76.9%									ICU Level of Service D
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 19: White Rock Road & Post Street

Serrano Westside EIR
 Existing Conditions - PM Peak Hour





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Volume (vph)	163	683	7	11	341	129	23	9	12	188	10	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1539	1770	3368		1770	1669		1770	1579	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1539	1770	3368		1770	1669		1770	1579	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	196	823	8	14	426	161	27	10	14	204	11	160
RTOR Reduction (vph)	0	0	2	0	22	0	0	14	0	0	134	0
Lane Group Flow (vph)	196	823	6	14	565	0	27	10	0	204	37	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		7	3		4	8	
Permitted Phases			2									
Actuated Green, G (s)	17.0	86.8	86.8	2.2	71.3		4.0	4.2		20.8	21.8	
Effective Green, g (s)	17.0	86.8	86.8	2.2	71.3		4.0	4.2		20.8	21.8	
Actuated g/C Ratio	0.13	0.64	0.64	0.02	0.53		0.03	0.03		0.15	0.16	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Vehicle Extension (s)	1.0	3.6	3.6	1.0	3.6		1.0	1.0		3.0	3.0	
Lane Grp Cap (vph)	223	2275	990	29	1779		52	52		273	255	
v/s Ratio Prot	c0.11	c0.23		0.01	0.17		c0.02	0.01		c0.12	0.02	
v/s Ratio Perm			0.00									
v/c Ratio	0.88	0.36	0.01	0.48	0.32		0.52	0.20		0.75	0.14	
Uniform Delay, d1	58.0	11.2	8.6	65.8	18.1		64.6	63.8		54.6	48.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	29.2	0.4	0.0	4.5	0.5		3.6	0.7		10.6	0.3	
Delay (s)	87.2	11.7	8.6	70.4	18.5		68.2	64.5		65.2	48.9	
Level of Service	F	B	A	E	B		E	E		E	D	
Approach Delay (s)		26.1			19.7			66.4			57.8	
Approach LOS		C			B			E			E	
Intersection Summary												
HCM Average Control Delay			31.0			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			135.0			Sum of lost time (s)			14.9			
Intersection Capacity Utilization			57.5%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

20: White Rock Road & Vine Street













Serrano Westside EIR
Existing Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	472	116	14	207	70	82	14	30	152	34	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.96		1.00	0.90		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1799		1770	1781		1770	1644		1770	1683	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1799		1770	1781		1770	1644		1770	1683	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.81	0.81	0.81	0.90	0.90	0.90
Adj. Flow (vph)	53	519	127	18	265	90	101	17	37	169	38	49
RTOR Reduction (vph)	0	4	0	0	6	0	0	32	0	0	32	0
Lane Group Flow (vph)	53	642	0	18	349	0	101	22	0	169	55	0
Confl. Peds. (#/hr)	2		2			2			2			2
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)	6.3	46.2		2.3	42.9		12.8	12.8		15.3	15.3	
Effective Green, g (s)	6.3	46.2		2.3	42.9		12.8	12.8		15.3	15.3	
Actuated g/C Ratio	0.07	0.49		0.02	0.45		0.14	0.14		0.16	0.16	
Clearance Time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	3.7		2.0	3.0		3.6	3.6		3.6	3.6	
Lane Grp Cap (vph)	118	880		43	809		240	223		287	272	
v/s Ratio Prot	c0.03	c0.36		0.01	0.20		c0.06	0.01		c0.10	0.03	
v/s Ratio Perm												
v/c Ratio	0.45	0.73		0.42	0.43		0.42	0.10		0.59	0.20	
Uniform Delay, d1	42.4	19.2		45.4	17.5		37.5	35.8		36.7	34.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	3.2		2.4	0.4		1.5	0.2		3.4	0.5	
Delay (s)	43.4	22.4		47.8	17.9		38.9	36.0		40.0	34.8	
Level of Service	D	C		D	B		D	D		D	C	
Approach Delay (s)		24.0			19.3			37.9			38.2	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM Average Control Delay			26.7			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			94.5			Sum of lost time (s)			11.9			
Intersection Capacity Utilization			63.0%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 21: Project Dwy & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Conditions - PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Volume (veh/h)	0	0	0	1209	726	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	1314	789	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1141	
pX, platoon unblocked	0.89	0.89	0.89			
vC, conflicting volume	1446	395	789			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1261	83	525			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	145	857	927			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	657	657	526	263
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.39	0.39	0.31	0.15
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			36.8%		ICU Level of Service	A
Analysis Period (min)			15			

SimTraffic Post-Processor
 Results from 1 Run
 Volume and Delay by Movement

Serrano Westside
 Existing Conditions
 PM Peak Hour

Intersection 13

El Dorado Hills Boulevard/Saratoga Way-Park Drive

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	111	114	102.5%	50.9	2.1	D
	Through	1630	1624	99.6%	24.0	1.9	C
	Right Turn	59	59	99.8%	18.6	3.5	B
	Subtotal	1800	1796	99.8%	25.5	1.8	C
SB	Left Turn	140	142	101.6%	55.5	5.3	E
	Through	879	890	101.2%	18.3	1.8	B
	Right Turn	23	23	98.7%	12.3	4.6	B
	Subtotal	1042	1055	101.2%	23.2	2.0	C
EB	Left Turn	38	36	95.0%	43.6	3.4	D
	Through	13	13	100.8%	44.7	8.1	D
	Right Turn	72	71	97.9%	3.6	0.4	A
	Subtotal	123	120	97.3%	20.3	1.7	C
WB	Left Turn	55	56	101.1%	35.1	3.5	D
	Through	22	20	92.7%	45.3	6.5	D
	Right Turn	266	266	100.2%	21.4	3.2	C
	Subtotal	343	342	99.8%	25.1	3.1	C
Total		3308	3313	100.2%	24.5	1.5	C

Intersection 14

El Dorado Hills Boulevard/Saratoga Way

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	1709	1695	99.2%	7.2	0.7	A
	Right Turn	326	332	101.8%	4.5	0.6	A
	Subtotal	2035	2027	99.6%	6.8	0.7	A
SB	Left Turn	61	58	94.4%	58.9	12.1	E
	Through	945	955	101.1%	23.9	8.9	C
	Right Turn						
	Subtotal	1006	1013	100.7%	25.9	9.0	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	201	203	100.8%	40.2	3.0	D
	Through						
	Right Turn	91	95	104.8%	34.9	3.3	C
	Subtotal	292	298	102.1%	38.5	2.3	D
Total		3333	3338	100.1%	15.4	3.1	B

SimTraffic Post-Processor
 Results from 1 Run
 Volume and Delay by Movement

Serrano Westside
 Existing Conditions
 PM Peak Hour

Intersection 15

El Dorado Hills Boulevard/US 50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	1021	1008	98.8%	43.2	7.0	D
	Through	1769	1766	99.8%	18.9	2.2	B
	Right Turn						
	Subtotal	2790	2775	99.4%	27.7	3.7	C
SB	Left Turn						
	Through	659	661	100.3%	34.8	2.3	C
	Right Turn	487	488	100.1%	23.0	1.7	C
	Subtotal	1146	1149	100.2%	29.8	1.6	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	297	301	101.3%	42.0	2.4	D
	Through						
	Right Turn	266	266	99.8%	25.8	3.9	C
	Subtotal	563	566	100.6%	34.4	2.9	C
Total		4499	4490	99.8%	29.1	2.7	C

Intersection 16

Latrobe Road/US 50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	1841	1822	99.0%	14.7	1.6	B
	Right Turn	702	693	98.7%	19.8	1.6	B
	Subtotal	2543	2515	98.9%	16.1	1.4	B
SB	Left Turn	211	209	99.0%	58.6	2.2	E
	Through	745	758	101.7%	4.7	1.2	A
	Right Turn						
	Subtotal	956	967	101.1%	16.4	1.4	B
EB	Left Turn						
	Through						
	Right Turn	700	709	101.2%	14.0	5.1	B
	Subtotal	700	709	101.2%	14.0	5.1	B
WB	Left Turn						
	Through						
	Right Turn	949	954	100.5%	6.8	1.0	A
	Subtotal	949	954	100.5%	6.8	1.0	A
Total		5148	5144	99.9%	14.2	1.1	B

SimTraffic Post-Processor
 Results from 1 Run
 Volume and Delay by Movement

Serrano Westside
 Existing Conditions
 PM Peak Hour

Intersection 17

Latrobe Road/Town Center Boulevard

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	3	2	80.0%	100.4	43.6	F
	Through	1450	1434	98.9%	100.1	15.9	F
	Right Turn	127	125	98.5%	10.0	2.4	A
	Subtotal	1580	1562	98.8%	92.9	14.8	F
SB	Left Turn	546	555	101.6%	87.8	18.9	F
	Through	875	879	100.5%	19.1	1.2	B
	Right Turn	24	24	101.7%	1.8	0.2	A
	Subtotal	1445	1458	100.9%	44.9	7.3	D
EB	Left Turn	352	337	95.6%	187.4	78.2	F
	Through	54	55	101.3%	71.1	9.8	E
	Right Turn	115	122	106.2%	33.3	8.3	C
	Subtotal	521	513	98.5%	138.9	52.5	F
WB	Left Turn	58	60	103.3%	88.3	13.2	F
	Through	9	8	91.1%	87.9	29.5	F
	Right Turn	741	742	100.1%	50.1	13.5	D
	Subtotal	808	810	100.3%	53.3	13.8	D
Total		4354	4344	99.8%	74.8	4.9	E

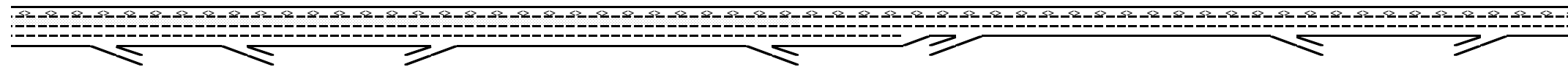
Existing Roadway Segments Analysis		Peak Hour Volume		LOS Thresholds			V/ C Ratio		LOS	
Central El Dorado	Number of Lanes	AM	PM	LOS C	LOS D	LOS E	AM	PM	AM	PM
El Dorado Hills Blvd - Green Valley to US 50 (5 segments)										
Green Valley to Francisco	2A	430	389	850	1540	1650	0.26	0.24	C or better	C or better
Francisco to Governor	2A	1,324	1,319	850	1540	1650	0.80	0.80	D	D
Governor to Wilson	4AD	2,010	1,935	1850	3220	3290	0.61	0.59	D	D
Wilson to Serrano	4AD	2,108	2,148	1850	3220	3290	0.64	0.65	D	D
Serrano to Saratoga	5AD	2,807	2,976	2305	3950	4000	0.70	0.74	D	D
Saratoga to US 50	6AD	2,685	2,806	2760	4680	4710	0.57	0.60	C or better	D
Latrobe Road - US 50 to S. Shingle Rd (5 Segemtns)										
US 50 to Town Center	6AD	3,339	4,081	2760	4680	4710	0.71	0.87	D	D
Town Center to White Rock Rd	6AD	2,253	2,628	2760	4680	4710	0.48	0.56	C or better	C or better
White Rock to Golden Foothill Pkwy	4AD	1,813	2,104	1850	3220	3290	0.55	0.64	C or better	D
Golden Foothill Pkwy to Sun Ridge Meadow Rd	2A	1,225	1,246	850	1540	1650	0.74	0.76	D	D
Sun Ridge Meadow Rd to S. Shingle Rd	2A	256	295	850	1540	1650	0.16	0.18	C or better	C or better
White Rock Road - Scott Road to US 50 (5 Segments)										
Scott Rd to Four Seasons Dr.	2A	603	863	850	1540	1650	0.37	0.52	C or better	D
Four Seasons Dr to Latrobe Rd	4AD	893	1,040	1850	3220	3290	0.27	0.32	C or better	C or better
Latrobe Rd to Vine St	2A	831	969	850	1540	1650	0.50	0.59	C or better	D
Vine St to US 50	2A	830	945	850	1540	1650	0.50	0.57	C or better	D
Silva Valley Pkwy - Green Valley Rd to US 50 (4 Segments)										
Green Valley to Glenwood Way	2A	651	591	850	1540	1650	0.39	0.36	C or better	C or better
Glenwood Way to Appian Way	2A	555	630	850	1540	1650	0.34	0.38	C or better	C or better
Appian Way to Harvard Way	2A	796	681	850	1540	1650	0.48	0.41	C or better	C or better
Harvard Way to Serrano Pkwy	4AD	1,402	1,084	1850	3220	3290	0.43	0.33	C or better	C or better
Serrano Pkwy to US 50	2A	1,142	946	850	1540	1650	0.69	0.57	D	D
Serrano Pkwy - EDH Blvd to Bass Lake Rd - 3 segments										
EDH Blvd to Silva Valley Pkwy	2A	995	910	850	1540	1650	0.60	0.55	D	D
Silva Valley to Villagio Dr	4AD	1,476	1,311	1850	3220	3290	0.45	0.40	C or better	C or better
Villagio Dr to Bass Lake Rd	2A	453	417	850	1540	1650	0.27	0.25	C or better	C or better
Saratoga Way - west of EDH Blvd (2 segments)										
EDH to Arrowhead	2A	222	279	850	1540	1650	0.13	0.17	C or better	C or better
Wilson Way - west of EDH Blvd (2 segments)										
EDH Blvd to Ridgeview Dr	4AU	418	384	1760	3070	3130	0.13	0.12	C or better	C or better
Olson Ln/Gillette Dr - west of EDH Blvd (2 segemtns)										
EDH Blvd to Gillette	2A	300	289	850	1540	1650	0.18	0.18	C or better	C or better
Harvard Way - EDH Blvd to Silva Valley Pkwy (1 segments)										
EDH Blvd to Silva Valley Pkwy	4AU	1,139	612	1760	3070	3130	0.36	0.20	C or better	C or better

Project: Marble Valley/Lime Rock/Pedregal
Freeway Corridor: Eastbound US 50
Alternative: Existing Conditions
Time Period: AM Peak Hour

Data Entry Value

Calculated Value

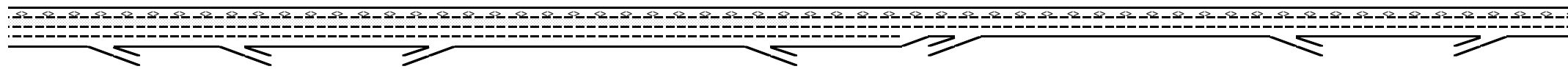
Location	1	2	3	4	5	6	7	8	9	10	11	12
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Key

- <-> Express Lane (HOV)
- No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Define Freeway Segment												
Type	Diverge	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge
Length (ft)	1,500	850	1,975	1,500	7,500	1,500	2,100	1,500	3,300	1,500	1,350	1,500
Accel Length				275				500				500
Decel Length	150	150				150				150		
Mainline Volume	2,560	1,473	1,166	1,166	1,597	1,597	1,405	1,405	1,541	1,541	1,394	1,394
On Ramp Volume				431				136				423
Off Ramp Volume	1,087	307				192				147		
Express Lane Volume	128	74	58	58	80	80	70	70	77	77	70	70
EL On Ramp Volume												
EL Off Ramp Volume												
Calculate Flow Rate in General Purpose Lanes (GP)												
GP Volume (vph)	2,432	1,399	1,108	1,539	1,517	1,517	1,335	1,471	1,464	1,464	1,324	1,747
PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
GP Lanes	3	3	3	3	3	3	3	2	2	2	2	2
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	5.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.980	0.980	0.980	0.980	0.862	0.980	0.980	0.980	0.980	0.980	0.980	0.980
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	2,851	1,641	1,299	1,804	2,023	1,779	1,565	1,724	1,716	1,716	1,553	2,049
GP Flow (pcphpl)	950	547	433	601	674	593	522	862	858	858	776	1,024
Calculate Speed in General Purpose Lanes												
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes												
v/c ratio	0.40	0.23	0.18	0.26	0.29	0.25	0.22	0.37	0.37	0.37	0.33	0.44
Speed (mph)	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Density (pcphpl)	14.6	8.4	6.7	9.3	10.4	9.1	8.0	13.3	13.2	13.2	11.9	15.8
LOS	B	A	A	A	A	A	A	B	B	B	B	B
Calculate Operations for Entering GP Lanes												
GP _{IN} Vol (pcph)				1,331				1,531				1,582
GP _{IN} Cap (pcph)				7,050				4,700				4,700
GP _{IN} v/c ratio				0.19				0.33				0.34
Calculate Operations for Exiting GP Lanes												
GP _{OUT} Vol (pcph)	1,658	1,304				1,517	1,565			1,553		
GP _{OUT} Cap (pcph)	7,050	7,050				7,050	4,700			4,700		
GP _{OUT} v/c ratio	0.24	0.18				0.22	0.33			0.33		

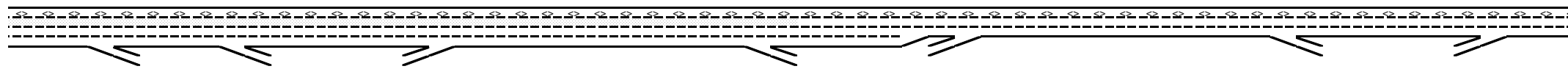


Key

<> Express Lane (HOV)

No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Calculate Flow Rate in Express Lanes (EL)												
EL Volume (vph)	128	74	58	58	80	80	70	70	77	77	70	70
PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	166	95	75	75	112	103	91	91	100	100	90	90
EL Flow (pcphpl)	166	95	75	75	112	103	91	91	100	100	90	90
Calculate Speed in Express Lanes												
Lane Width (ft)												
Shoulder Width												
TRD												
f _{LW}												
f _{LC}												
Calc'd FFS												
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes												
EL _{AV} v/c ratio	0.09	0.05	0.04	0.04	0.06	0.06	0.05	0.05	0.06	0.06	0.05	0.05
Calculate On Ramp Flow Rate												
On Volume (vph)				431				136				423
PHF				0.92				0.71				0.92
Total Lanes				1				1				1
Terrain				Level				Level				Level
Grade %				0.0%				0.0%				0.0%
Grade Length (mi)				0.00				0.00				0.00
Truck & Bus %				2.0%				2.0%				3.0%
RV %				0.0%				0.0%				0.0%
E _T				1.5				1.5				1.5
E _R				1.2				1.2				1.2
f _{HV}				0.990				0.990				0.985
f _P				1.00				1.00				1.00
On Flow (pcph)				473				193				467
On Flow (pcphpl)				473				193				467
Calculate On Ramp Roadway Operations												
On Ramp Type				Right				Right				Right
On Ramp Speed (mph)				45				45				25
On Ramp Cap (pcph)				2,100				2,100				1,900
On Ramp v/c ratio				0.23				0.09				0.25

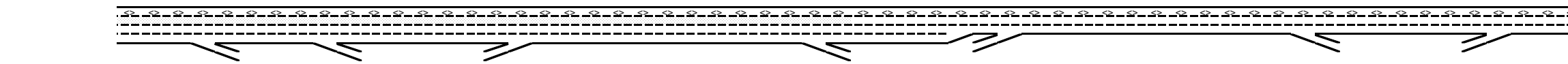


Key

<> Express Lane (HOV)

No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Calculate Off Ramp Flow Rate												
Off Volume (vph)	1,087	307				192				147		
PHF	0.92	0.92				0.74				0.91		
Total Lanes	1	1				1				1		
Terrain	Level	Level				Level				Level		
Grade %	0.0%	0.0%				0.0%				0.0%		
Grade Length (mi)	0.00	0.00				0.00				0.00		
Truck & Bus %	2.0%	2.0%				2.0%				2.0%		
RV %	0.0%	0.0%				0.0%				0.0%		
E _T	1.5	1.5				1.5				1.5		
E _R	1.2	1.2				1.2				1.2		
f _{HV}	0.990	0.990				0.990				0.990		
f _P	1.00	1.00				1.00				1.00		
Off Flow (pcph)	1,193	337				262				163		
Off Flow (pcphpl)	1,193	337				262				163		
Calculate Off Ramp Roadway Operations												
Off Ramp Type	Right	Right				Right				Right		
Off Ramp Speed	45	25				45				45		
Off Ramp Cap (pcph)	2,100	1,900				2,100				2,100		
Off Ramp v/c ratio	0.57	0.18				0.12				0.08		
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps												
Up Type		Off			Off			On				
Up Distance		2,350			1,975			10,500				
Up Flow (pcph)		1,193			337			473				
Down Type	Off	On			Off			On				
Down Distance	850	1,975			10,500			2,100				
Down Flow (pcph)	337	473			262			193				
Calculate Merge Influence Area Operations												
Effective v _F (pcph)				1,331				1,531				1,582
Up Ramp L _{EQ}				460								
Down Ramp L _{EQ}				1,885								
P _{FM} (Eqn 13-3)				0.585				0.592				0.592
P _{FM} (Eqn 13-4)		#VALUE!		0.681								
P _{FM} (Eqn 13-5)	0.653			0.555								
P _{FM}				0.681				1.000				1.000
v ₁₂ (pcph)				906				1,531				1,582
v ₃ (pcph)				425								
v ₃₄ (pcph)												
v _{12a} (pcph)				906				1,531				1,582
v _{B12a} (pcph)				1,379				1,724				2,049
Merge Speed Index				0.31				0.30				0.33
Merge Area Speed				57.8				58.1				57.5
Outer Lanes Volume				425								
Outer Lanes Speed				65.0								
Segment Speed				59.4				58.1				57.5
Merge v/c ratio				0.30				0.37				0.45
Merge Density				14.3				15.7				18.1
Merge LOS				B				B				B



Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
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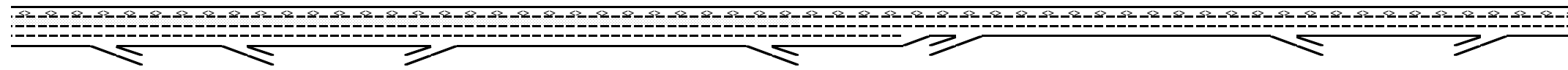
Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Calculate Diverge Influence Area Operations												
Effective v_p (pcph)	2,851	1,641				1,779				1,716		
Up Ramp L_{EQ}		14,357				5,143						
Down Ramp L_{EQ}	545	486				194						
P_{FD} (Eqn 13-9)	0.634	0.703				0.703				0.710		
P_{FD} (Eqn 13-10)						0.675						
P_{FD} (Eqn 13-11)	0.606											
P_{FD}	0.634	0.703			#VALUE!	0.703				1.000		
v_{12} (pcph)	2,244	1,254				1,329				1,716		
v_3 (pcph)	607	387				450						
v_{34} (pcph)												
v_{12a} (pcph)	2,244	1,254				1,329				1,716		
Diverge Speed Index	0.41	0.59				0.32				0.31		
Diverge Area Speed	55.7	51.5				57.6				57.8		
Outer Lanes Volume	607	387				450						
Outer Lanes Speed	71.3	71.3				71.3						
Segment Speed	58.4	55.1				60.5				57.8		
Diverge v/c ratio	0.51	0.29				0.30				0.39		
Diverge Density	22.2	13.7				14.3				17.7		
Diverge LOS	C	B				B				B		
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments												
Calculate On Ramp to Mainline Flow Rate for Weave Segments												
Calculate Mainline to Off Ramp Flow Rate for Weave Segments												
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments												
Calculate Weave Segment Operations												
Summarize Segment Operations												
Segment v/c ratio	0.51	0.29	0.18	0.30	0.29	0.30	0.22	0.37	0.37	0.39	0.33	0.45
Segment Density	22.2	13.7	6.7	14.3	10.4	14.3	8.0	15.7	13.2	17.7	11.9	18.1
Segment LOS	C	B	A	B	A	B	A	B	B	B	B	B
Over Capacity												

Project: Marble Valley/Lime Rock/Pedregal
Freeway Corridor: Eastbound US 50
Alternative: Existing Conditions
Time Period: PM Peak Hour

Data Entry Value

Calculated Value

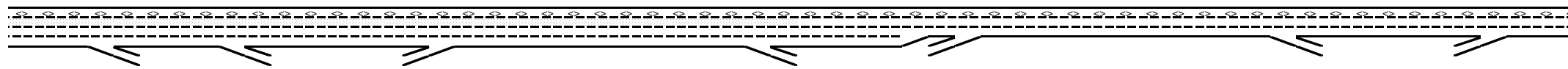
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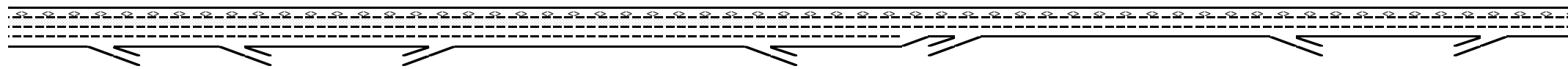
- <-> Express Lane (HOV)
- No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Define Freeway Segment												
Type	Diverge	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge
Length (ft)	1,500	850	1,975	1,500	7,500	1,500	2,100	1,500	3,300	1,500	1,350	1,500
Accel Length				275				500				500
Decel Length	150	150				150				150		
Mainline Volume	4,870	4,077	3,128	3,128	4,041	4,041	3,423	3,423	3,527	3,527	3,004	3,004
On Ramp Volume				913				104				318
Off Ramp Volume	793	949				618				523		
Express Lane Volume	536	448	344	344	445	445	377	377	388	388	330	330
EL On Ramp Volume												
EL Off Ramp Volume												
Calculate Flow Rate in General Purpose Lanes (GP)												
GP Volume (vph)	4,334	3,629	2,784	3,697	3,596	3,596	3,046	3,150	3,139	3,139	2,674	2,992
PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
GP Lanes	3	3	3	3	3	3	3	2	2	2	2	2
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	6.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.995	0.995	0.995	0.995	0.952	0.995	0.995	0.995	0.995	0.995	0.995	0.995
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	4,491	3,759	2,884	3,830	3,893	3,726	3,156	3,264	3,252	3,252	2,770	3,100
GP Flow (pcphpl)	1,497	1,253	961	1,277	1,298	1,242	1,052	1,632	1,626	1,626	1,385	1,550
Calculate Speed in General Purpose Lanes												
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes												
v/c ratio	0.64	0.53	0.41	0.54	0.55	0.53	0.45	0.69	0.69	0.69	0.59	0.66
Speed (mph)	64.9	65.0	65.0	65.0	65.0	65.0	65.0	64.2	64.3	64.3	65.0	64.7
Density (pcphpl)	23.1	19.3	14.8	19.6	20.0	19.1	16.2	25.4	25.3	25.3	21.3	24.0
LOS	C	C	B	C	C	C	B	C	C	C	C	C
Calculate Operations for Entering GP Lanes												
GP _{IN} Vol (pcph)				2,828				3,138				2,750
GP _{IN} Cap (pcph)				7,050				4,700				4,700
GP _{IN} v/c ratio				0.40				0.67				0.59
Calculate Operations for Exiting GP Lanes												
GP _{OUT} Vol (pcph)	3,620	2,718				3,083	3,156			2,678		
GP _{OUT} Cap (pcph)	7,050	7,050				7,050	4,700			4,700		
GP _{OUT} v/c ratio	0.51	0.39				0.44	0.67			0.57		

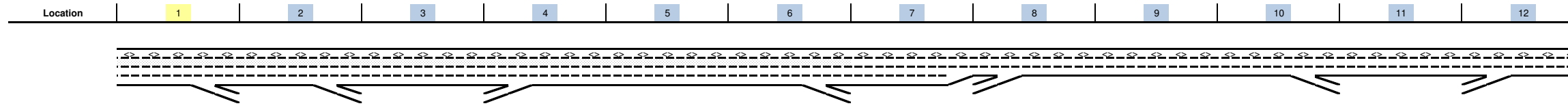


Key
 <> Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Calculate Flow Rate in Express Lanes (EL)												
EL Volume (vph)	536	448	344	344	445	445	377	377	388	388	330	330
PHF	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	601	503	386	386	538	499	423	423	435	435	371	371
EL Flow (pcphpl)	601	503	386	386	538	499	423	423	435	435	371	371
Calculate Speed in Express Lanes												
Lane Width (ft)												
Shoulder Width												
TRD												
f _{LW}												
f _{LC}												
Calc'd FFS												
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes												
EL _{AV} v/c ratio	0.34	0.29	0.22	0.22	0.31	0.29	0.24	0.24	0.25	0.25	0.21	0.21
Calculate On Ramp Flow Rate												
On Volume (vph)				913				104				318
PHF				0.92				0.83				0.92
Total Lanes				1				1				1
Terrain				Level				Level				Level
Grade %				0.0%				0.0%				0.0%
Grade Length (mi)				0.00				0.00				0.00
Truck & Bus %				2.0%				2.0%				2.0%
RV %				0.0%				0.0%				0.0%
E _T				1.5				1.5				1.5
E _R				1.2				1.2				1.2
f _{HV}				0.990				0.990				0.990
f _P				1.00				1.00				1.00
On Flow (pcph)				1,002				127				349
On Flow (pcphpl)				1,002				127				349
Calculate On Ramp Roadway Operations												
On Ramp Type				Right				Right				Right
On Ramp Speed (mph)				45				45				25
On Ramp Cap (pcph)				2,100				2,100				1,900
On Ramp v/c ratio				0.48				0.06				0.18



Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Calculate Off Ramp Flow Rate												
Off Volume (vph)	793	949				618				523		
PHF	0.92	0.92				0.97				0.92		
Total Lanes	1	1				1				1		
Terrain	Level	Level				Level				Level		
Grade %	0.0%	0.0%				0.0%				0.0%		
Grade Length (mi)	0.00	0.00				0.00				0.00		
Truck & Bus %	2.0%	2.0%				2.0%				2.0%		
RV %	0.0%	0.0%				0.0%				0.0%		
E _T	1.5	1.5				1.5				1.5		
E _R	1.2	1.2				1.2				1.2		
f _{HV}	0.990	0.990				0.990				0.990		
f _P	1.00	1.00				1.00				1.00		
Off Flow (pcph)	871	1,042				643				574		
Off Flow (pcphpl)	871	1,042				643				574		
Calculate Off Ramp Roadway Operations												
Off Ramp Type	Right	Right				Right				Right		
Off Ramp Speed	45	25				45				45		
Off Ramp Cap (pcph)	2,100	1,900				2,100				2,100		
Off Ramp v/c ratio	0.41	0.55				0.31				0.27		
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps												
Up Type		Off			Off			On				
Up Distance		2,350			1,975			10,500				
Up Flow (pcph)		871			1,042			1,002				
Down Type	Off	On			Off			On				
Down Distance	850	1,975			10,500			2,100				
Down Flow (pcph)	1,042	1,002			643			127				
Calculate Merge Influence Area Operations												
Effective v _F (pcph)					2,828			3,138				2,750
Up Ramp L _{EQ}					893							
Down Ramp L _{EQ}					4,629							
P _{FM} (Eqn 13-3)					0.585			0.592				0.592
P _{FM} (Eqn 13-4)		#VALUE!			0.653							
P _{FM} (Eqn 13-5)	0.871				0.565							
P _{FM}					0.653			1.000				1.000
v ₁₂ (pcph)					1,848			3,138				2,750
v ₃ (pcph)					980							
v ₃₄ (pcph)												
v _{12a} (pcph)					1,848			3,138				2,750
v _{B12a} (pcph)					2,850			3,264				3,100
Merge Speed Index					0.36			0.38				0.38
Merge Area Speed					56.6			56.3				56.2
Outer Lanes Volume					980							
Outer Lanes Speed					63.3							
Segment Speed					58.2			56.3				56.2
Merge v/c ratio					0.62			0.71				0.67
Merge Density					25.5			27.7				26.4
Merge LOS					C			C				C

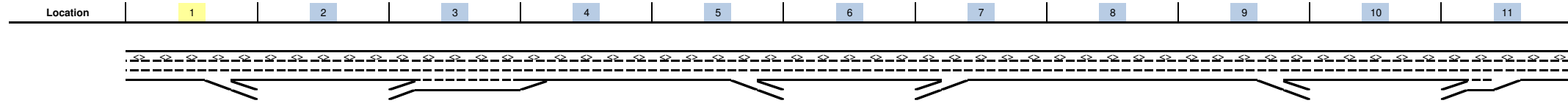


Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Calculate Diverge Influence Area Operations												
Effective v_p (pcph)	4,491	3,759				3,726				3,252		
Up Ramp L_{EQ}		11,120				9,298						
Down Ramp L_{EQ}	1,521	1,553				160						
P_{FD} (Eqn 13-9)	0.608	0.618				0.637				0.652		
P_{FD} (Eqn 13-10)						0.629						
P_{FD} (Eqn 13-11)	0.675			#VALUE!								
P_{FD}	0.675	0.618				0.637				1.000		
v_{12} (pcph)	3,313	2,722				2,608				3,252		
v_3 (pcph)	1,178	1,038				1,118						
v_{34} (pcph)												
v_{12a} (pcph)	3,313	2,722				2,608				3,252		
Diverge Speed Index	0.38	0.65				0.36				0.35		
Diverge Area Speed	56.3	50.0				56.8				57.0		
Outer Lanes Volume	1,178	1,038				1,118						
Outer Lanes Speed	70.6	71.2				70.8						
Segment Speed	59.5	54.5				60.4				57.0		
Diverge v/c ratio	0.75	0.62				0.59				0.74		
Diverge Density	31.4	26.3				25.3				30.9		
Diverge LOS	D	C				C				D		
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments												
Calculate On Ramp to Mainline Flow Rate for Weave Segments												
Calculate Mainline to Off Ramp Flow Rate for Weave Segments												
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments												
Calculate Weave Segment Operations												
Summarize Segment Operations												
Segment v/c ratio	0.75	0.62	0.41	0.62	0.55	0.59	0.45	0.71	0.69	0.74	0.59	0.67
Segment Density	31.4	26.3	14.8	25.5	20.0	25.3	16.2	27.7	25.3	30.9	21.3	26.4
Segment LOS	D	C	B	C	C	C	B	C	C	D	C	C
Over Capacity												

Project: Marble Valley/Lime Rock/Pedregal
Freeway Corridor: Westbound US 50
Alternative: Existing Conditions
Time Period: AM Peak Hour

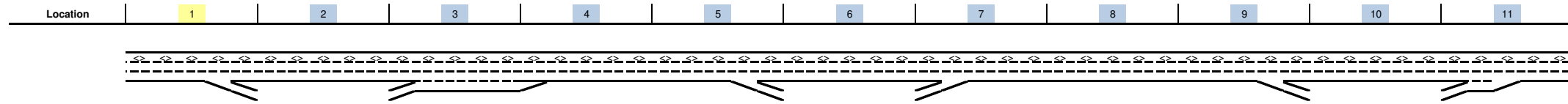
Data Entry Value

Calculated Value



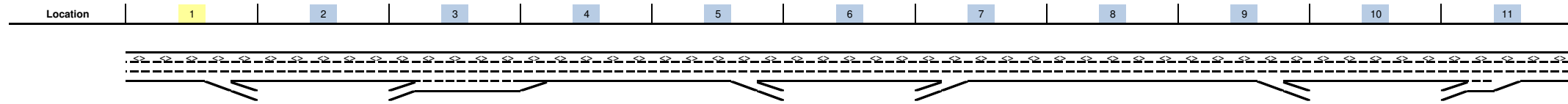
Key
 <-> Express Lane (HOV)
 No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Define Freeway Segment											
Type	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge
Length (ft)	1,500	1,250	1,500	4,900	1,500	2,350	1,500	7,500	1,500	3,250	1,500
Accel Length			1,500				375				880
Decel Length	150				150				150		
Mainline Volume	2,935	2,499	2,499	3,069	3,069	2,968	2,968	3,701	3,701	2,807	2,807
On Ramp Volume			570				733				1,669
Off Ramp Volume	436				101				894		
Express Lane Volume	323	275	275	338	338	326	326	407	407	309	309
EL On Ramp Volume											
EL Off Ramp Volume											
Calculate Flow Rate in General Purpose Lanes (GP)											
GP Volume (vph)	2,612	2,224	2,794	2,731	2,731	2,642	3,375	3,294	3,294	2,498	4,167
PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.94	0.94	0.94
GP Lanes	2	2	3	2	2	2	2	2	2	2	2
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	2,793	2,378	2,987	2,920	2,920	2,824	3,608	3,598	3,522	2,671	4,455
GP Flow (pcphpl)	1,396	1,189	996	1,460	1,460	1,412	1,804	1,799	1,761	1,335	2,228
Calculate Speed in General Purpose Lanes											
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	67.3	67.3	67.3
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes											
v/c ratio	0.59	0.51	0.42	0.62	0.62	0.60	0.77	0.77	0.75	0.57	0.95
Speed (mph)	65.0	65.0	65.0	64.9	64.9	65.0	62.7	62.7	63.2	65.0	55.3
Density (pcphpl)	21.5	18.3	15.3	22.5	22.5	21.7	28.8	28.7	27.9	20.5	40.3
LOS	C	C	B	C	C	C	D	D	D	C	E
Calculate Operations for Entering GP Lanes											
GP _{IN} Vol (pcph)			2,388				2,776				2,623
GP _{IN} Cap (pcph)			4,700				4,700				4,700
GP _{IN} v/c ratio			0.51				0.59				0.56
Calculate Operations for Exiting GP Lanes											
GP _{OUT} Vol (pcph)	2,126				2,753				2,540		
GP _{OUT} Cap (pcph)	4,700				4,700				4,700		
GP _{OUT} v/c ratio	0.45				0.59				0.54		



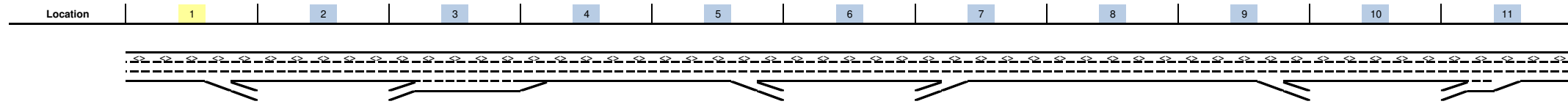
Key
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 No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Calculate Flow Rate in Express Lanes (EL)											
EL Volume (vph)	323	275	275	338	338	326	326	407	407	309	309
PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Express Lanes	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	366	312	312	383	383	370	370	462	462	350	350
EL Flow (pcphpl)	366	312	312	383	383	370	370	462	462	350	350
Calculate Speed in Express Lanes											
Lane Width (ft)											
Shoulder Width											
TRD											
f _{LW}											
f _{LC}											
Calc'd FFS											
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes											
EL _{AV} v/c ratio	0.21	0.18	0.18	0.22	0.22	0.21	0.21	0.26	0.26	0.20	0.20
Calculate On Ramp Flow Rate											
On Volume (vph)			570				733				1,669
PHF			0.96				0.89				0.92
Total Lanes			1				1				1
Terrain			Level				Level				Level
Grade %			0.0%				0.0%				0.0%
Grade Length (mi)			0.00				0.00				0.00
Truck & Bus %			2.0%				2.0%				2.0%
RV %			0.0%				0.0%				0.0%
E _T			1.5				1.5				1.5
E _R			1.2				1.2				1.2
f _{HV}			0.990				0.990				0.990
f _P			1.00				1.00				1.00
On Flow (pcph)			600				832				1,832
On Flow (pcphpl)			600				832				1,832
Calculate On Ramp Roadway Operations											
On Ramp Type			Right				Right				Right
On Ramp Speed (mph)			25				45				45
On Ramp Cap (pcph)			1,900				2,100				2,100
On Ramp v/c ratio			0.32				0.40				0.87



Key
 <> Express Lane (HOV)
 No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Calculate Off Ramp Flow Rate											
Off Volume (vph)	436				101				894		
PHF	0.66				0.61				0.92		
Total Lanes	1				1				1		
Terrain	Level				Level				Level		
Grade %	0.0%				0.0%				0.0%		
Grade Length (mi)	0.00				0.00				0.00		
Truck & Bus %	2.0%				2.0%				2.0%		
RV %	0.0%				0.0%				0.0%		
E _T	1.5				1.5				1.5		
E _R	1.2				1.2				1.2		
f _{HV}	0.990				0.990				0.990		
f _P	1.00				1.00				1.00		
Off Flow (pcph)	667				167				981		
Off Flow (pcphpl)	667				167				981		
Calculate Off Ramp Roadway Operations											
Off Ramp Type	Right				Right				Right		
Off Ramp Speed	45				45				45		
Off Ramp Cap (pcph)	2,100				2,100				2,100		
Off Ramp v/c ratio	0.32				0.08				0.47		
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps											
Up Type			Off								
Up Distance			1,250								
Up Flow (pcph)			667								
Down Type			Off								
Down Distance			7,900								
Down Flow (pcph)			167								
Calculate Merge Influence Area Operations											
Effective v _P (pcph)			2,388				2,776				2,623
Up Ramp L _{EQ}			210								
Down Ramp L _{EQ}			619								
P _{FM} (Eqn 13-3)			0.620				0.588				0.602
P _{FM} (Eqn 13-4)			0.685								
P _{FM} (Eqn 13-5)			0.554								
P _{FM}			1.000				1.000				1.000
v ₁₂ (pcph)			2,388				2,776				2,623
v ₃ (pcph)											
v ₃₄ (pcph)											
v _{12a} (pcph)			2,388				2,776				2,623
v _{B12a} (pcph)			2,987				3,608				4,455
Merge Speed Index			0.32				0.43				0.58
Merge Area Speed			57.6				55.1				51.7
Outer Lanes Volume											
Outer Lanes Speed											
Segment Speed			57.6				55.1				51.7
Merge v/c ratio			0.65				0.78				0.97
Merge Density			19.1				30.9				33.9
Merge LOS			B				D				D



Key

<> Express Lane (HOV)

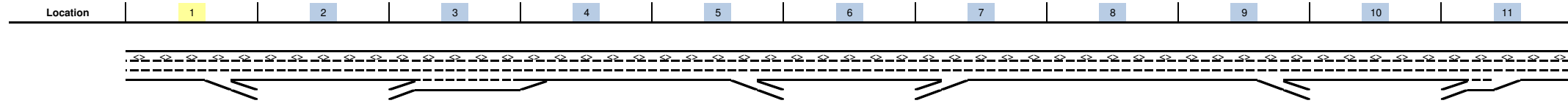
- - - No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Calculate Diverge Influence Area Operations											
Effective v_p (pcph)	2,793				2,920				3,522		
Up Ramp L_{EQ}											
Down Ramp L_{EQ}											
P_{FD} (Eqn 13-9)	0.659				0.679				0.627		
P_{FD} (Eqn 13-10)											
P_{FD} (Eqn 13-11)			#VALUE!								
P_{FD}	1.000				1.000				1.000		
v_{12} (pcph)	2,793				2,920				3,522		
v_3 (pcph)											
v_{34} (pcph)											
v_{12a} (pcph)	2,793				2,920				3,522		
Diverge Speed Index	0.36				0.31				0.39		
Diverge Area Speed	56.8				57.8				56.1		
Outer Lanes Volume											
Outer Lanes Speed											
Segment Speed	56.8				57.8				56.1		
Diverge v/c ratio	0.63				0.66				0.80		
Diverge Density	26.9				28.0				33.2		
Diverge LOS	C				D				D		
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments											
Calculate On Ramp to Mainline Flow Rate for Weave Segments											
Calculate Mainline to Off Ramp Flow Rate for Weave Segments											
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments											
Calculate Weave Segment Operations											
Summarize Segment Operations											
Segment v/c ratio	0.63	0.51	0.65	0.62	0.66	0.60	0.78	0.77	0.80	0.57	0.97
Segment Density	26.9	18.3	19.1	22.5	28.0	21.7	30.9	28.7	33.2	20.5	33.9
Segment LOS	C	C	B	C	D	C	D	D	D	C	D
Over Capacity											

Project: Marble Valley/Lime Rock/Pedregal
Freeway Corridor: Westbound US 50
Alternative: Existing Conditions
Time Period: PM Peak Hour

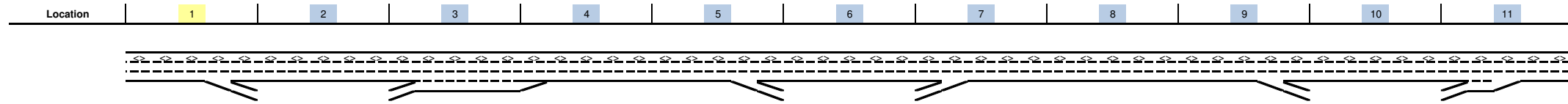
Data Entry Value

Calculated Value



Key
 <-> Express Lane (HOV)
 No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Define Freeway Segment											
Type	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge
Length (ft)	1,500	1,250	1,500	4,900	1,500	2,350	1,500	7,500	1,500	3,250	1,500
Accel Length			1,500				375				880
Decel Length	150				150				150		
Mainline Volume	2,330	1,882	1,882	2,120	2,120	1,988	1,988	2,246	2,246	1,682	1,682
On Ramp Volume			238				258				1,509
Off Ramp Volume	448				132				564		
Express Lane Volume	186	151	151	170	170	159	159	180	180	135	135
EL On Ramp Volume											
EL Off Ramp Volume											
Calculate Flow Rate in General Purpose Lanes (GP)											
GP Volume (vph)	2,144	1,731	1,969	1,950	1,950	1,829	2,087	2,066	2,066	1,547	3,056
PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
GP Lanes	2	2	3	2	2	2	2	2	2	2	2
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	2,255	1,822	2,072	2,052	2,052	1,924	2,196	2,174	2,174	1,628	3,216
GP Flow (pcphpl)	1,128	911	691	1,026	1,026	962	1,098	1,087	1,087	814	1,608
Calculate Speed in General Purpose Lanes											
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	67.3	67.3	67.3
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes											
v/c ratio	0.48	0.39	0.29	0.44	0.44	0.41	0.47	0.46	0.46	0.35	0.68
Speed (mph)	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	64.4
Density (pcphpl)	17.3	14.0	10.6	15.8	15.8	14.8	16.9	16.7	16.7	12.5	25.0
LOS	B	B	A	B	B	B	B	B	B	B	C
Calculate Operations for Entering GP Lanes											
GP _{IN} Vol (pcph)			1,805				1,924				1,559
GP _{IN} Cap (pcph)			4,700				4,700				4,700
GP _{IN} v/c ratio			0.38				0.41				0.33
Calculate Operations for Exiting GP Lanes											
GP _{OUT} Vol (pcph)	1,747				1,879				1,555		
GP _{OUT} Cap (pcph)	4,700				4,700				4,700		
GP _{OUT} v/c ratio	0.37				0.40				0.33		

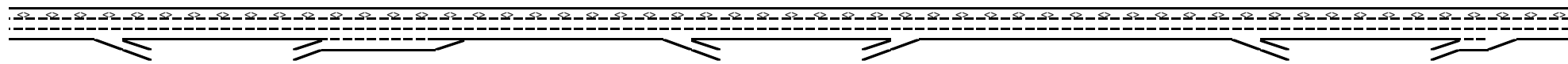


Key

<> Express Lane (HOV)

No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Calculate Flow Rate in Express Lanes (EL)											
EL Volume (vph)	186	151	151	170	170	159	159	180	180	135	135
PHF	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Express Lanes	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	209	169	169	190	190	178	178	202	202	151	151
EL Flow (pcphpl)	209	169	169	190	190	178	178	202	202	151	151
Calculate Speed in Express Lanes											
Lane Width (ft)											
Shoulder Width											
TRD											
f _{LW}											
f _{LC}											
Calc'd FFS											
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes											
EL _{AV} v/c ratio	0.12	0.10	0.10	0.11	0.11	0.10	0.10	0.12	0.12	0.09	0.09
Calculate On Ramp Flow Rate											
On Volume (vph)			238				258				1,509
PHF			0.9				0.96				0.92
Total Lanes			1				1				1
Terrain			Level				Level				Level
Grade %			0.0%				0.0%				0.0%
Grade Length (mi)			0.00				0.00				0.00
Truck & Bus %			2.0%				2.0%				2.0%
RV %			0.0%				0.0%				0.0%
E _T			1.5				1.5				1.5
E _R			1.2				1.2				1.2
f _{HV}			0.990				0.990				0.990
f _P			1.00				1.00				1.00
On Flow (pcph)			267				271				1,657
On Flow (pcphpl)			267				271				1,657
Calculate On Ramp Roadway Operations											
On Ramp Type			Right				Right				Right
On Ramp Speed (mph)			25				45				45
On Ramp Cap (pcph)			1,900				2,100				2,100
On Ramp v/c ratio			0.14				0.13				0.79

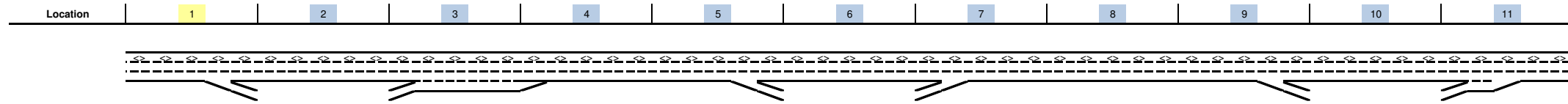


Key

<> Express Lane (HOV)

No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Calculate Off Ramp Flow Rate											
Off Volume (vph)	448				132				564		
PHF	0.89				0.77				0.92		
Total Lanes	1				1				1		
Terrain	Level				Level				Level		
Grade %	0.0%				0.0%				0.0%		
Grade Length (mi)	0.00				0.00				0.00		
Truck & Bus %	2.0%				2.0%				2.0%		
RV %	0.0%				0.0%				0.0%		
E _T	1.5				1.5				1.5		
E _R	1.2				1.2				1.2		
f _{HV}	0.990				0.990				0.990		
f _P	1.00				1.00				1.00		
Off Flow (pcph)	508				173				619		
Off Flow (pcphpl)	508				173				619		
Calculate Off Ramp Roadway Operations											
Off Ramp Type	Right				Right				Right		
Off Ramp Speed	45				45				45		
Off Ramp Cap (pcph)	2,100				2,100				2,100		
Off Ramp v/c ratio	0.24				0.08				0.29		
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps											
Up Type			Off								
Up Distance			1,250								
Up Flow (pcph)			508								
Down Type			Off								
Down Distance			7,900								
Down Flow (pcph)			173								
Calculate Merge Influence Area Operations											
Effective v _P (pcph)			1,805				1,924				1,559
Up Ramp L _{EQ}			14								
Down Ramp L _{EQ}			641								
P _{FM} (Eqn 13-3)			0.620				0.588				0.602
P _{FM} (Eqn 13-4)			0.697								
P _{FM} (Eqn 13-5)			0.554								
P _{FM}			1.000				1.000				1.000
v ₁₂ (pcph)			1,805				1,924				1,559
v ₃ (pcph)											
v ₃₄ (pcph)											
v _{12a} (pcph)			1,805				1,924				1,559
v _{B12a} (pcph)			2,072				2,196				3,216
Merge Speed Index			0.28				0.32				0.34
Merge Area Speed			58.6				57.6				57.2
Outer Lanes Volume											
Outer Lanes Speed											
Segment Speed			58.6				57.6				57.2
Merge v/c ratio			0.45				0.48				0.70
Merge Density			12.1				20.1				24.3
Merge LOS			B				C				C



Key
 <> Express Lane (HOV)
 No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Calculate Diverge Influence Area Operations											
Effective v_p (pcph)	2,255				2,052				2,174		
Up Ramp L_{EQ}											
Down Ramp L_{EQ}											
P_{FD} (Eqn 13-9)	0.680				0.701				0.677		
P_{FD} (Eqn 13-10)											
P_{FD} (Eqn 13-11)			#VALUE!								
P_{FD}	1.000				1.000				1.000		
v_{12} (pcph)	2,255				2,052				2,174		
v_3 (pcph)											
v_{34} (pcph)											
v_{12a} (pcph)	2,255				2,052				2,174		
Diverge Speed Index	0.34				0.31				0.35		
Diverge Area Speed	57.1				57.8				56.9		
Outer Lanes Volume											
Outer Lanes Speed											
Segment Speed	57.1				57.8				56.9		
Diverge v/c ratio	0.51				0.47				0.49		
Diverge Density	22.3				20.5				21.6		
Diverge LOS	C				C				C		
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments											
Calculate On Ramp to Mainline Flow Rate for Weave Segments											
Calculate Mainline to Off Ramp Flow Rate for Weave Segments											
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments											
Calculate Weave Segment Operations											
Summarize Segment Operations											
Segment v/c ratio	0.51	0.39	0.45	0.44	0.47	0.41	0.48	0.46	0.49	0.35	0.70
Segment Density	22.3	14.0	12.1	15.8	20.5	14.8	20.1	16.7	21.6	12.5	24.3
Segment LOS	C	B	B	B	C	B	C	B	C	B	C
Over Capacity											

APPENDIX A:

Existing Plus Project Conditions Technical Calculations

HCM Signalized Intersection Capacity Analysis
1: Green Valley Rd & Francisco Dr

Serrano Westside EIR
Existing Plus Project - AM Peak Hour





















Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	153	223	246	25	35	709	75	331	177	7	91	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Lane Util. Factor	0.97	0.95	1.00		1.00	0.95	1.00	0.97	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Fr _t	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	1.00
Fl _t Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	1546		1770	3539	1560	3433	3518		1770	1863
Fl _t Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	1546		1770	3539	1560	3433	3518		1770	1863
Peak-hour factor, PHF	0.96	0.96	0.96	0.90	0.90	0.90	0.90	0.84	0.84	0.84	0.85	0.85
Adj. Flow (vph)	159	232	256	28	39	788	83	394	211	8	107	331
RTOR Reduction (vph)	0	0	186	0	0	0	62	0	2	0	0	0
Lane Group Flow (vph)	159	232	70	0	67	788	21	394	217	0	107	331
Confl. Peds. (#/hr)			2				2			2		
Turn Type	Prot		Perm	Prot	Prot		Perm	Prot			Prot	
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2				6					
Actuated Green, G (s)	7.7	30.0	30.0		5.9	28.2	28.2	14.9	45.2		9.3	40.1
Effective Green, g (s)	7.7	30.0	30.0		5.9	28.2	28.2	14.9	45.2		9.3	40.1
Actuated g/C Ratio	0.07	0.27	0.27		0.05	0.26	0.26	0.14	0.41		0.08	0.36
Clearance Time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Vehicle Extension (s)	0.2	1.9	1.9		0.2	1.9	1.9	0.2	2.1		0.2	2.6
Lane Grp Cap (vph)	240	965	422		95	907	400	465	1446		150	679
v/s Ratio Prot	c0.05	0.07			0.04	c0.22		c0.11	0.06		0.06	0.18
v/s Ratio Perm			0.05				0.01					
v/c Ratio	0.66	0.24	0.17		0.71	0.87	0.05	0.85	0.15		0.71	0.49
Uniform Delay, d ₁	49.9	31.1	30.5		51.2	39.1	30.8	46.4	20.3		49.1	27.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d ₂	5.2	0.0	0.1		17.6	8.6	0.0	12.9	0.2		12.5	2.5
Delay (s)	55.1	31.2	30.5		68.8	47.7	30.9	59.3	20.6		61.6	29.5
Level of Service	E	C	C		E	D	C	E	C		E	C
Approach Delay (s)		36.8				47.7			45.5			34.3
Approach LOS		D				D			D			C
Intersection Summary												
HCM Average Control Delay			41.2			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)			19.1			
Intersection Capacity Utilization			69.5%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

Movement	SBR
Lane Configurations	7
Volume (vph)	367
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.4
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1562
Flt Permitted	1.00
Satd. Flow (perm)	1562
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	432
RTOR Reduction (vph)	127
Lane Group Flow (vph)	305
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	40.1
Effective Green, g (s)	40.1
Actuated g/C Ratio	0.36
Clearance Time (s)	5.4
Vehicle Extension (s)	2.6
Lane Grp Cap (vph)	569
v/s Ratio Prot	
v/s Ratio Perm	c0.20
v/c Ratio	0.54
Uniform Delay, d1	27.6
Progression Factor	1.00
Incremental Delay, d2	3.6
Delay (s)	31.2
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
 2: Green Valley Rd & El Dorado Hills Blvd / Salmon Falls Rd





















Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	267	22	65	716	47	46	73	36	106	233	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.95			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1842		1770	1843		1770	1755			1834	1544
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	1842		1770	1843		1770	1755			1834	1544
Peak-hour factor, PHF	0.84	0.84	0.84	0.89	0.89	0.89	0.66	0.66	0.66	0.80	0.80	0.80
Adj. Flow (vph)	27	318	26	73	804	53	70	111	55	132	291	199
RTOR Reduction (vph)	0	3	0	0	2	0	0	14	0	0	0	128
Lane Group Flow (vph)	27	341	0	73	855	0	70	152	0	0	423	71
Confl. Peds. (#/hr)						2			2			2
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	4.3	33.0		16.7	45.4		13.5	13.5			23.2	23.2
Effective Green, g (s)	4.3	33.0		16.7	45.4		13.5	13.5			23.2	23.2
Actuated g/C Ratio	0.04	0.31		0.16	0.42		0.13	0.13			0.22	0.22
Clearance Time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	71	569		277	783		224	222			398	335
v/s Ratio Prot	0.02	0.19		c0.04	c0.46		0.04	c0.09			c0.23	
v/s Ratio Perm												0.05
v/c Ratio	0.38	0.60		0.26	1.09		0.31	0.68			1.06	0.21
Uniform Delay, d1	50.0	31.3		39.7	30.8		42.5	44.7			41.9	34.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	2.5	2.6		0.4	60.3		0.3	6.8			62.7	0.1
Delay (s)	52.5	33.9		40.1	91.0		42.8	51.5			104.6	34.5
Level of Service	D	C		D	F		D	D			F	C
Approach Delay (s)		35.3			87.0			48.9			82.2	
Approach LOS		D			F			D			F	
Intersection Summary												
HCM Average Control Delay			72.6			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			106.9			Sum of lost time (s)		17.0				
Intersection Capacity Utilization			86.1%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Green Valley Rd & Silva Valley Pkwy

















Serrano Westside EIR
Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	216	191	59	544	19	281	49	33	5	38	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1545	1770	1852		1770	1735			1833	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1545	1770	1852		1770	1735			1833	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.71	0.71	0.71	0.77	0.77	0.77
Adj. Flow (vph)	2	232	205	65	598	21	396	69	46	6	49	4
RTOR Reduction (vph)	0	0	142	0	1	0	0	17	0	0	2	0
Lane Group Flow (vph)	2	232	63	65	618	0	396	98	0	0	57	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Split				Split	
Protected Phases	1	6		5	2		8	8			4	4
Permitted Phases			6									
Actuated Green, G (s)	0.8	26.3	26.3	6.7	32.2		26.8	26.8			7.8	
Effective Green, g (s)	0.8	26.3	26.3	6.7	32.2		26.8	26.8			7.8	
Actuated g/C Ratio	0.01	0.31	0.31	0.08	0.37		0.31	0.31			0.09	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	16	570	473	138	694		552	541			166	
v/s Ratio Prot	0.00	0.12		c0.04	c0.33		c0.22	0.06			c0.03	
v/s Ratio Perm			0.04									
v/c Ratio	0.12	0.41	0.13	0.47	0.89		0.72	0.18			0.34	
Uniform Delay, d1	42.2	23.6	21.6	37.9	25.2		26.2	21.5			36.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	2.6	0.5	0.1	1.8	13.6		4.1	0.1			0.9	
Delay (s)	44.8	24.1	21.7	39.7	38.8		30.3	21.7			37.6	
Level of Service	D	C	C	D	D		C	C			D	
Approach Delay (s)		23.1			38.9			28.4			37.6	
Approach LOS		C			D			C			D	
Intersection Summary												
HCM Average Control Delay			31.6			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			85.9			Sum of lost time (s)			18.3			
Intersection Capacity Utilization			67.3%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group













HCM Unsignalized Intersection Capacity Analysis
4: Francisco Dr & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	49	475	45	63	42	412	146	37	125	262	3
Peak Hour Factor	0.86	0.86	0.86	0.52	0.52	0.52	0.92	0.92	0.92	0.75	0.75	0.75
Hourly flow rate (vph)	2	57	552	87	121	81	448	159	40	167	349	4
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	612	288	448	199	167	353						
Volume Left (vph)	2	87	448	0	167	0						
Volume Right (vph)	552	81	0	40	0	4						
Hadj (s)	-0.51	-0.07	0.53	-0.11	0.53	0.03						
Departure Headway (s)	8.1	9.2	9.5	8.9	9.6	9.1						
Degree Utilization, x	1.38	0.74	1.18	0.49	0.45	0.90						
Capacity (veh/h)	452	384	383	393	360	383						
Control Delay (s)	209.2	33.8	135.0	18.9	19.0	52.7						
Approach Delay (s)	209.2	33.8	99.3		41.9							
Approach LOS	F	D	F		E							
Intersection Summary												
Delay			108.3									
HCM Level of Service			F									
Intersection Capacity Utilization			90.7%	ICU Level of Service	E							
Analysis Period (min)			15									















HCM Unsignalized Intersection Capacity Analysis
 5: Apian Way & Silva Valley Pkwy

Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	35	1	83	154	2	62	20	193	41	23	227	19
Peak Hour Factor	0.68	0.68	0.68	0.70	0.70	0.70	0.63	0.63	0.63	0.69	0.69	0.69
Hourly flow rate (vph)	51	1	122	220	3	89	32	306	65	33	329	28
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	175	311	403	390								
Volume Left (vph)	51	220	32	33								
Volume Right (vph)	122	89	65	28								
Hadj (s)	-0.33	0.00	-0.05	0.01								
Departure Headway (s)	7.2	7.1	6.6	6.7								
Degree Utilization, x	0.35	0.61	0.74	0.73								
Capacity (veh/h)	399	463	509	506								
Control Delay (s)	14.1	20.6	26.2	25.4								
Approach Delay (s)	14.1	20.6	26.2	25.4								
Approach LOS	B	C	D	D								
Intersection Summary												
Delay			23.0									
HCM Level of Service			C									
Intersection Capacity Utilization			45.0%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
6: Harvard Way & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project - AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Volume (vph)	408	147	408	351	265	853
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	6.0		4.0	6.0
Lane Util. Factor	1.00	1.00	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.97	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Fr t	1.00	0.85	0.93		1.00	1.00
Fl t Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1543	3259		3433	3539
Fl t Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1543	3259		3433	3539
Peak-hour factor, PHF	0.72	0.72	0.83	0.83	0.90	0.90
Adj. Flow (vph)	567	204	492	423	294	948
RTOR Reduction (vph)	0	85	117	0	0	0
Lane Group Flow (vph)	567	119	798	0	294	948
Confl. Peds. (#/hr)		8		8		
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	41.2	41.2	29.5		13.8	47.3
Effective Green, g (s)	41.2	41.2	29.5		13.8	47.3
Actuated g/C Ratio	0.40	0.40	0.29		0.13	0.46
Clearance Time (s)	4.6	4.6	6.0		4.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	705	614	929		458	1617
v/s Ratio Prot	c0.32		c0.24		c0.09	0.27
v/s Ratio Perm		0.08				
v/c Ratio	0.80	0.19	0.86		0.64	0.59
Uniform Delay, d1	27.6	20.3	35.0		42.5	20.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	6.3	0.1	7.7		2.3	0.4
Delay (s)	33.8	20.4	42.7		44.8	21.2
Level of Service	C	C	D		D	C
Approach Delay (s)	30.3		42.7			26.8
Approach LOS	C		D			C
Intersection Summary						
HCM Average Control Delay			32.7		HCM Level of Service	C
HCM Volume to Capacity ratio			0.80			
Actuated Cycle Length (s)			103.5		Sum of lost time (s)	19.0
Intersection Capacity Utilization			65.3%		ICU Level of Service	C
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy













Serrano Westside EIR
Existing Plus Project - AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	89	223	113	66	10	428	214	37	33	171	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00		1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.98		1.00	0.98		1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1525	1770	1818		1770	1807		1770	1863	1520
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1525	1770	1818		1770	1807		1770	1863	1520
Peak-hour factor, PHF	0.57	0.57	0.57	0.78	0.78	0.78	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	123	156	391	145	85	13	476	238	41	37	190	336
RTOR Reduction (vph)	0	0	333	0	3	0	0	3	0	0	0	276
Lane Group Flow (vph)	123	156	58	145	95	0	476	276	0	37	190	60
Confl. Peds. (#/hr)			8			8			8			8
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	16.8	16.8	16.8	17.7	17.7		40.9	54.8		6.4	20.3	20.3
Effective Green, g (s)	16.8	16.8	16.8	17.7	17.7		40.9	54.8		6.4	20.3	20.3
Actuated g/C Ratio	0.15	0.15	0.15	0.16	0.16		0.36	0.48		0.06	0.18	0.18
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	262	276	226	276	283		637	872		100	333	272
v/s Ratio Prot	0.07	c0.08		c0.08	0.05		c0.27	0.15		0.02	c0.10	
v/s Ratio Perm			0.04									0.04
v/c Ratio	0.47	0.57	0.26	0.53	0.33		0.75	0.32		0.37	0.57	0.22
Uniform Delay, d1	44.3	45.0	42.9	44.1	42.7		31.8	18.0		51.7	42.7	39.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	1.6	0.2	1.8	0.7		4.5	0.2		1.7	1.9	0.3
Delay (s)	44.8	46.6	43.1	45.9	43.4		36.4	18.1		53.3	44.6	40.2
Level of Service	D	D	D	D	D		D	B		D	D	D
Approach Delay (s)		44.2			44.9			29.6			42.5	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM Average Control Delay			38.9			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			113.6			Sum of lost time (s)			17.9			
Intersection Capacity Utilization			64.8%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group





















HCM Signalized Intersection Capacity Analysis
8: Olson Ln & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project - AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	67	173	51	673	1227	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.8	3.8	3.6	5.7	5.7	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Fr _t	1.00	0.85	1.00	1.00	1.00	
Fl _t Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1560	1770	3539	3521	
Fl _t Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1560	1770	3539	3521	
Peak-hour factor, PHF	0.75	0.75	0.95	0.95	0.88	0.88
Adj. Flow (vph)	89	231	54	708	1394	42
RTOR Reduction (vph)	0	191	0	0	1	0
Lane Group Flow (vph)	89	40	54	708	1435	0
Confl. Peds. (#/hr)		4				2
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	12.1	12.1	4.3	47.8	39.9	
Effective Green, g (s)	12.1	12.1	4.3	47.8	39.9	
Actuated g/C Ratio	0.17	0.17	0.06	0.69	0.57	
Clearance Time (s)	3.8	3.8	3.6	5.7	5.7	
Vehicle Extension (s)	3.1	3.1	2.2	3.2	3.2	
Lane Grp Cap (vph)	309	272	110	2438	2024	
v/s Ratio Prot	c0.05		c0.03	0.20	c0.41	
v/s Ratio Perm		0.03				
v/c Ratio	0.29	0.15	0.49	0.29	0.71	
Uniform Delay, d ₁	24.9	24.3	31.5	4.2	10.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d ₂	0.5	0.3	1.8	0.1	1.2	
Delay (s)	25.4	24.5	33.2	4.3	11.8	
Level of Service	C	C	C	A	B	
Approach Delay (s)	24.8			6.3	11.8	
Approach LOS	C			A	B	
Intersection Summary						
HCM Average Control Delay			11.8	HCM Level of Service		B
HCM Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			69.4	Sum of lost time (s)		13.1
Intersection Capacity Utilization			56.6%	ICU Level of Service		B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
9: Wilson Blvd & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	109	1	220	39	0	8	68	601	57	21	27	1445
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.6		3.7	5.7			3.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			1.00	0.95
Frbp, ped/bikes		1.00	0.98		1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frt		1.00	0.85		0.98		1.00	0.99			1.00	0.99
Flt Protected		0.95	1.00		0.96		0.95	1.00			0.95	1.00
Satd. Flow (prot)		1775	1556		1743		1770	3485			1763	3518
Flt Permitted		0.95	1.00		0.96		0.95	1.00			0.98	1.00
Satd. Flow (perm)		1775	1556		1743		1770	3485			1811	3518
Peak-hour factor, PHF	0.94	0.94	0.94	0.42	0.42	0.42	0.88	0.88	0.88	0.92	0.94	0.94
Adj. Flow (vph)	116	1	234	93	0	19	77	683	65	23	29	1537
RTOR Reduction (vph)	0	0	206	0	6	0	0	5	0	0	0	2
Lane Group Flow (vph)	0	117	28	0	106	0	77	743	0	0	52	1592
Confl. Peds. (#/hr)	2		2	2		2	2		2	2	2	
Turn Type	Split		Perm	Split			Prot				Prot	
Protected Phases	4	4		3	3		5	2			1	6
Permitted Phases			4									
Actuated Green, G (s)		12.0	12.0		12.3		7.6	53.6			4.1	50.1
Effective Green, g (s)		12.0	12.0		12.3		7.6	53.6			4.1	50.1
Actuated g/C Ratio		0.12	0.12		0.12		0.08	0.53			0.04	0.49
Clearance Time (s)		5.3	5.3		4.6		3.7	5.7			3.7	5.7
Vehicle Extension (s)		3.3	3.3		2.0		2.0	3.3			2.0	3.3
Lane Grp Cap (vph)		210	184		212		133	1844			73	1740
v/s Ratio Prot		c0.07			c0.06		c0.04	c0.21				c0.45
v/s Ratio Perm			0.02								0.03	
v/c Ratio		0.56	0.15		0.50		0.58	0.40			0.71	0.92
Uniform Delay, d1		42.1	40.1		41.6		45.3	14.3			48.0	23.6
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		3.4	0.4		0.7		3.8	0.2			23.7	8.0
Delay (s)		45.5	40.5		42.3		49.1	14.4			71.8	31.6
Level of Service		D	D		D		D	B			E	C
Approach Delay (s)		42.2			42.3			17.7				32.9
Approach LOS		D			D			B				C
Intersection Summary												
HCM Average Control Delay			30.1				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			101.3				Sum of lost time (s)			25.0		
Intersection Capacity Utilization			73.1%				ICU Level of Service			D		
Analysis Period (min)			15									























c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	54
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	57
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	2
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
 10: Serrano Parkway & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	21	14	66	710	28	119	37	604	198	93	1576	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.88		1.00	0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1632		1681	1635		1770	3539	1544	1770	3531	
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1632		1681	1635		1770	3539	1544	1770	3531	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	15	72	772	30	129	40	657	215	101	1713	22
RTOR Reduction (vph)	0	68	0	0	9	0	0	0	134	0	1	0
Lane Group Flow (vph)	23	19	0	471	451	0	40	657	81	101	1734	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot			Perm	Prot	
Protected Phases	7	7		8	8		5	2			1	6
Permitted Phases									2			
Actuated Green, G (s)	5.2	5.2		25.3	25.3		4.4	35.3	35.3	9.8	40.7	
Effective Green, g (s)	5.2	5.2		25.3	25.3		4.4	35.3	35.3	9.8	40.7	
Actuated g/C Ratio	0.06	0.06		0.27	0.27		0.05	0.38	0.38	0.11	0.44	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Vehicle Extension (s)	2.0	2.0		4.0	4.0		2.0	4.2	4.2	2.0	4.2	
Lane Grp Cap (vph)	99	91		456	443		83	1339	584	186	1540	
v/s Ratio Prot	c0.01	0.01		c0.28	0.28		0.02	0.19		c0.06	c0.49	
v/s Ratio Perm									0.05			
v/c Ratio	0.23	0.21		1.03	1.02		0.48	0.49	0.14	0.54	1.13	
Uniform Delay, d1	42.1	42.1		34.0	34.0		43.3	22.1	19.0	39.6	26.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.4		50.9	47.6		1.6	0.4	0.2	1.7	65.8	
Delay (s)	42.6	42.5		84.9	81.6		44.9	22.6	19.2	41.4	92.1	
Level of Service	D	D		F	F		D	C	B	D	F	
Approach Delay (s)		42.5			83.2			22.8			89.3	
Approach LOS		D			F			C			F	
Intersection Summary												
HCM Average Control Delay			70.4			HCM Level of Service			E			
HCM Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			93.3			Sum of lost time (s)		17.7				
Intersection Capacity Utilization			89.7%			ICU Level of Service		E				
Analysis Period (min)			15									

c Critical Lane Group



























HCM Unsignalized Intersection Capacity Analysis
 11: Serrano Parkway & Penela Way

Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↖	↗	↘
Volume (veh/h)	265	30	3	659	62	4
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.76	0.76	0.79	0.79
Hourly flow rate (vph)	323	37	4	867	78	5
Pedestrians	2			2		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			360		1218	343
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			360		1218	343
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		60	99
cM capacity (veh/h)			1199		198	698
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	360	4	867	84		
Volume Left	0	4	0	78		
Volume Right	37	0	0	5		
cSH	1700	1199	1700	207		
Volume to Capacity	0.21	0.00	0.51	0.40		
Queue Length 95th (ft)	0	0	0	45		
Control Delay (s)	0.0	8.0	0.0	33.6		
Lane LOS		A		D		
Approach Delay (s)	0.0	0.0		33.6		
Approach LOS				D		
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			45.7%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
 12: Serrano Parkway & Silva Valley Parkway
























Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	97	150	91	263	318	416	175	198	119	217	303	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.91		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3320		1770	3212		1770	3539	1560	1770	3325	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3320		1770	3212		1770	3539	1560	1770	3325	
Peak-hour factor, PHF	0.78	0.78	0.78	0.86	0.86	0.86	0.62	0.62	0.62	0.83	0.83	0.83
Adj. Flow (vph)	124	192	117	306	370	484	282	319	192	261	365	214
RTOR Reduction (vph)	0	78	0	0	181	0	0	0	151	0	68	0
Lane Group Flow (vph)	124	231	0	306	673	0	282	319	41	261	511	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	12.4	20.7		20.6	28.9		20.6	21.7	21.7	20.3	21.4	
Effective Green, g (s)	12.4	20.7		20.6	28.9		20.6	21.7	21.7	20.3	21.4	
Actuated g/C Ratio	0.12	0.20		0.20	0.28		0.20	0.21	0.21	0.20	0.21	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	215	674		358	911		358	754	332	353	698	
v/s Ratio Prot	0.07	0.07		c0.17	c0.21		c0.16	0.09		0.15	c0.15	
v/s Ratio Perm									0.03			
v/c Ratio	0.58	0.34		0.85	0.74		0.79	0.42	0.12	0.74	0.73	
Uniform Delay, d1	42.3	34.8		39.2	33.1		38.6	34.7	32.4	38.3	37.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.1	0.2		17.5	3.0		10.6	0.3	0.1	7.5	3.7	
Delay (s)	45.3	35.0		56.7	36.1		49.1	35.0	32.5	45.8	41.3	
Level of Service	D	C		E	D		D	C	C	D	D	
Approach Delay (s)		38.0			41.5			39.4			42.7	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM Average Control Delay			40.8			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			101.9			Sum of lost time (s)		13.3				
Intersection Capacity Utilization			67.5%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 18: White Rock Road & Latrobe Road


























Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	183	100	47	200	191	194	43	391	91	126	1102	352
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3353		3433	3539	1561	1770	6408	1561	3433	5085	1561
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3353		3433	3539	1561	1770	6408	1561	3433	5085	1561
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.82	0.82	0.74	0.74	0.74	0.86	0.86	0.86
Adj. Flow (vph)	213	116	55	244	233	237	58	528	123	147	1281	409
RTOR Reduction (vph)	0	48	0	0	0	207	0	0	24	0	0	144
Lane Group Flow (vph)	213	123	0	244	233	30	58	528	99	147	1281	265
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	14.5	17.8		15.6	18.8	18.8	8.9	80.5	80.5	11.7	83.3	83.3
Effective Green, g (s)	14.5	17.8		15.6	18.8	18.8	8.9	80.5	80.5	11.7	83.3	83.3
Actuated g/C Ratio	0.10	0.12		0.11	0.13	0.13	0.06	0.54	0.54	0.08	0.56	0.56
Clearance Time (s)	6.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	336	403		362	450	198	106	3485	849	271	2862	879
v/s Ratio Prot	0.06	0.04		c0.07	c0.07		0.03	0.08		c0.04	c0.25	
v/s Ratio Perm						0.02			0.06			0.17
v/c Ratio	0.63	0.30		0.67	0.52	0.15	0.55	0.15	0.12	0.54	0.45	0.30
Uniform Delay, d1	64.2	59.4		63.8	60.4	57.5	67.6	16.8	16.4	65.6	18.9	17.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.9	0.4		4.9	1.0	0.4	5.7	0.1	0.3	2.2	0.5	0.9
Delay (s)	68.1	59.9		68.6	61.4	57.9	73.3	16.9	16.7	67.8	19.4	17.9
Level of Service	E	E		E	E	E	E	B	B	E	B	B
Approach Delay (s)		64.4			62.7			21.5			22.9	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM Average Control Delay			34.8									HCM Level of Service C
HCM Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			148.0									Sum of lost time (s) 16.7
Intersection Capacity Utilization			70.6%									ICU Level of Service C
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 19: White Rock Road & Post Street





















Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Volume (vph)	73	243	1	18	431	193	41	4	10	47	7	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Fr _t	1.00	1.00	0.85	1.00	0.95		1.00	0.89		1.00	0.86	
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1539	1770	3347		1770	1618		1770	1578	
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1539	1770	3347		1770	1618		1770	1578	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	88	293	1	22	539	241	48	5	12	51	8	123
RTOR Reduction (vph)	0	0	0	0	23	0	0	12	0	0	111	0
Lane Group Flow (vph)	88	293	1	22	757	0	48	5	0	51	20	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		7	3		4	8	
Permitted Phases			2									
Actuated Green, G (s)	10.1	92.5	92.5	3.2	84.9		6.4	2.8		15.5	12.7	
Effective Green, g (s)	10.1	92.5	92.5	3.2	84.9		6.4	2.8		15.5	12.7	
Actuated g/C Ratio	0.07	0.69	0.69	0.02	0.63		0.05	0.02		0.11	0.09	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Vehicle Extension (s)	1.0	3.6	3.6	1.0	3.6		1.0	1.0		3.0	3.0	
Lane Grp Cap (vph)	132	2425	1055	42	2105		84	34		203	148	
v/s Ratio Prot	c0.05	0.08		0.01	c0.23		c0.03	0.00		c0.03	0.01	
v/s Ratio Perm			0.00									
v/c Ratio	0.67	0.12	0.00	0.52	0.36		0.57	0.15		0.25	0.13	
Uniform Delay, d1	60.8	7.3	6.7	65.1	12.0		63.0	64.9		54.5	56.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.4	0.1	0.0	5.3	0.5		5.7	0.8		0.7	0.4	
Delay (s)	70.3	7.4	6.7	70.5	12.5		68.7	65.7		55.1	56.5	
Level of Service	E	A	A	E	B		E	E		E	E	
Approach Delay (s)		21.9			14.1			67.9			56.1	
Approach LOS		C			B			E			E	
Intersection Summary												
HCM Average Control Delay			24.0			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			135.0			Sum of lost time (s)			20.9			
Intersection Capacity Utilization			45.8%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
20: White Rock Road & Vine Street














Serrano Westside EIR
Existing Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	177	45	47	477	54	125	5	61	14	8	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1768	1797		1770	1830		1770	1571		1770	1710	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1768	1797		1770	1830		1770	1571		1770	1710	
Peak-hour factor, PHF	0.89	0.89	0.89	0.69	0.69	0.69	0.86	0.86	0.86	0.81	0.81	0.81
Adj. Flow (vph)	8	199	51	68	691	78	145	6	71	17	10	9
RTOR Reduction (vph)	0	4	0	0	2	0	0	60	0	0	8	0
Lane Group Flow (vph)	8	246	0	68	767	0	145	17	0	17	11	0
Confl. Peds. (#/hr)	2		2			2			2			3
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)	0.8	41.0		6.5	47.4		13.3	13.3		6.3	6.3	
Effective Green, g (s)	0.8	41.0		6.5	47.4		13.3	13.3		6.3	6.3	
Actuated g/C Ratio	0.01	0.48		0.08	0.56		0.16	0.16		0.07	0.07	
Clearance Time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	3.7		2.0	3.0		3.6	3.6		3.6	3.6	
Lane Grp Cap (vph)	17	867		135	1020		277	246		131	127	
v/s Ratio Prot	0.00	0.14		c0.04	c0.42		c0.08	0.01		c0.01	0.01	
v/s Ratio Perm												
v/c Ratio	0.47	0.28		0.50	0.75		0.52	0.07		0.13	0.08	
Uniform Delay, d1	41.9	13.2		37.7	14.3		32.9	30.6		36.8	36.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.3	0.2		1.1	3.2		2.1	0.1		0.5	0.3	
Delay (s)	49.2	13.4		38.8	17.5		35.0	30.7		37.3	37.0	
Level of Service	D	B		D	B		D	C		D	D	
Approach Delay (s)		14.5			19.2			33.5			37.2	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM Average Control Delay			21.2			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			85.0			Sum of lost time (s)			17.2			
Intersection Capacity Utilization			57.5%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 21: Project Dwy North & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Volume (veh/h)	0	82	15	724	1395	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	89	16	787	1516	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1141	
pX, platoon unblocked	0.71	0.71	0.71			
vC, conflicting volume	1945	761	1522			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1513	0	917			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	88	97			
cM capacity (veh/h)	76	769	525			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	89	16	393	393	1011	511
Volume Left	0	16	0	0	0	0
Volume Right	89	0	0	0	0	5
cSH	769	525	1700	1700	1700	1700
Volume to Capacity	0.12	0.03	0.23	0.23	0.59	0.30
Queue Length 95th (ft)	10	2	0	0	0	0
Control Delay (s)	10.3	12.1	0.0	0.0	0.0	0.0
Lane LOS	B	B				
Approach Delay (s)	10.3	0.2			0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			50.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 22: Project Driveway South & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖↗		↘	↖↖
Volume (veh/h)	0	27	699	45	15	1689
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	29	760	49	16	1836
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1104					
pX, platoon unblocked	0.87	0.87			0.87	
vC, conflicting volume	1735	404			809	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1545	14			479	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			98	
cM capacity (veh/h)	90	923			938	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	29	507	302	16	918	918
Volume Left	0	0	0	16	0	0
Volume Right	29	0	49	0	0	0
cSH	923	1700	1700	938	1700	1700
Volume to Capacity	0.03	0.30	0.18	0.02	0.54	0.54
Queue Length 95th (ft)	2	0	0	1	0	0
Control Delay (s)	9.0	0.0	0.0	8.9	0.0	0.0
Lane LOS	A			A		
Approach Delay (s)	9.0	0.0		0.1		
Approach LOS	A					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			50.0%	ICU Level of Service	A	
Analysis Period (min)			15			

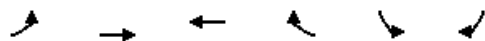
HCM Unsignalized Intersection Capacity Analysis
 23: Serrano Parkway & Project Dwy

Serrano Westside EIR
 Existing Plus Project - AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	289	16	2	717	2	0	0	6	0	0	140
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	314	17	2	779	2	0	0	7	0	0	152
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		560										
pX, platoon unblocked												
vC, conflicting volume	782			332			1259	1109	323	1114	1116	780
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	782			332			1259	1109	323	1114	1116	780
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	99	100	100	61
cM capacity (veh/h)	836			1228			91	209	718	184	207	395
Direction, Lane #												
	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total	332	2	782	7	152							
Volume Left	0	2	0	0	0							
Volume Right	17	0	2	7	152							
cSH	1700	1228	1700	718	395							
Volume to Capacity	0.20	0.00	0.46	0.01	0.39							
Queue Length 95th (ft)	0	0	0	1	44							
Control Delay (s)	0.0	7.9	0.0	10.1	19.7							
Lane LOS		A		B	C							
Approach Delay (s)	0.0	0.0		10.1	19.7							
Approach LOS				B	C							
Intersection Summary												
Average Delay			2.4									
Intersection Capacity Utilization			53.2%			ICU Level of Service			A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 24: Wilson Blvd & Pedregal Dwy

Serrano Westside EIR
 Existing Plus Project - AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↶↶	↶↶		↶	
Volume (veh/h)	10	230	103	11	10	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	250	112	12	11	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			861			
pX, platoon unblocked						
vC, conflicting volume	124				265	62
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124				265	62
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1461				697	990
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	125	125	75	49	16
Volume Left	11	0	0	0	0	11
Volume Right	0	0	0	0	12	5
cSH	1461	1700	1700	1700	1700	773
Volume to Capacity	0.01	0.07	0.07	0.04	0.03	0.02
Queue Length 95th (ft)	1	0	0	0	0	2
Control Delay (s)	7.5	0.0	0.0	0.0	0.0	9.8
Lane LOS	A					A
Approach Delay (s)	0.3			0.0		9.8
Approach LOS						A
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			17.2%		ICU Level of Service	A
Analysis Period (min)			15			

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Plus Project
AM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Drive

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	55	58	105.3%	55.2	2.4	E
	Through	707	742	105.0%	17.2	2.0	B
	Right Turn	59	58	97.5%	11.0	1.6	B
	Subtotal	821	858	104.4%	19.3	1.9	B
SB	Left Turn	169	147	86.8%	124.7	5.9	F
	Through	2163	1766	81.7%	85.0	5.2	F
	Right Turn	20	17	83.5%	81.4	10.5	F
	Subtotal	2352	1930	82.0%	88.0	5.2	F
EB	Left Turn	22	22	101.4%	47.8	6.4	D
	Through	17	18	102.9%	53.6	10.7	D
	Right Turn	107	112	104.2%	16.5	2.1	B
	Subtotal	146	151	103.6%	25.2	1.4	C
WB	Left Turn	154	156	101.0%	49.8	7.4	D
	Through	9	10	113.3%	44.7	9.2	D
	Right Turn	110	118	107.3%	8.4	1.3	A
	Subtotal	273	284	103.9%	32.2	3.4	C
Total		3592	3222	89.7%	61.9	2.7	E

Intersection 14

El Dorado Hills Blvd/Saratoga Way

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	773	807	104.5%	6.9	0.7	A
	Right Turn	189	192	101.6%	3.0	0.7	A
	Subtotal	962	1000	103.9%	6.1	0.6	A
SB	Left Turn	73	58	79.9%	59.6	4.0	E
	Through	2351	1931	82.1%	81.3	5.5	F
	Right Turn						
	Subtotal	2424	1989	82.0%	80.7	5.4	F
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	233	244	104.5%	99.7	24.5	F
	Through						
	Right Turn	48	51	105.4%	17.3	9.2	B
	Subtotal	281	294	104.7%	85.6	22.2	F
Total		3667	3282	89.5%	58.3	3.4	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Plus Project
AM Peak Hour

Intersection 15

El Dorado Hills Blvd/US 50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	417	411	98.7%	97.0	39.1	F
	Through	702	734	104.5%	11.0	1.1	B
	Right Turn						
	Subtotal	1119	1145	102.4%	42.0	14.1	D
SB	Left Turn						
	Through	1153	973	84.4%	16.9	0.6	B
	Right Turn	1431	1201	83.9%	7.5	0.2	A
	Subtotal	2584	2174	84.1%	11.7	0.3	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	652	662	101.5%	79.2	21.9	E
	Through						
	Right Turn	260	275	105.7%	31.4	16.6	C
	Subtotal	912	937	102.7%	65.3	20.5	E
Total		4615	4256	92.2%	31.6	5.3	C

Intersection 16

Latrobe Rd/US 50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	735	759	103.3%	8.5	1.5	A
	Right Turn	177	184	103.7%	8.6	1.2	A
	Subtotal	912	943	103.4%	8.5	1.4	A
SB	Left Turn	296	246	83.0%	42.2	3.1	D
	Through	1509	1385	91.8%	8.6	0.4	A
	Right Turn						
	Subtotal	1805	1631	90.4%	13.7	0.7	B
EB	Left Turn						
	Through						
	Right Turn	1087	1153	106.1%	26.1	1.7	C
	Subtotal	1087	1153	106.1%	26.1	1.7	C
WB	Left Turn						
	Through						
	Right Turn	384	391	101.8%	3.4	0.3	A
	Subtotal	384	391	101.8%	3.4	0.3	A
Total		4188	4118	98.3%	15.0	0.6	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Plus Project
AM Peak Hour

Intersection 17

Latrobe Rd/Town Center Blvd

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	71	71	100.6%	88.9	9.2	F
	Through	653	678	103.8%	28.1	2.5	C
	Right Turn	44	44	100.0%	8.8	2.2	A
	Subtotal	768	793	103.3%	32.5	2.1	C
SB	Left Turn	530	519	98.0%	76.2	2.4	E
	Through	1501	1467	97.7%	16.0	0.8	B
	Right Turn	565	555	98.2%	7.5	0.3	A
	Subtotal	2596	2541	97.9%	26.4	0.8	C
EB	Left Turn	29	27	92.8%	86.0	10.4	F
	Through	7	5	75.7%	80.2	19.8	F
	Right Turn	7	8	117.1%	10.6	6.1	B
	Subtotal	43	40	94.0%	69.7	10.4	E
WB	Left Turn	72	70	97.1%	78.6	7.8	E
	Through	48	55	113.8%	78.7	6.2	E
	Right Turn	230	241	104.9%	19.7	2.7	B
	Subtotal	350	366	104.5%	39.8	3.8	D
Total		3757	3741	99.6%	29.5	1.0	C

HCM Signalized Intersection Capacity Analysis
 1: Green Valley Rd & Francisco Dr

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour





















Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	418	699	369	80	61	441	67	342	256	17	105	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Lane Util. Factor	0.97	0.95	1.00		1.00	0.95	1.00	0.97	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Fr _t	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	1.00
Fl _t Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	1546		1770	3539	1560	3433	3503		1770	1863
Fl _t Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	1546		1770	3539	1560	3433	3503		1770	1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.89	0.84	0.84	0.84	0.90	0.90
Adj. Flow (vph)	449	752	397	90	69	496	75	407	305	20	117	242
RTOR Reduction (vph)	0	0	295	0	0	0	58	0	4	0	0	0
Lane Group Flow (vph)	449	752	102	0	159	496	17	407	321	0	117	242
Confl. Peds. (#/hr)			2				2			2		
Turn Type	Prot		Perm	Prot	Prot		Perm	Prot			Prot	
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2				6					
Actuated Green, G (s)	15.5	28.3	28.3		11.5	24.3	24.3	14.7	40.9		9.7	36.4
Effective Green, g (s)	15.5	28.3	28.3		11.5	24.3	24.3	14.7	40.9		9.7	36.4
Actuated g/C Ratio	0.14	0.26	0.26		0.10	0.22	0.22	0.13	0.37		0.09	0.33
Clearance Time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Vehicle Extension (s)	0.2	1.9	1.9		0.2	1.9	1.9	0.2	2.1		0.2	2.6
Lane Grp Cap (vph)	484	910	398		185	782	345	459	1302		156	616
v/s Ratio Prot	c0.13	c0.21			0.09	0.14		c0.12	0.09		0.07	c0.13
v/s Ratio Perm			0.07				0.01					
v/c Ratio	0.93	0.83	0.26		0.86	0.63	0.05	0.89	0.25		0.75	0.39
Uniform Delay, d ₁	46.7	38.5	32.5		48.5	38.8	33.7	46.8	23.9		49.0	28.3
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d ₂	23.7	5.9	0.1		29.6	1.2	0.0	17.8	0.5		16.3	1.9
Delay (s)	70.3	44.4	32.6		78.0	40.1	33.8	64.7	24.3		65.3	30.2
Level of Service	E	D	C		E	D	C	E	C		E	C
Approach Delay (s)		48.8				47.7			46.8			35.8
Approach LOS		D				D			D			D
Intersection Summary												
HCM Average Control Delay			46.1			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			110.0			Sum of lost time (s)			19.1			
Intersection Capacity Utilization			73.9%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

Movement	SBR
Lane Configurations	7
Volume (vph)	200
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.4
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1562
Flt Permitted	1.00
Satd. Flow (perm)	1562
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	222
RTOR Reduction (vph)	149
Lane Group Flow (vph)	73
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	36.4
Effective Green, g (s)	36.4
Actuated g/C Ratio	0.33
Clearance Time (s)	5.4
Vehicle Extension (s)	2.6
Lane Grp Cap (vph)	517
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.14
Uniform Delay, d1	25.8
Progression Factor	1.00
Incremental Delay, d2	0.6
Delay (s)	26.4
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
2: Green Valley Rd & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project Conditions - PM Peak Hour





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	758	34	43	460	77	63	161	65	49	83	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.96			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	1851		1770	1817		1770	1769			1829	1543
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	1851		1770	1817		1770	1769			1829	1543
Peak-hour factor, PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.84	0.84	0.84	0.89	0.89	0.89
Adj. Flow (vph)	123	815	37	51	548	92	75	192	77	55	93	106
RTOR Reduction (vph)	0	1	0	0	4	0	0	11	0	0	0	93
Lane Group Flow (vph)	123	851	0	51	636	0	75	258	0	0	148	13
Confl. Peds. (#/hr)						2			2			2
Turn Type	Prot			Prot			Split			Split		Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	17.5	56.0		7.1	45.6		20.6	20.6			14.2	14.2
Effective Green, g (s)	17.5	56.0		7.1	45.6		20.6	20.6			14.2	14.2
Actuated g/C Ratio	0.15	0.47		0.06	0.39		0.17	0.17			0.12	0.12
Clearance Time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	262	875		106	700		308	308			219	185
v/s Ratio Prot	c0.07	c0.46		0.03	0.35		0.04	c0.15			c0.08	
v/s Ratio Perm												0.01
v/c Ratio	0.47	0.97		0.48	0.91		0.24	0.84			0.68	0.07
Uniform Delay, d1	46.2	30.4		53.9	34.4		42.2	47.3			49.9	46.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.0	24.0		2.5	16.4		0.2	17.1			6.3	0.1
Delay (s)	47.2	54.5		56.4	50.8		42.3	64.3			56.2	46.3
Level of Service	D	D		E	D		D	E			E	D
Approach Delay (s)		53.5			51.2			59.5			52.1	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM Average Control Delay			53.6			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			118.4			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			83.2%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

3: Green Valley Rd & Silva Valley Pkwy




















Serrano Westside EIR
Existing Plus Project Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	598	268	34	367	3	211	15	56	2	7	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.98			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.88			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	1863	1545	1770	1860		1770	1612			1791	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	1863	1545	1770	1860		1770	1612			1791	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90	0.69	0.69	0.69
Adj. Flow (vph)	6	623	279	37	399	3	234	17	62	3	10	3
RTOR Reduction (vph)	0	0	114	0	0	0	0	48	0	0	3	0
Lane Group Flow (vph)	6	623	165	37	402	0	234	31	0	0	13	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Split				Split	
Protected Phases	1	6		5	2		8	8			4	4
Permitted Phases			6									
Actuated Green, G (s)	0.8	34.2	34.2	3.9	37.3		16.9	16.9			3.5	
Effective Green, g (s)	0.8	34.2	34.2	3.9	37.3		16.9	16.9			3.5	
Actuated g/C Ratio	0.01	0.45	0.45	0.05	0.49		0.22	0.22			0.05	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	18	830	688	90	903		389	355			82	
v/s Ratio Prot	0.00	c0.33		c0.02	c0.22		c0.13	0.02			c0.01	
v/s Ratio Perm			0.11									
v/c Ratio	0.33	0.75	0.24	0.41	0.45		0.60	0.09			0.16	
Uniform Delay, d1	37.7	17.7	13.2	35.3	13.0		26.9	23.8			35.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	7.8	3.8	0.2	2.2	0.4		2.2	0.1			0.7	
Delay (s)	45.5	21.6	13.4	37.6	13.3		29.1	23.9			35.9	
Level of Service	D	C	B	D	B		C	C			D	
Approach Delay (s)		19.2			15.4			27.8			35.9	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM Average Control Delay			20.0			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			76.8			Sum of lost time (s)			24.0			
Intersection Capacity Utilization			58.4%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group













HCM Unsignalized Intersection Capacity Analysis
 4: Francisco Dr & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	41	517	26	35	40	546	305	19	9	192	2
Peak Hour Factor	0.89	0.89	0.89	0.60	0.60	0.60	0.94	0.94	0.94	0.84	0.84	0.84
Hourly flow rate (vph)	0	46	581	43	58	67	581	324	20	11	229	2
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total (vph)	627	168	581	345	11	231						
Volume Left (vph)	0	43	581	0	11	0						
Volume Right (vph)	581	67	0	20	0	2						
Hadj (s)	-0.52	-0.15	0.53	-0.01	0.53	0.03						
Departure Headway (s)	6.6	8.2	8.2	7.6	9.0	8.5						
Degree Utilization, x	1.15	0.38	1.32	0.73	0.03	0.54						
Capacity (veh/h)	540	419	449	463	391	409						
Control Delay (s)	110.2	16.1	182.5	27.6	11.0	19.9						
Approach Delay (s)	110.2	16.1	124.8		19.5							
Approach LOS	F	C	F		C							
Intersection Summary												
Delay			97.8									
HCM Level of Service			F									
Intersection Capacity Utilization			85.0%	ICU Level of Service	E							
Analysis Period (min)			15									















HCM Unsignalized Intersection Capacity Analysis
 5: Apian Way & Silva Valley Pkwy

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	17	4	39	56	2	43	70	246	89	47	193	89
Peak Hour Factor	0.79	0.79	0.79	0.87	0.87	0.87	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	22	5	49	64	2	49	82	289	105	55	227	105
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	76	116	476	387								
Volume Left (vph)	22	64	82	55								
Volume Right (vph)	49	49	105	105								
Hadj (s)	-0.30	-0.11	-0.06	-0.10								
Departure Headway (s)	6.0	6.1	5.0	5.1								
Degree Utilization, x	0.13	0.20	0.66	0.54								
Capacity (veh/h)	490	506	698	683								
Control Delay (s)	9.9	10.6	17.0	13.9								
Approach Delay (s)	9.9	10.6	17.0	13.9								
Approach LOS	A	B	C	B								
Intersection Summary												
Delay			14.7									
HCM Level of Service			B									
Intersection Capacity Utilization			49.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
6: Harvard Way & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project Conditions - PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Volume (vph)	167	125	922	202	162	662
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	6.0		4.0	6.0
Lane Util. Factor	1.00	1.00	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Fr t	1.00	0.85	0.97		1.00	1.00
Fl t Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1546	3431		3433	3539
Fl t Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1546	3431		3433	3539
Peak-hour factor, PHF	0.84	0.84	0.94	0.94	0.87	0.87
Adj. Flow (vph)	199	149	981	215	186	761
RTOR Reduction (vph)	0	124	10	0	0	0
Lane Group Flow (vph)	199	25	1186	0	186	761
Confl. Peds. (#/hr)		8		8		
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	14.4	14.4	43.6		9.4	57.0
Effective Green, g (s)	14.4	14.4	43.6		9.4	57.0
Actuated g/C Ratio	0.17	0.17	0.50		0.11	0.66
Clearance Time (s)	4.6	4.6	6.0		4.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	295	258	1731		373	2335
v/s Ratio Prot	c0.11		c0.35		c0.05	0.22
v/s Ratio Perm		0.02				
v/c Ratio	0.67	0.10	0.69		0.50	0.33
Uniform Delay, d1	33.8	30.5	16.2		36.3	6.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.7	0.1	0.9		0.4	0.0
Delay (s)	38.5	30.5	17.1		36.7	6.4
Level of Service	D	C	B		D	A
Approach Delay (s)	35.1		17.1			12.3
Approach LOS	D		B			B
Intersection Summary						
HCM Average Control Delay			17.8		HCM Level of Service	B
HCM Volume to Capacity ratio			0.66			
Actuated Cycle Length (s)			86.4		Sum of lost time (s)	19.0
Intersection Capacity Utilization			59.5%		ICU Level of Service	B
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy

Serrano Westside EIR
Existing Plus Project Conditions - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	122	10	188	8	10	5	179	286	10	9	195	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1534	1770	1757		1770	1850		1770	1863	1531
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1534	1770	1757		1770	1850		1770	1863	1531
Peak-hour factor, PHF	0.87	0.87	0.87	0.60	0.60	0.60	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	140	11	216	13	17	8	211	336	12	10	217	74
RTOR Reduction (vph)	0	0	178	0	7	0	0	1	0	0	0	52
Lane Group Flow (vph)	140	11	38	13	18	0	211	347	0	10	217	22
Confl. Peds. (#/hr)			8			8			8			8
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	13.1	13.1	13.1	6.4	6.4		16.4	35.9		0.8	20.3	20.3
Effective Green, g (s)	13.1	13.1	13.1	6.4	6.4		16.4	35.9		0.8	20.3	20.3
Actuated g/C Ratio	0.18	0.18	0.18	0.09	0.09		0.22	0.48		0.01	0.27	0.27
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	313	329	271	153	152		392	896		19	510	419
v/s Ratio Prot	c0.08	0.01		0.01	c0.01		c0.12	c0.19		0.01	0.12	
v/s Ratio Perm			0.02									0.01
v/c Ratio	0.45	0.03	0.14	0.08	0.12		0.54	0.39		0.53	0.43	0.05
Uniform Delay, d1	27.3	25.3	25.7	31.2	31.2		25.5	12.1		36.5	22.1	19.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	0.0	0.1	0.2	0.3		1.1	0.2		18.6	0.4	0.0
Delay (s)	27.6	25.3	25.8	31.4	31.6		26.6	12.3		55.1	22.5	19.8
Level of Service	C	C	C	C	C		C	B		E	C	B
Approach Delay (s)		26.5			31.5			17.7			22.9	
Approach LOS		C			C			B			C	













Intersection Summary

HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	74.1	Sum of lost time (s)	12.6
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: Olson Ln & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project Conditions - PM Peak Hour





















						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	33	85	183	1130	793	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.8	3.8	3.6	5.7	5.7	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frbp, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1562	1770	3539	3519	
Flt Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1562	1770	3539	3519	
Peak-hour factor, PHF	0.87	0.87	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	98	199	1228	862	29
RTOR Reduction (vph)	0	85	0	0	2	0
Lane Group Flow (vph)	38	13	199	1228	889	0
Confl. Peds. (#/hr)		2				2
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.2	8.2	12.9	42.4	25.9	
Effective Green, g (s)	8.2	8.2	12.9	42.4	25.9	
Actuated g/C Ratio	0.14	0.14	0.21	0.71	0.43	
Clearance Time (s)	3.8	3.8	3.6	5.7	5.7	
Vehicle Extension (s)	3.1	3.1	2.2	3.2	3.2	
Lane Grp Cap (vph)	241	213	380	2497	1517	
v/s Ratio Prot	c0.02		0.11	c0.35	c0.25	
v/s Ratio Perm		0.01				
v/c Ratio	0.16	0.06	0.52	0.49	0.59	
Uniform Delay, d1	22.9	22.6	20.9	4.0	13.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.1	0.8	0.2	0.6	
Delay (s)	23.2	22.7	21.6	4.2	13.6	
Level of Service	C	C	C	A	B	
Approach Delay (s)	22.9			6.6	13.6	
Approach LOS	C			A	B	
Intersection Summary						
HCM Average Control Delay			10.0	HCM Level of Service		B
HCM Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			60.1	Sum of lost time (s)		15.2
Intersection Capacity Utilization			49.9%	ICU Level of Service		A
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

9: Wilson Blvd & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	42	0	137	66	2	21	199	1300	12	11	9	834
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.6		3.7	5.7			3.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			1.00	0.95
Frbp, ped/bikes		1.00	0.98		1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Fr _t		1.00	0.85		0.97		1.00	1.00			1.00	0.99
Fl _t Protected		0.95	1.00		0.96		0.95	1.00			0.95	1.00
Satd. Flow (prot)		1770	1553		1733		1770	3533			1767	3508
Fl _t Permitted		0.95	1.00		0.96		0.95	1.00			0.95	1.00
Satd. Flow (perm)		1770	1553		1733		1770	3533			1772	3508
Peak-hour factor, PHF	0.94	0.94	0.94	0.42	0.42	0.42	0.88	0.88	0.88	0.92	0.94	0.94
Adj. Flow (vph)	45	0	146	157	5	50	226	1477	14	12	10	887
RTOR Reduction (vph)	0	0	133	0	8	0	0	0	0	0	0	2
Lane Group Flow (vph)	0	45	13	0	204	0	226	1491	0	0	22	935
Confl. Peds. (#/hr)	2		2	2		2	2		2	2	2	
Turn Type	Split		Perm	Split			Prot				Prot	
Protected Phases	4	4		3	3		5	2			1	6
Permitted Phases			4									
Actuated Green, G (s)		8.9	8.9		17.6		18.7	53.8			4.2	39.3
Effective Green, g (s)		8.9	8.9		17.6		18.7	53.8			4.2	39.3
Actuated g/C Ratio		0.09	0.09		0.17		0.18	0.52			0.04	0.38
Clearance Time (s)		5.3	5.3		4.6		3.7	5.7			3.7	5.7
Vehicle Extension (s)		3.3	3.3		2.0		2.0	3.3			2.0	3.3
Lane Grp Cap (vph)		152	133		294		319	1831			72	1328
v/s Ratio Prot		c0.03			c0.12		c0.13	c0.42				0.27
v/s Ratio Perm			0.01								0.01	
v/c Ratio		0.30	0.09		0.69		0.71	0.81			0.31	0.70
Uniform Delay, d1		44.5	43.7		40.6		40.0	20.8			48.4	27.3
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		1.2	0.3		5.6		5.8	2.9			0.9	1.8
Delay (s)		45.7	44.1		46.2		45.8	23.8			49.3	29.1
Level of Service		D	D		D		D	C			D	C
Approach Delay (s)		44.5			46.2			26.7				29.5
Approach LOS		D			D			C				C
Intersection Summary												
HCM Average Control Delay			30.0				HCM Level of Service				C	
HCM Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			103.8				Sum of lost time (s)				19.3	
Intersection Capacity Utilization			64.0%				ICU Level of Service				C	
Analysis Period (min)			15									

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	47
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	50
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	2
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
 10: Serrano Parkway & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	20	19	49	327	18	60	99	1568	580	86	865	36	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7		
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95		
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.97	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.89		1.00	0.95		1.00	1.00	0.85	1.00	0.99		
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1770	1663		1681	1633		1770	3539	1543	1770	3515		
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1770	1663		1681	1633		1770	3539	1543	1770	3515		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	22	21	53	355	20	65	108	1704	630	93	940	39	
RTOR Reduction (vph)	0	50	0	0	11	0	0	0	153	0	2	0	
Lane Group Flow (vph)	22	24	0	224	205	0	108	1704	477	93	977	0	
Confl. Peds. (#/hr)						2			2			2	
Turn Type	Split			Split			Prot		Perm	Prot			
Protected Phases	7	7		8	8		5	2		1	6		
Permitted Phases									2				
Actuated Green, G (s)	5.3	5.3		19.9	19.9		10.8	50.8	50.8	9.9	49.9		
Effective Green, g (s)	5.3	5.3		19.9	19.9		10.8	50.8	50.8	9.9	49.9		
Actuated g/C Ratio	0.05	0.05		0.19	0.19		0.10	0.49	0.49	0.10	0.48		
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7		
Vehicle Extension (s)	2.0	2.0		4.0	4.0		2.0	4.2	4.2	2.0	4.2		
Lane Grp Cap (vph)	91	85		323	314		185	1735	757	169	1693		
v/s Ratio Prot	0.01	c0.01		c0.13	0.13		c0.06	c0.48		0.05	0.28		
v/s Ratio Perm									0.31				
v/c Ratio	0.24	0.28		0.69	0.65		0.58	0.98	0.63	0.55	0.58		
Uniform Delay, d1	47.2	47.3		39.0	38.7		44.3	26.0	19.5	44.7	19.3		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.5	0.7		6.8	5.4		3.0	17.5	2.0	2.2	0.6		
Delay (s)	47.7	48.0		45.8	44.0		47.3	43.4	21.5	46.9	19.9		
Level of Service	D	D		D	D		D	D	C	D	B		
Approach Delay (s)		47.9			44.9			37.9			22.2		
Approach LOS		D			D			D			C		
Intersection Summary													
HCM Average Control Delay			34.8									HCM Level of Service	C
HCM Volume to Capacity ratio			0.78										
Actuated Cycle Length (s)			103.6									Sum of lost time (s)	12.0
Intersection Capacity Utilization			77.8%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 11: Serrano Parkway & Penela Way

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↖	↗	↘
Volume (veh/h)	559	53	2	292	37	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.76	0.76	0.79	0.79
Hourly flow rate (vph)	682	65	3	384	47	4
Pedestrians	2			2		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			746		1105	716
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			746		1105	716
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		80	99
cM capacity (veh/h)			862		232	429
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	746	3	384	51		
Volume Left	0	3	0	47		
Volume Right	65	0	0	4		
cSH	1700	862	1700	240		
Volume to Capacity	0.44	0.00	0.23	0.21		
Queue Length 95th (ft)	0	0	0	19		
Control Delay (s)	0.0	9.2	0.0	23.9		
Lane LOS		A		C		
Approach Delay (s)	0.0	0.1		23.9		
Approach LOS				C		
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			43.3%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
 12: Serrano Parkway & Silva Valley Parkway

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	141	303	55	111	198	263	70	288	285	162	148	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.91		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3451		1770	3211		1770	3539	1561	1770	3320	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3451		1770	3211		1770	3539	1561	1770	3320	
Peak-hour factor, PHF	0.77	0.77	0.77	0.86	0.86	0.86	0.61	0.61	0.61	0.84	0.84	0.84
Adj. Flow (vph)	183	394	71	129	230	306	115	472	467	193	176	108
RTOR Reduction (vph)	0	12	0	0	208	0	0	0	320	0	69	0
Lane Group Flow (vph)	183	453	0	129	328	0	115	472	147	193	215	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot			Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	14.2	18.1		11.7	15.6		11.0	19.5	19.5	14.8	23.3	
Effective Green, g (s)	14.2	18.1		11.7	15.6		11.0	19.5	19.5	14.8	23.3	
Actuated g/C Ratio	0.17	0.22		0.14	0.19		0.13	0.24	0.24	0.18	0.28	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	304	755		250	606		235	834	368	317	935	
v/s Ratio Prot	c0.10	c0.13		0.07	0.10		0.06	c0.13		c0.11	c0.06	
v/s Ratio Perm									0.09			
v/c Ratio	0.60	0.60		0.52	0.54		0.49	0.57	0.40	0.61	0.23	
Uniform Delay, d1	31.6	29.0		32.9	30.3		33.2	27.9	26.7	31.3	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.8	1.1		1.3	0.8		1.2	0.7	0.5	2.8	0.1	
Delay (s)	34.5	30.1		34.2	31.1		34.4	28.6	27.2	34.1	22.9	
Level of Service	C	C		C	C		C	C	C	C	C	
Approach Delay (s)		31.3			31.7			28.6			27.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			29.8			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			82.7			Sum of lost time (s)			18.6			
Intersection Capacity Utilization			55.6%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
18: White Rock Road & Latrobe Road


























Serrano Westside EIR
Existing Plus Project Conditions - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	305	243	82	145	129	250	83	1106	258	360	512	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3394		3433	3539	1561	1770	6408	1561	3433	5085	1561
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3394		3433	3539	1561	1770	6408	1561	3433	5085	1561
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.82	0.82	0.74	0.74	0.74	0.86	0.86	0.86
Adj. Flow (vph)	355	283	95	177	157	305	112	1495	349	419	595	266
RTOR Reduction (vph)	0	27	0	0	0	221	0	0	29	0	0	132
Lane Group Flow (vph)	355	351	0	177	157	84	112	1495	320	419	595	134
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	20.2	24.8		12.9	17.4	17.4	13.6	68.1	68.1	19.8	74.3	74.3
Effective Green, g (s)	20.2	24.8		12.9	17.4	17.4	13.6	68.1	68.1	19.8	74.3	74.3
Actuated g/C Ratio	0.14	0.17		0.09	0.12	0.12	0.09	0.46	0.46	0.13	0.50	0.50
Clearance Time (s)	6.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	469	569		299	416	184	163	2949	718	459	2553	784
v/s Ratio Prot	c0.10	c0.10		0.05	0.04		0.06	c0.23		c0.12	0.12	
v/s Ratio Perm						0.05			0.21			0.09
v/c Ratio	0.76	0.62		0.59	0.38	0.46	0.69	0.51	0.45	0.91	0.23	0.17
Uniform Delay, d1	61.5	57.2		65.0	60.3	60.9	65.1	28.1	27.1	63.2	20.8	20.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.9	2.0		3.1	0.6	1.8	11.4	0.6	2.0	22.4	0.2	0.5
Delay (s)	68.4	59.2		68.1	60.9	62.7	76.5	28.8	29.1	85.6	21.0	20.5
Level of Service	E	E		E	E	E	E	C	C	F	C	C
Approach Delay (s)		63.6			63.8			31.6			42.1	
Approach LOS		E			E			C			D	
Intersection Summary												
HCM Average Control Delay			44.0									HCM Level of Service D
HCM Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			148.0									Sum of lost time (s) 22.4
Intersection Capacity Utilization			77.7%									ICU Level of Service D
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 19: White Rock Road & Post Street

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	167	687	7	11	348	129	23	9	12	188	10	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Fr t	1.00	1.00	0.85	1.00	0.96		1.00	0.91		1.00	0.86	
Fl t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1539	1770	3371		1770	1669		1770	1579	
Fl t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1539	1770	3371		1770	1669		1770	1579	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	201	828	8	14	435	161	27	10	14	204	11	166
RTOR Reduction (vph)	0	0	2	0	21	0	0	14	0	0	139	0
Lane Group Flow (vph)	201	828	6	14	575	0	27	10	0	204	38	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		7	3		4	8	
Permitted Phases			2									
Actuated Green, G (s)	17.2	86.8	86.8	2.2	71.1		4.0	4.2		20.8	21.8	
Effective Green, g (s)	17.2	86.8	86.8	2.2	71.1		4.0	4.2		20.8	21.8	
Actuated g/C Ratio	0.13	0.64	0.64	0.02	0.53		0.03	0.03		0.15	0.16	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Vehicle Extension (s)	1.0	3.6	3.6	1.0	3.6		1.0	1.0		3.0	3.0	
Lane Grp Cap (vph)	226	2275	990	29	1775		52	52		273	255	
v/s Ratio Prot	c0.11	c0.23		0.01	0.17		c0.02	0.01		c0.12	0.02	
v/s Ratio Perm			0.00									
v/c Ratio	0.89	0.36	0.01	0.48	0.32		0.52	0.20		0.75	0.15	
Uniform Delay, d1	58.0	11.2	8.6	65.8	18.2		64.6	63.8		54.6	48.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	31.0	0.5	0.0	4.5	0.5		3.6	0.7		10.6	0.3	
Delay (s)	88.9	11.7	8.6	70.4	18.7		68.2	64.5		65.2	48.9	
Level of Service	F	B	A	E	B		E	E		E	D	
Approach Delay (s)		26.6			19.9			66.4			57.6	
Approach LOS		C			B			E			E	
Intersection Summary												
HCM Average Control Delay			31.3			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			135.0			Sum of lost time (s)			14.9			
Intersection Capacity Utilization			57.7%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

20: White Rock Road & Vine Street












Serrano Westside EIR
Existing Plus Project Conditions - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	51	472	117	14	207	70	84	14	30	152	34	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.96		1.00	0.90		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1799		1770	1781		1770	1644		1770	1675	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1799		1770	1781		1770	1644		1770	1675	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.81	0.81	0.81	0.90	0.90	0.90
Adj. Flow (vph)	56	519	129	18	265	90	104	17	37	169	38	54
RTOR Reduction (vph)	0	4	0	0	6	0	0	32	0	0	35	0
Lane Group Flow (vph)	56	644	0	18	349	0	104	22	0	169	57	0
Confl. Peds. (#/hr)	2		2			2			2			2
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)	6.4	46.2		2.3	42.8		12.9	12.9		15.3	15.3	
Effective Green, g (s)	6.4	46.2		2.3	42.8		12.9	12.9		15.3	15.3	
Actuated g/C Ratio	0.07	0.49		0.02	0.45		0.14	0.14		0.16	0.16	
Clearance Time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	3.7		2.0	3.0		3.6	3.6		3.6	3.6	
Lane Grp Cap (vph)	120	879		43	806		241	224		286	271	
v/s Ratio Prot	c0.03	c0.36		0.01	0.20		c0.06	0.01		c0.10	0.03	
v/s Ratio Perm												
v/c Ratio	0.47	0.73		0.42	0.43		0.43	0.10		0.59	0.21	
Uniform Delay, d1	42.5	19.3		45.5	17.6		37.5	35.8		36.7	34.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	3.3		2.4	0.4		1.5	0.2		3.5	0.5	
Delay (s)	43.5	22.6		47.9	18.0		39.0	36.0		40.3	34.9	
Level of Service	D	C		D	B		D	D		D	C	
Approach Delay (s)		24.3			19.5			38.0			38.4	
Approach LOS		C			B			D			D	
Intersection Summary												
HCM Average Control Delay			27.0			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			94.6			Sum of lost time (s)			11.9			
Intersection Capacity Utilization			63.0%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 21: Project Dwy & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	43	61	1313	858	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	47	66	1427	933	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1141	
pX, platoon unblocked	0.83	0.83	0.83			
vC, conflicting volume	1790	477	954			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1550	0	549			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	92			
cM capacity (veh/h)	80	905	849			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	47	66	714	714	622	333
Volume Left	0	66	0	0	0	0
Volume Right	47	0	0	0	0	22
cSH	905	849	1700	1700	1700	1700
Volume to Capacity	0.05	0.08	0.42	0.42	0.37	0.20
Queue Length 95th (ft)	4	6	0	0	0	0
Control Delay (s)	9.2	9.6	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.2	0.4			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			39.6%		ICU Level of Service	A
Analysis Period (min)			15			


















HCM Unsignalized Intersection Capacity Analysis
 22: Project Dwy & El Dorado Hills Blvd

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖↗		↘	↖↖
Volume (veh/h)	0	19	1492	156	50	987
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	21	1622	170	54	1073
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			1014			
pX, platoon unblocked	0.53	0.53			0.53	
vC, conflicting volume	2352	896			1791	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1778	0			722	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			88	
cM capacity (veh/h)	34	575			465	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	21	1081	710	54	536	536
Volume Left	0	0	0	54	0	0
Volume Right	21	0	170	0	0	0
cSH	575	1700	1700	465	1700	1700
Volume to Capacity	0.04	0.64	0.42	0.12	0.32	0.32
Queue Length 95th (ft)	3	0	0	10	0	0
Control Delay (s)	11.5	0.0	0.0	13.8	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	11.5	0.0		0.7		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			56.2%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 23: Serrano Parkway & Serrano Project Dwy

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	603	82	4	318	7	0	0	9	0	0	87
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	655	89	4	346	8	0	0	10	0	0	95
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None					None						
Median storage (veh)												
Upstream signal (ft)	560											
pX, platoon unblocked												
vC, conflicting volume	353			745			1149	1062	700	1068	1103	349
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	353			745			1149	1062	700	1068	1103	349
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	98	100	100	86
cM capacity (veh/h)	1205			863			151	222	439	194	210	694
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total	745	4	353	10	95							
Volume Left	0	4	0	0	0							
Volume Right	89	0	8	10	95							
cSH	1700	863	1700	439	694							
Volume to Capacity	0.44	0.01	0.21	0.02	0.14							
Queue Length 95th (ft)	0	0	0	2	12							
Control Delay (s)	0.0	9.2	0.0	13.4	11.0							
Lane LOS		A		B	B							
Approach Delay (s)	0.0	0.1		13.4	11.0							
Approach LOS				B	B							
Intersection Summary												
Average Delay				1.0								
Intersection Capacity Utilization				46.7%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis
 24: Wilson Blvd & Pedregal Dwy

Serrano Westside EIR
 Existing Plus Project Conditions - PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↕↕	↕↕		↵	
Volume (veh/h)	12	165	183	25	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	179	199	27	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			751			
pX, platoon unblocked						
vC, conflicting volume	226				328	113
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	226				328	113
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1340				635	918
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	13	90	90	133	93	11
Volume Left	13	0	0	0	0	5
Volume Right	0	0	0	0	27	5
cSH	1340	1700	1700	1700	1700	750
Volume to Capacity	0.01	0.05	0.05	0.08	0.05	0.01
Queue Length 95th (ft)	1	0	0	0	0	1
Control Delay (s)	7.7	0.0	0.0	0.0	0.0	9.9
Lane LOS	A					A
Approach Delay (s)	0.5			0.0		9.9
Approach LOS						A
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			20.0%		ICU Level of Service	A
Analysis Period (min)			15			

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Plus Project
PM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Drive

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	111	107	95.9%	56.5	2.7	E
	Through	1898	1796	94.6%	37.5	2.4	D
	Right Turn	201	186	92.6%	33.5	2.8	C
	Subtotal	2210	2088	94.5%	38.1	2.3	D
SB	Left Turn	179	175	97.7%	108.9	28.1	F
	Through	1037	1042	100.5%	50.2	29.4	D
	Right Turn	25	24	97.2%	37.5	25.6	D
	Subtotal	1241	1241	100.0%	58.2	28.8	E
EB	Left Turn	41	39	94.1%	49.0	3.6	D
	Through	16	17	105.0%	49.1	8.6	D
	Right Turn	72	76	105.0%	5.0	0.8	A
	Subtotal	129	131	101.6%	23.6	3.1	C
WB	Left Turn	161	164	101.8%	56.0	29.0	E
	Through	23	22	95.2%	50.5	4.9	D
	Right Turn	308	310	100.6%	23.7	4.2	C
	Subtotal	492	496	100.8%	35.7	11.2	D
Total		4072	3956	97.2%	43.7	9.7	D

Intersection 14

El Dorado Hills Blvd/Saratoga Way

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	2110	1980	93.8%	8.8	0.7	A
	Right Turn	344	321	93.2%	5.6	0.5	A
	Subtotal	2454	2301	93.8%	8.3	0.7	A
SB	Left Turn	62	62	99.5%	100.7	62.6	F
	Through	1208	1199	99.3%	62.3	47.0	E
	Right Turn						
	Subtotal	1270	1261	99.3%	64.2	47.5	E
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	202	201	99.6%	40.0	3.9	D
	Through						
	Right Turn	100	97	97.3%	33.9	2.8	C
	Subtotal	302	298	98.8%	38.0	2.6	D
Total		4026	3860	95.9%	28.7	15.1	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Plus Project
PM Peak Hour

Intersection 15

El Dorado Hills Blvd/US 50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	1021	964	94.4%	44.4	11.8	D
	Through	2137	1999	93.5%	31.5	3.0	C
	Right Turn						
	Subtotal	3158	2963	93.8%	35.8	3.5	D
SB	Left Turn						
	Through	783	765	97.7%	37.7	5.6	D
	Right Turn	627	623	99.3%	24.4	3.7	C
	Subtotal	1410	1388	98.4%	31.7	4.6	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	297	293	98.6%	42.6	2.9	D
	Through						
	Right Turn	317	309	97.4%	44.0	10.7	D
	Subtotal	614	602	98.0%	43.4	6.4	D
Total		5182	4952	95.6%	35.5	3.2	D

Intersection 16

Latrobe Rd/US 50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	1986	1874	94.3%	21.5	2.5	C
	Right Turn	702	639	91.0%	25.9	2.1	C
	Subtotal	2688	2512	93.5%	22.6	2.2	C
SB	Left Turn	243	228	94.0%	57.6	2.2	E
	Through	837	833	99.5%	4.9	0.5	A
	Right Turn						
	Subtotal	1080	1061	98.3%	16.2	0.9	B
EB	Left Turn						
	Through						
	Right Turn	700	695	99.3%	12.9	1.2	B
	Subtotal	700	695	99.3%	12.9	1.2	B
WB	Left Turn						
	Through						
	Right Turn	1172	1107	94.4%	130.5	41.8	F
	Subtotal	1172	1107	94.4%	130.5	41.8	F
Total		5640	5375	95.3%	42.2	8.5	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Plus Project
PM Peak Hour

Intersection 17

Latrobe Rd/Town Center Blvd

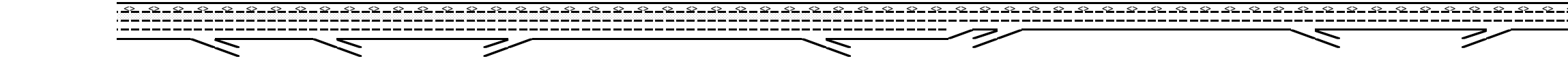
Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	3	3	110.0%	179.5	106.1	F
	Through	1531	1424	93.0%	180.9	75.0	F
	Right Turn	127	113	88.9%	53.8	57.1	D
	Subtotal	1661	1541	92.8%	171.6	74.2	F
SB	Left Turn	571	561	98.2%	83.6	11.2	F
	Through	928	924	99.6%	20.1	0.8	C
	Right Turn	38	38	100.5%	1.8	0.3	A
	Subtotal	1537	1523	99.1%	43.1	4.8	D
EB	Left Turn	377	319	84.7%	422.4	178.9	F
	Through	54	54	100.6%	95.5	29.9	F
	Right Turn	115	114	99.0%	41.2	17.7	D
	Subtotal	546	487	89.2%	297.5	125.5	F
WB	Left Turn	58	62	106.7%	142.4	67.4	F
	Through	9	10	113.3%	135.6	75.1	F
	Right Turn	780	770	98.7%	106.1	69.0	F
	Subtotal	847	842	99.4%	109.1	69.0	F
Total		4591	4393	95.7%	128.3	30.9	F

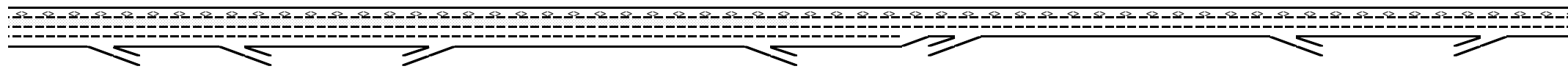
Existing Plus Project Roadway Segments Analysis		E+P Volume		LOS Thresholds			V/ C Ratio		LOS	
Pedregal - Central El Dorado	Number of Lanes	AM	PM	LOS C	LOS D	LOS E	AM	PM	AM	PM
El Dorado Hills Blvd - Green Valley to US 50 (5 segments)										
Green Valley to Francisco	2A	458	428	850	1540	1650	0.28	0.26	C or better	C or better
Francisco to Governor	2A	1456	1505	850	1540	1650	0.88	0.91	D	D
Governor to Wilson	4AD	2177	2170	1850	3220	3290	0.66	0.66	D	D
Wilson to Serrano	4AD	2629	2882	1850	3220	3290	0.80	0.88	D	D
Serrano to Saratoga	5AD	3265	3622	2305	3950	4000	0.82	0.91	D	D
Saratoga to US 50	6AD	3143	3452	2760	4680	4710	0.67	0.73	D	D
Latrobe Road - US 50 to S. Shingle Rd (5 Segemtns)										
US 50 to Town Center	6AD	3499	4306	2760	4680	4710	0.74	0.91	D	D
Town Center to White Rock Rd	6AD	2343	2755	2760	4680	4710	0.50	0.58	C or better	C or better
White Rock to Golden Foothill Pkwy	4AD	1869	2182	1850	3220	3290	0.57	0.66	D	D
Golden Foothill Pkwy to Sun Ridge Meadow Rd	2A	1239	1266	850	1540	1650	0.75	0.77	D	D
Sun Ridge Meadow Rd to S. Shingle Rd	2A	263	305	850	1540	1650	0.16	0.18	C or better	C or better
White Rock Road - Scott Road to US 50 (5 Segments)										
Scott Rd to Four Seasons Dr.	2A	624	892	850	1540	1650	0.38	0.54	C or better	D
Four Seasons Dr to Latrobe Rd	4AD	914	1069	1850	3220	3290	0.28	0.32	C or better	C or better
Latrobe Rd to Vine St	2A	838	979	850	1540	1650	0.51	0.59	C or better	D
Vine St to US 50	2A	830	945	850	1540	1650	0.50	0.57	C or better	D
Silva Valley Pkwy - Green Valley Rd to US 50 (4 Segments)										
Green Valley to Glenwood Way	2A	654	596	850	1540	1650	0.40	0.36	C or better	C or better
Glenwood Way to Appian Way	2A	558	635	850	1540	1650	0.34	0.38	C or better	C or better
Appian Way to Harvard Way	2A	799	686	850	1540	1650	0.48	0.42	C or better	C or better
Harvard Way to Serrano Pkwy	4AD	1409	1094	1850	3220	3290	0.43	0.33	C or better	C or better
Serrano Pkwy to US 50	2A	1149	956	850	1540	1650	0.70	0.58	D	D
Serrano Pkwy - EDH Blvd to Bass Lake Rd - 3 segments										
EDH Blvd to Silva Valley Pkwy	2A	1016	939	850	1540	1650	0.62	0.57	D	D
Silva Valley to Villagio Dr	4AD	1483	1321	1850	3220	3290	0.45	0.40	C or better	C or better
Villagio Dr to Bass Lake Rd	2A	455	420	850	1540	1650	0.28	0.25	C or better	C or better
Saratoga Way - west of EDH Blvd (2 segments)										
EDH to Arrowhead	2A	229	289	850	1540	1650	0.14	0.18	C or better	C or better
Wilson Way - west of EDH Blvd (2 segments)										
EDH Blvd to Ridgeview Dr	4AU	425	394	1760	3070	3130	0.14	0.13	C or better	C or better
Olson Ln/Gillette Dr - west of EDH Blvd (2 segemtns)										
EDH Blvd to Gillette	2A	307	299	850	1540	1650	0.19	0.18	C or better	C or better
Harvard Way - EDH Blvd to Silva Valley Pkwy (1 segments)										
EDH Blvd to Silva Valley Pkwy	4AU	1170	656	1760	3070	3130	0.37	0.21	C or better	C or better

Project: Marble Valley/Lime Rock/Pedregal
Freeway Corridor: Eastbound US 50
Alternative: Existing + Project Conditions
Time Period: AM Peak Hour

Data Entry Value
Calculated Value

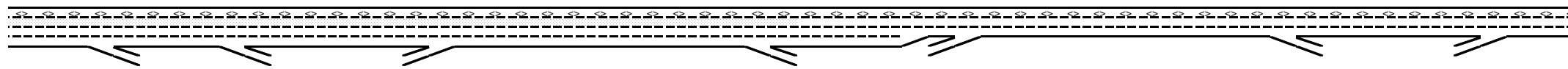


Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Define Freeway Segment												
Type	Diverge	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge
Length (ft)	1,500	850	1,975	1,500	7,500	1,500	2,100	1,500	3,300	1,500	1,350	1,500
Accel Length				275				500				500
Decel Length	150	150				150				150		
Mainline Volume	2,637	1,550	1,166	1,166	1,639	1,639	1,447	1,447	1,583	1,583	1,436	1,436
On Ramp Volume				473				136				423
Off Ramp Volume	1,087	384				192				147		
Express Lane Volume	132	78	58	58	82	82	72	72	79	79	72	72
EL On Ramp Volume												
EL Off Ramp Volume												
Calculate Flow Rate in General Purpose Lanes (GP)												
GP Volume (vph)	2,505	1,473	1,108	1,581	1,557	1,557	1,375	1,511	1,504	1,504	1,364	1,787
PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
GP Lanes	3	3	3	3	3	3	3	2	2	2	2	2
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	5.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.980	0.980	0.980	0.980	0.862	0.980	0.980	0.980	0.980	0.980	0.980	0.980
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	2,937	1,726	1,299	1,853	2,076	1,826	1,612	1,771	1,763	1,763	1,599	2,095
GP Flow (pcphpl)	979	575	433	618	692	609	537	886	882	882	800	1,048
Calculate Speed in General Purpose Lanes												
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes												
v/c ratio	0.42	0.24	0.18	0.26	0.29	0.26	0.23	0.38	0.38	0.38	0.34	0.45
Speed (mph)	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Density (pcphpl)	15.1	8.9	6.7	9.5	10.6	9.4	8.3	13.6	13.6	13.6	12.3	16.1
LOS	B	A	A	A	A	A	A	B	B	B	B	B
Calculate Operations for Entering GP Lanes												
GP _{IN} Vol (pcph)				1,334				1,578				1,629
GP _{IN} Cap (pcph)				7,050				4,700				4,700
GP _{IN} v/c ratio				0.19				0.34				0.35
Calculate Operations for Exiting GP Lanes												
GP _{OUT} Vol (pcph)	1,744	1,305				1,563	1,612			1,600		
GP _{OUT} Cap (pcph)	7,050	7,050				7,050	4,700			4,700		
GP _{OUT} v/c ratio	0.25	0.19				0.22	0.34			0.34		

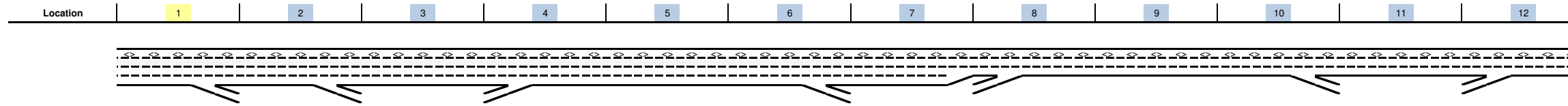


Key
 <> Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Calculate Flow Rate in Express Lanes (EL)												
EL Volume (vph)	132	78	58	58	82	82	72	72	79	79	72	72
PHF	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	171	100	75	75	115	106	94	94	102	102	93	93
EL Flow (pcphpl)	171	100	75	75	115	106	94	94	102	102	93	93
Calculate Speed in Express Lanes												
Lane Width (ft)												
Shoulder Width												
TRD												
f _{LW}												
f _{LC}												
Calc'd FFS												
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes												
EL _{AV} v/c ratio	0.10	0.06	0.04	0.04	0.07	0.06	0.05	0.05	0.06	0.06	0.05	0.05
Calculate On Ramp Flow Rate												
On Volume (vph)				473				136				423
PHF				0.92				0.71				0.92
Total Lanes				1				1				1
Terrain				Level				Level				Level
Grade %				0.0%				0.0%				0.0%
Grade Length (mi)				0.00				0.00				0.00
Truck & Bus %				2.0%				2.0%				3.0%
RV %				0.0%				0.0%				0.0%
E _T				1.5				1.5				1.5
E _R				1.2				1.2				1.2
f _{HV}				0.990				0.990				0.985
f _P				1.00				1.00				1.00
On Flow (pcph)				519				193				467
On Flow (pcphpl)				519				193				467
Calculate On Ramp Roadway Operations												
On Ramp Type				Right				Right				Right
On Ramp Speed (mph)				45				45				25
On Ramp Cap (pcph)				2,100				2,100				1,900
On Ramp v/c ratio				0.25				0.09				0.25



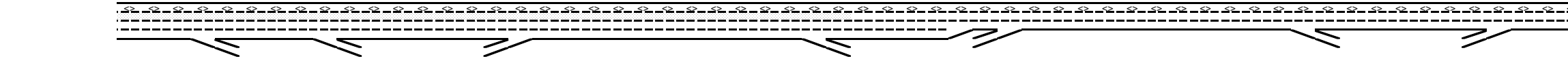
Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Calculate Off Ramp Flow Rate												
Off Volume (vph)	1,087	384				192				147		
PHF	0.92	0.92				0.74				0.91		
Total Lanes	1	1				1				1		
Terrain	Level	Level				Level				Level		
Grade %	0.0%	0.0%				0.0%				0.0%		
Grade Length (mi)	0.00	0.00				0.00				0.00		
Truck & Bus %	2.0%	2.0%				2.0%				2.0%		
RV %	0.0%	0.0%				0.0%				0.0%		
E _T	1.5	1.5				1.5				1.5		
E _R	1.2	1.2				1.2				1.2		
f _{HV}	0.990	0.990				0.990				0.990		
f _P	1.00	1.00				1.00				1.00		
Off Flow (pcph)	1,193	422				262				163		
Off Flow (pcphpl)	1,193	422				262				163		
Calculate Off Ramp Roadway Operations												
Off Ramp Type	Right	Right				Right				Right		
Off Ramp Speed	45	25				45				45		
Off Ramp Cap (pcph)	2,100	1,900				2,100				2,100		
Off Ramp v/c ratio	0.57	0.22				0.12				0.08		
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps												
Up Type		Off		Off		On						
Up Distance		2,350		1,975		10,500						
Up Flow (pcph)		1,193		422		519						
Down Type	Off	On		Off		On						
Down Distance	850	1,975		10,500		2,100						
Down Flow (pcph)	422	519		262		193						
Calculate Merge Influence Area Operations												
Effective v _F (pcph)				1,334				1,578				1,629
Up Ramp L _{EQ}				470								
Down Ramp L _{EQ}				1,885								
P _{FM} (Eqn 13-3)				0.585				0.592				0.592
P _{FM} (Eqn 13-4)		#VALUE!		0.680								
P _{FM} (Eqn 13-5)	0.679			0.555								
P _{FM}				0.680				1.000				1.000
v ₁₂ (pcph)				907				1,578				1,629
v ₃ (pcph)				427								
v ₃₄ (pcph)												
v _{12a} (pcph)				907				1,578				1,629
v _{B12a} (pcph)				1,426				1,771				2,095
Merge Speed Index				0.31				0.30				0.33
Merge Area Speed				57.8				58.1				57.5
Outer Lanes Volume				427								
Outer Lanes Speed				65.0								
Segment Speed				59.3				58.1				57.5
Merge v/c ratio				0.31				0.39				0.46
Merge Density				14.6				16.1				18.5
Merge LOS				B				B				B



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Calculate Diverge Influence Area Operations												
Effective v_p (pcph)	2,937	1,726				1,826				1,763		
Up Ramp L_{EQ}		15,169				5,579						
Down Ramp L_{EQ}	685	553				194						
P_{FD} (Eqn 13-9)	0.632	0.697				0.702				0.708		
P_{FD} (Eqn 13-10)						0.676						
P_{FD} (Eqn 13-11)	0.616			#VALUE!								
P_{FD}	0.632	0.697				0.702				1.000		
v_{12} (pcph)	2,295	1,332				1,360				1,763		
v_3 (pcph)	642	395				465						
v_{34} (pcph)												
v_{12a} (pcph)	2,295	1,332				1,360				1,763		
Diverge Speed Index	0.41	0.60				0.32				0.31		
Diverge Area Speed	55.7	51.3				57.6				57.8		
Outer Lanes Volume	642	395				465						
Outer Lanes Speed	71.3	71.3				71.3						
Segment Speed	58.5	54.8				60.6				57.8		
Diverge v/c ratio	0.52	0.30				0.31				0.40		
Diverge Density	22.6	14.4				14.6				18.1		
Diverge LOS	C	B				B				B		
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments												
Calculate On Ramp to Mainline Flow Rate for Weave Segments												
Calculate Mainline to Off Ramp Flow Rate for Weave Segments												
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments												
Calculate Weave Segment Operations												
Summarize Segment Operations												
Segment v/c ratio	0.52	0.30	0.18	0.31	0.29	0.31	0.23	0.39	0.38	0.40	0.34	0.46
Segment Density	22.6	14.4	6.7	14.6	10.6	14.6	8.3	16.1	13.6	18.1	12.3	18.5
Segment LOS	C	B	A	B	A	B	A	B	B	B	B	B
Over Capacity												

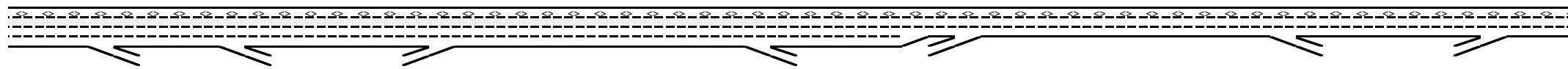
Project: Marble Valley/Lime Rock/Pedregal
Freeway Corridor: Eastbound US 50
Alternative: Existing + Project Conditions
Time Period: PM Peak Hour

Data Entry Value
Calculated Value



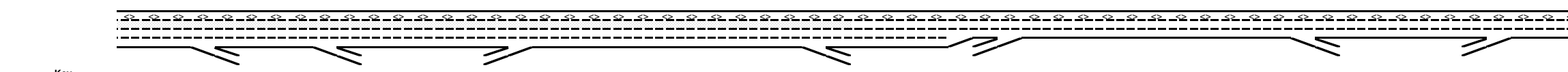
Key
 <-> Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd on-ramp	El Dorado Hills Blvd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp
Define Freeway Segment												
Type	Diverge	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge
Length (ft)	1,500	850	1,975	1,500	7,500	1,500	2,100	1,500	3,300	1,500	1,350	1,500
Accel Length				275				500				500
Decel Length	150	150				150				150		
Mainline Volume	5,093	4,300	3,128	3,128	4,073	4,073	3,455	3,455	3,559	3,559	3,036	3,036
On Ramp Volume				945				104				318
Off Ramp Volume	793	1,172				618				523		
Express Lane Volume	560	473	344	344	448	448	380	380	391	391	334	334
EL On Ramp Volume												
EL Off Ramp Volume												
Calculate Flow Rate in General Purpose Lanes (GP)												
GP Volume (vph)	4,533	3,827	2,784	3,729	3,625	3,625	3,075	3,179	3,168	3,168	2,702	3,020
PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
GP Lanes	3	3	3	3	3	3	3	2	2	2	2	2
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	6.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.995	0.995	0.995	0.995	0.952	0.995	0.995	0.995	0.995	0.995	0.995	0.995
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	4,696	3,965	2,884	3,863	3,924	3,756	3,186	3,294	3,282	3,282	2,800	3,129
GP Flow (pcphpl)	1,565	1,322	961	1,288	1,308	1,252	1,062	1,647	1,641	1,641	1,400	1,565
Calculate Speed in General Purpose Lanes												
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes												
v/c ratio	0.67	0.56	0.41	0.55	0.56	0.53	0.45	0.70	0.70	0.70	0.60	0.67
Speed (mph)	64.6	65.0	65.0	65.0	65.0	65.0	65.0	64.1	64.2	64.2	65.0	64.6
Density (pcphpl)	24.2	20.3	14.8	19.8	20.1	19.3	16.3	25.7	25.6	25.6	21.5	24.2
LOS	C	C	B	C	C	C	B	C	C	C	C	C
Calculate Operations for Entering GP Lanes												
GP _{IN} Vol (pcph)				2,826				3,167				2,780
GP _{IN} Cap (pcph)				7,050				4,700				4,700
GP _{IN} v/c ratio				0.40				0.67				0.59
Calculate Operations for Exiting GP Lanes												
GP _{OUT} Vol (pcph)	3,826	2,678				3,112	3,186			2,708		
GP _{OUT} Cap (pcph)	7,050	7,050				7,050	4,700			4,700		
GP _{OUT} v/c ratio	0.54	0.38				0.44	0.68			0.58		

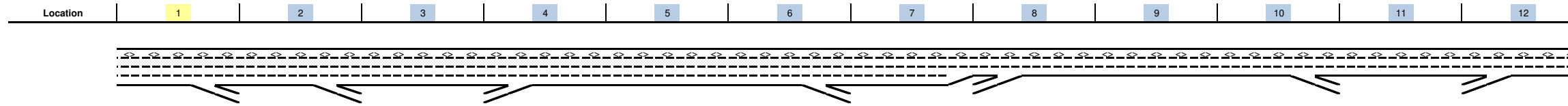


Key
 <> Express Lane (HOV)
 No Trucks

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Calculate Flow Rate in Express Lanes (EL)												
EL Volume (vph)	560	473	344	344	448	448	380	380	391	391	334	334
PHF	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	629	531	386	386	543	503	427	427	439	439	375	375
EL Flow (pcphpl)	629	531	386	386	543	503	427	427	439	439	375	375
Calculate Speed in Express Lanes												
Lane Width (ft)												
Shoulder Width												
TRD												
f _{LW}												
f _{LC}												
Calc'd FFS												
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes												
EL _{AV} v/c ratio	0.36	0.30	0.22	0.22	0.31	0.29	0.24	0.24	0.25	0.25	0.21	0.21
Calculate On Ramp Flow Rate												
On Volume (vph)				945				104				318
PHF				0.92				0.83				0.92
Total Lanes				1				1				1
Terrain				Level				Level				Level
Grade %				0.0%				0.0%				0.0%
Grade Length (mi)				0.00				0.00				0.00
Truck & Bus %				2.0%				2.0%				2.0%
RV %				0.0%				0.0%				0.0%
E _T				1.5				1.5				1.5
E _R				1.2				1.2				1.2
f _{HV}				0.990				0.990				0.990
f _P				1.00				1.00				1.00
On Flow (pcph)				1,037				127				349
On Flow (pcphpl)				1,037				127				349
Calculate On Ramp Roadway Operations												
On Ramp Type				Right				Right				Right
On Ramp Speed (mph)				45				45				25
On Ramp Cap (pcph)				2,100				2,100				1,900
On Ramp v/c ratio				0.49				0.06				0.18



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Calculate Off Ramp Flow Rate												
Off Volume (vph)	793	1,172				618				523		
PHF	0.92	0.92				0.97				0.92		
Total Lanes	1	1				1				1		
Terrain	Level	Level				Level				Level		
Grade %	0.0%	0.0%				0.0%				0.0%		
Grade Length (mi)	0.00	0.00				0.00				0.00		
Truck & Bus %	2.0%	2.0%				2.0%				2.0%		
RV %	0.0%	0.0%				0.0%				0.0%		
E _T	1.5	1.5				1.5				1.5		
E _R	1.2	1.2				1.2				1.2		
f _{HV}	0.990	0.990				0.990				0.990		
f _P	1.00	1.00				1.00				1.00		
Off Flow (pcph)	871	1,287				643				574		
Off Flow (pcphpl)	871	1,287				643				574		
Calculate Off Ramp Roadway Operations												
Off Ramp Type	Right	Right				Right				Right		
Off Ramp Speed	45	25				45				45		
Off Ramp Cap (pcph)	2,100	1,900				2,100				2,100		
Off Ramp v/c ratio	0.41	0.68				0.31				0.27		
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps												
Up Type		Off			Off			On				
Up Distance		2,350			1,975			10,500				
Up Flow (pcph)		871			1,287			1,037				
Down Type	Off	On			Off			On				
Down Distance	850	1,975			10,500			2,100				
Down Flow (pcph)	1,287	1,037			643			127				
Calculate Merge Influence Area Operations												
Effective v _F (pcph)				2,826				3,167				2,780
Up Ramp L _{EQ}				900								
Down Ramp L _{EQ}				4,629								
P _{FM} (Eqn 13-3)				0.585				0.592				0.592
P _{FM} (Eqn 13-4)		#VALUE!		0.653								
P _{FM} (Eqn 13-5)	0.947			0.565								
P _{FM}				0.653				1.000				1.000
v ₁₂ (pcph)				1,845				3,167				2,780
v ₃ (pcph)				981								
v ₃₄ (pcph)												
v _{12a} (pcph)				1,845				3,167				2,780
v _{B12a} (pcph)				2,882				3,294				3,129
Merge Speed Index				0.37				0.38				0.39
Merge Area Speed				56.6				56.2				56.1
Outer Lanes Volume				981								
Outer Lanes Speed				63.3								
Segment Speed				58.1				56.2				56.1
Merge v/c ratio				0.63				0.72				0.68
Merge Density				25.8				28.0				26.6
Merge LOS				C				C				C

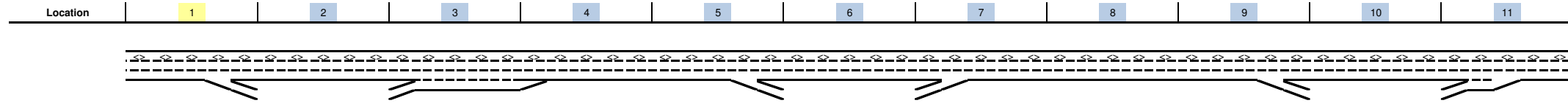


Key
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 No Trucks

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Calculate Diverge Influence Area Operations												
Effective v_p (pcph)	4,696	3,965				3,756				3,282		
Up Ramp L_{EQ}		13,516				9,564						
Down Ramp L_{EQ}	1,896	1,892				160						
P_{FD} (Eqn 13-9)	0.603	0.602				0.637				0.652		
P_{FD} (Eqn 13-10)						0.630						
P_{FD} (Eqn 13-11)	0.706			#VALUE!								
P_{FD}	0.706	0.602				0.637				1.000		
v_{12} (pcph)	3,573	2,898				2,624				3,282		
v_3 (pcph)	1,124	1,067				1,131						
v_{34} (pcph)												
v_{12a} (pcph)	3,573	2,898				2,624				3,282		
Diverge Speed Index	0.38	0.67				0.36				0.35		
Diverge Area Speed	56.3	49.5				56.8				57.0		
Outer Lanes Volume	1,124	1,067				1,131						
Outer Lanes Speed	70.8	71.0				70.8						
Segment Speed	59.2	53.9				60.4				57.0		
Diverge v/c ratio	0.81	0.66				0.60				0.75		
Diverge Density	33.6	27.8				25.5				31.1		
Diverge LOS	D	C				C				D		
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments												
Calculate On Ramp to Mainline Flow Rate for Weave Segments												
Calculate Mainline to Off Ramp Flow Rate for Weave Segments												
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments												
Calculate Weave Segment Operations												
Summarize Segment Operations												
Segment v/c ratio	0.81	0.66	0.41	0.63	0.56	0.60	0.45	0.72	0.70	0.75	0.60	0.68
Segment Density	33.6	27.8	14.8	25.8	20.1	25.5	16.3	28.0	25.6	31.1	21.5	26.6
Segment LOS	D	C	B	C	C	C	B	C	C	D	C	C
Over Capacity												

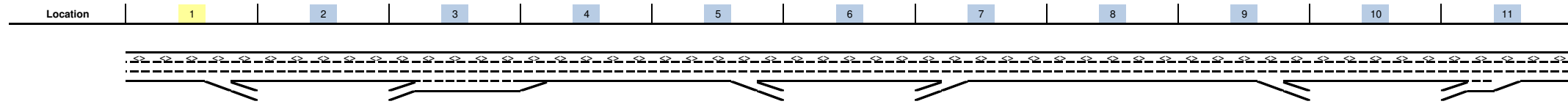
Project: Marble Valley/Lime Rock/Pedregal
Freeway Corridor: Westbound US 50
Alternative: Existing + Project Conditions
Time Period: AM Peak Hour

Data Entry Value
Calculated Value



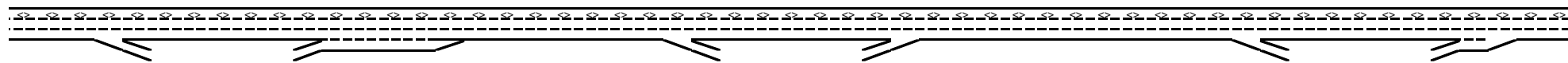
Key
<-> Express Lane (HOV)
No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Define Freeway Segment											
Type	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge
Length (ft)	1,500	1,250	1,500	4,900	1,500	2,350	1,500	7,500	1,500	3,250	1,500
Accel Length			1,500				375				880
Decel Length	150				150				150		
Mainline Volume	2,954	2,518	2,518	3,088	3,088	2,987	2,987	3,720	3,720	2,807	2,807
On Ramp Volume			570				733				1,849
Off Ramp Volume	436				101				913		
Express Lane Volume	325	277	277	340	340	329	329	409	409	309	309
EL On Ramp Volume											
EL Off Ramp Volume											
Calculate Flow Rate in General Purpose Lanes (GP)											
GP Volume (vph)	2,629	2,241	2,811	2,748	2,748	2,658	3,391	3,311	3,311	2,498	4,347
PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.94	0.94	0.94
GP Lanes	2	2	3	2	2	2	2	2	2	2	2
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	2,811	2,396	3,005	2,938	2,938	2,842	3,626	3,617	3,540	2,671	4,648
GP Flow (pcphpl)	1,405	1,198	1,002	1,469	1,469	1,421	1,813	1,808	1,770	1,335	2,324
Calculate Speed in General Purpose Lanes											
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	67.3	67.3	67.3
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes											
v/c ratio	0.60	0.51	0.43	0.63	0.63	0.60	0.77	0.77	0.75	0.57	0.99
Speed (mph)	65.0	65.0	65.0	64.9	64.9	65.0	62.6	62.6	63.1	65.0	52.9
Density (pcphpl)	21.6	18.4	15.4	22.6	22.6	21.9	29.0	28.9	28.1	20.5	43.9
LOS	C	C	B	C	C	C	D	D	D	C	E
Calculate Operations for Entering GP Lanes											
GP _{IN} Vol (pcph)			2,406				2,794				2,618
GP _{IN} Cap (pcph)			4,700				4,700				4,700
GP _{IN} v/c ratio			0.51				0.59				0.56
Calculate Operations for Exiting GP Lanes											
GP _{OUT} Vol (pcph)	2,144				2,771				2,537		
GP _{OUT} Cap (pcph)	4,700				4,700				4,700		
GP _{OUT} v/c ratio	0.46				0.59				0.54		



Key
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 No Trucks

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Calculate Flow Rate in Express Lanes (EL)											
EL Volume (vph)	325	277	277	340	340	329	329	409	409	309	309
PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Express Lanes	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	369	314	314	385	385	373	373	464	464	350	350
EL Flow (pcphpl)	369	314	314	385	385	373	373	464	464	350	350
Calculate Speed in Express Lanes											
Lane Width (ft)											
Shoulder Width											
TRD											
f _{LW}											
f _{LC}											
Calc'd FFS											
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes											
EL _{AV} v/c ratio	0.21	0.18	0.18	0.22	0.22	0.21	0.21	0.27	0.27	0.20	0.20
Calculate On Ramp Flow Rate											
On Volume (vph)			570				733				1,849
PHF			0.96				0.89				0.92
Total Lanes			1				1				1
Terrain			Level				Level				Level
Grade %			0.0%				0.0%				0.0%
Grade Length (mi)			0.00				0.00				0.00
Truck & Bus %			2.0%				2.0%				2.0%
RV %			0.0%				0.0%				0.0%
E _T			1.5				1.5				1.5
E _R			1.2				1.2				1.2
f _{HV}			0.990				0.990				0.990
f _P			1.00				1.00				1.00
On Flow (pcph)			600				832				2,030
On Flow (pcphpl)			600				832				2,030
Calculate On Ramp Roadway Operations											
On Ramp Type			Right				Right				Right
On Ramp Speed (mph)			25				45				45
On Ramp Cap (pcph)			1,900				2,100				2,100
On Ramp v/c ratio			0.32				0.40				0.97

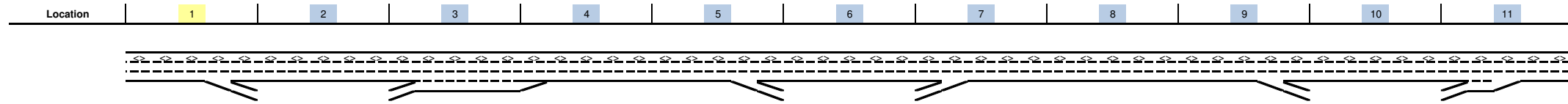


Key

<> Express Lane (HOV)

No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Calculate Off Ramp Flow Rate											
Off Volume (vph)	436				101				913		
PHF	0.66				0.61				0.92		
Total Lanes	1				1				1		
Terrain	Level				Level				Level		
Grade %	0.0%				0.0%				0.0%		
Grade Length (mi)	0.00				0.00				0.00		
Truck & Bus %	2.0%				2.0%				2.0%		
RV %	0.0%				0.0%				0.0%		
E _T	1.5				1.5				1.5		
E _R	1.2				1.2				1.2		
f _{HV}	0.990				0.990				0.990		
f _P	1.00				1.00				1.00		
Off Flow (pcph)	667				167				1,002		
Off Flow (pcphpl)	667				167				1,002		
Calculate Off Ramp Roadway Operations											
Off Ramp Type	Right				Right				Right		
Off Ramp Speed	45				45				45		
Off Ramp Cap (pcph)	2,100				2,100				2,100		
Off Ramp v/c ratio	0.32				0.08				0.48		
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps											
Up Type			Off								
Up Distance			1,250								
Up Flow (pcph)			667								
Down Type			Off								
Down Distance			7,900								
Down Flow (pcph)			167								
Calculate Merge Influence Area Operations											
Effective v _P (pcph)			2,406				2,794				2,618
Up Ramp L _{EQ}			214								
Down Ramp L _{EQ}			619								
P _{FM} (Eqn 13-3)			0.620				0.588				0.602
P _{FM} (Eqn 13-4)			0.685								
P _{FM} (Eqn 13-5)			0.554								
P _{FM}			1.000				1.000				1.000
v ₁₂ (pcph)			2,406				2,794				2,618
v ₃ (pcph)											
v ₃₄ (pcph)											
v _{12a} (pcph)			2,406				2,794				2,618
v _{B12a} (pcph)			3,005				3,626				4,648
Merge Speed Index			0.32				0.43				0.65
Merge Area Speed			57.5				55.0				50.1
Outer Lanes Volume											
Outer Lanes Speed											
Segment Speed			57.5				55.0				50.1
Merge v/c ratio			0.65				0.79				1.01
Merge Density			19.2				31.0				35.3
Merge LOS			B				D				F

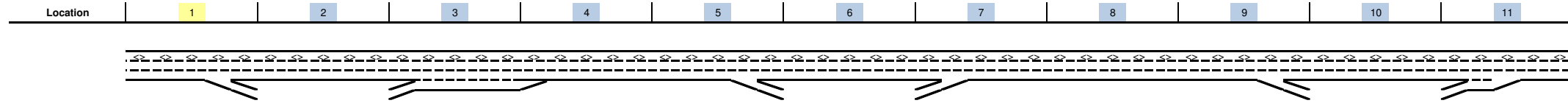


Key
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 No Trucks

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Calculate Diverge Influence Area Operations											
Effective v_p (pcph)	2,811				2,938				3,540		
Up Ramp L_{EQ}											
Down Ramp L_{EQ}											
P_{FD} (Eqn 13-9)	0.659				0.679				0.625		
P_{FD} (Eqn 13-10)											
P_{FD} (Eqn 13-11)			#VALUE!								
P_{FD}	1.000				1.000				1.000		
v_{12} (pcph)	2,811				2,938				3,540		
v_3 (pcph)											
v_{34} (pcph)											
v_{12a} (pcph)	2,811				2,938				3,540		
Diverge Speed Index	0.36				0.31				0.39		
Diverge Area Speed	56.8				57.8				56.1		
Outer Lanes Volume											
Outer Lanes Speed											
Segment Speed	56.8				57.8				56.1		
Diverge v/c ratio	0.64				0.67				0.80		
Diverge Density	27.1				28.2				33.3		
Diverge LOS	C				D				D		
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments											
Calculate On Ramp to Mainline Flow Rate for Weave Segments											
Calculate Mainline to Off Ramp Flow Rate for Weave Segments											
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments											
Calculate Weave Segment Operations											
Summarize Segment Operations											
Segment v/c ratio	0.64	0.51	0.65	0.63	0.67	0.60	0.79	0.77	0.80	0.57	1.01
Segment Density	27.1	18.4	19.2	22.6	28.2	21.9	31.0	28.9	33.3	20.5	-
Segment LOS	C	C	B	C	D	C	D	D	D	C	F
Over Capacity											Merge

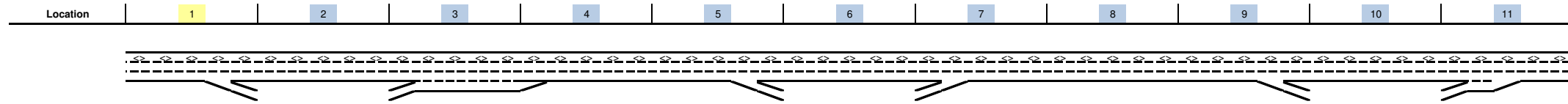
Project: Marble Valley/Lime Rock/Pedregal
Freeway Corridor: Westbound US 50
Alternative: Existing + Project Conditions
Time Period: PM Peak Hour

Data Entry Value
Calculated Value



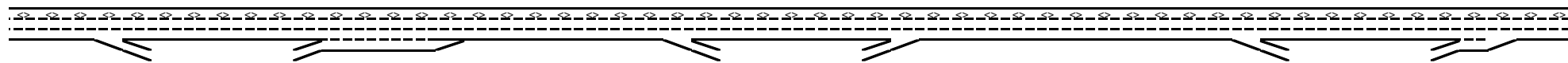
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Define Freeway Segment											
Type	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge
Length (ft)	1,500	1,250	1,500	4,900	1,500	2,350	1,500	7,500	1,500	3,250	1,500
Accel Length			1,500				375				880
Decel Length	150				150				150		
Mainline Volume	2,381	1,933	1,933	2,171	2,171	2,039	2,039	2,297	2,297	1,682	1,682
On Ramp Volume			238				258				1,649
Off Ramp Volume	448				132				615		
Express Lane Volume	190	155	155	174	174	163	163	184	184	135	135
EL On Ramp Volume											
EL Off Ramp Volume											
Calculate Flow Rate in General Purpose Lanes (GP)											
GP Volume (vph)	2,191	1,778	2,016	1,997	1,997	1,876	2,134	2,113	2,113	1,547	3,196
PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
GP Lanes	2	2	3	2	2	2	2	2	2	2	2
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	2,305	1,871	2,121	2,101	2,101	1,974	2,245	2,223	2,223	1,628	3,363
GP Flow (pcphpl)	1,152	935	707	1,051	1,051	987	1,123	1,112	1,112	814	1,681
Calculate Speed in General Purpose Lanes											
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	67.3	67.3	67.3
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes											
v/c ratio	0.49	0.40	0.30	0.45	0.45	0.42	0.48	0.47	0.47	0.35	0.72
Speed (mph)	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	63.9
Density (pcphpl)	17.7	14.4	10.9	16.2	16.2	15.2	17.3	17.1	17.1	12.5	26.3
LOS	B	B	A	B	B	B	B	B	B	B	D
Calculate Operations for Entering GP Lanes											
GP _{IN} Vol (pcph)			1,854				1,974				1,553
GP _{IN} Cap (pcph)			4,700				4,700				4,700
GP _{IN} v/c ratio			0.39				0.42				0.33
Calculate Operations for Exiting GP Lanes											
GP _{OUT} Vol (pcph)	1,796				1,928				1,548		
GP _{OUT} Cap (pcph)	4,700				4,700				4,700		
GP _{OUT} v/c ratio	0.38				0.41				0.33		



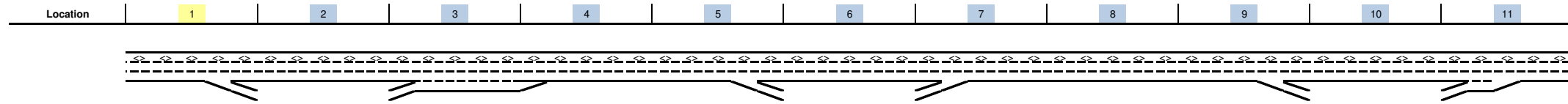
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Calculate Flow Rate in Express Lanes (EL)											
EL Volume (vph)	190	155	155	174	174	163	163	184	184	135	135
PHF	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Express Lanes	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	214	174	174	195	195	183	183	206	206	151	151
EL Flow (pcphpl)	214	174	174	195	195	183	183	206	206	151	151
Calculate Speed in Express Lanes											
Lane Width (ft)											
Shoulder Width											
TRD											
f _{LW}											
f _{LC}											
Calc'd FFS											
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes											
EL _{AV} v/c ratio	0.12	0.10	0.10	0.11	0.11	0.10	0.10	0.12	0.12	0.09	0.09
Calculate On Ramp Flow Rate											
On Volume (vph)			238				258				1,649
PHF			0.9				0.96				0.92
Total Lanes			1				1				1
Terrain			Level				Level				Level
Grade %			0.0%				0.0%				0.0%
Grade Length (mi)			0.00				0.00				0.00
Truck & Bus %			2.0%				2.0%				2.0%
RV %			0.0%				0.0%				0.0%
E _T			1.5				1.5				1.5
E _R			1.2				1.2				1.2
f _{HV}			0.990				0.990				0.990
f _P			1.00				1.00				1.00
On Flow (pcph)			267				271				1,810
On Flow (pcphpl)			267				271				1,810
Calculate On Ramp Roadway Operations											
On Ramp Type			Right				Right				Right
On Ramp Speed (mph)			25				45				45
On Ramp Cap (pcph)			1,900				2,100				2,100
On Ramp v/c ratio			0.14				0.13				0.86



Key
 <> Express Lane (HOV)
 No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Calculate Off Ramp Flow Rate											
Off Volume (vph)	448				132				615		
PHF	0.89				0.77				0.92		
Total Lanes	1				1				1		
Terrain	Level				Level				Level		
Grade %	0.0%				0.0%				0.0%		
Grade Length (mi)	0.00				0.00				0.00		
Truck & Bus %	2.0%				2.0%				2.0%		
RV %	0.0%				0.0%				0.0%		
E _T	1.5				1.5				1.5		
E _R	1.2				1.2				1.2		
f _{HV}	0.990				0.990				0.990		
f _P	1.00				1.00				1.00		
Off Flow (pcph)	508				173				675		
Off Flow (pcphpl)	508				173				675		
Calculate Off Ramp Roadway Operations											
Off Ramp Type	Right				Right				Right		
Off Ramp Speed	45				45				45		
Off Ramp Cap (pcph)	2,100				2,100				2,100		
Off Ramp v/c ratio	0.24				0.08				0.32		
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps											
Up Type			Off								
Up Distance			1,250								
Up Flow (pcph)			508								
Down Type			Off								
Down Distance			7,900								
Down Flow (pcph)			173								
Calculate Merge Influence Area Operations											
Effective v _P (pcph)			1,854				1,974				1,553
Up Ramp L _{EQ}			25								
Down Ramp L _{EQ}			641								
P _{FM} (Eqn 13-3)			0.620				0.588				0.602
P _{FM} (Eqn 13-4)			0.697								
P _{FM} (Eqn 13-5)			0.554								
P _{FM}			1.000				1.000				1.000
v ₁₂ (pcph)			1,854				1,974				1,553
v ₃ (pcph)											
v ₃₄ (pcph)											
v _{12a} (pcph)			1,854				1,974				1,553
v _{B12a} (pcph)			2,121				2,245				3,363
Merge Speed Index			0.28				0.32				0.35
Merge Area Speed			58.6				57.5				56.8
Outer Lanes Volume											
Outer Lanes Speed											
Segment Speed			58.6				57.5				56.8
Merge v/c ratio			0.46				0.49				0.73
Merge Density			12.5				20.5				25.4
Merge LOS			B				C				C



Key
 <> Express Lane (HOV)
 No Trucks

Name	Cambridge Rd off-ramp	Cambridge Rd off to on-ramp	Cambridge Rd on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd on-ramp	Bass Lake Rd to El Dorado Hills Blvd	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on	El Dorado Hilld Blvd on-ramp
Calculate Diverge Influence Area Operations											
Effective v_p (pcph)	2,305				2,101				2,223		
Up Ramp L_{EQ}											
Down Ramp L_{EQ}											
P_{FD} (Eqn 13-9)	0.679				0.700				0.673		
P_{FD} (Eqn 13-10)											
P_{FD} (Eqn 13-11)			#VALUE!								
P_{FD}	1.000				1.000				1.000		
v_{12} (pcph)	2,305				2,101				2,223		
v_3 (pcph)											
v_{34} (pcph)											
v_{12a} (pcph)	2,305				2,101				2,223		
Diverge Speed Index	0.34				0.31				0.36		
Diverge Area Speed	57.1				57.8				56.7		
Outer Lanes Volume											
Outer Lanes Speed											
Segment Speed	57.1				57.8				56.7		
Diverge v/c ratio	0.52				0.48				0.51		
Diverge Density	22.7				21.0				22.0		
Diverge LOS	C				C				C		
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments											
Calculate On Ramp to Mainline Flow Rate for Weave Segments											
Calculate Mainline to Off Ramp Flow Rate for Weave Segments											
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments											
Calculate Weave Segment Operations											
Summarize Segment Operations											
Segment v/c ratio	0.52	0.40	0.46	0.45	0.48	0.42	0.49	0.47	0.51	0.35	0.73
Segment Density	22.7	14.4	12.5	16.2	21.0	15.2	20.5	17.1	22.0	12.5	25.4
Segment LOS	C	B	B	B	C	B	C	B	C	B	C
Over Capacity											

APPENDIX A:
Cumulative Technical Calculations

HCM Signalized Intersection Capacity Analysis
 1: Green Valley Rd & Francisco Dr

Serrano Westside/Pedregal EIR
 Cumulative No Project - AM Peak Hour


























Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	140	300	220	30	100	820	100	230	220	30	130	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Lane Util. Factor	0.97	0.95	1.00		1.00	0.95	1.00	0.97	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	1547		1770	3539	1560	3433	3469		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	1547		1770	3539	1560	3433	3469		1770	1863
Peak-hour factor, PHF	0.96	0.96	0.96	0.90	0.90	0.90	0.90	0.84	0.84	0.84	0.85	0.85
Adj. Flow (vph)	146	312	229	33	111	911	111	274	262	36	153	388
RTOR Reduction (vph)	0	0	166	0	0	0	77	0	10	0	0	0
Lane Group Flow (vph)	146	312	63	0	144	911	34	274	288	0	153	388
Confl. Peds. (#/hr)			2				2			2		
Turn Type	Prot		Perm	Prot	Prot		Perm	Prot			Prot	
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2				6					
Actuated Green, G (s)	5.7	27.3	27.3		8.8	30.4	30.4	11.0	35.3		9.0	33.8
Effective Green, g (s)	5.7	27.3	27.3		8.8	30.4	30.4	11.0	35.3		9.0	33.8
Actuated g/C Ratio	0.06	0.27	0.27		0.09	0.30	0.30	0.11	0.35		0.09	0.34
Clearance Time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Vehicle Extension (s)	0.2	1.9	1.9		0.2	1.9	1.9	0.2	2.1		0.2	2.6
Lane Grp Cap (vph)	196	966	422		156	1076	474	378	1225		159	630
v/s Ratio Prot	0.04	0.09			c0.08	c0.26		c0.08	0.08		c0.09	c0.21
v/s Ratio Perm			0.04				0.02					
v/c Ratio	0.74	0.32	0.15		0.92	0.85	0.07	0.72	0.24		0.96	0.62
Uniform Delay, d1	46.4	29.0	27.5		45.3	32.6	24.8	43.0	22.8		45.3	27.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	12.6	0.1	0.1		49.0	6.0	0.0	5.8	0.5		59.5	4.5
Delay (s)	59.0	29.1	27.6		94.3	38.7	24.8	48.8	23.3		104.8	32.1
Level of Service	E	C	C		F	D	C	D	C		F	C
Approach Delay (s)		34.9				44.2			35.5			43.3
Approach LOS		C				D			D			D
Intersection Summary												
HCM Average Control Delay			40.5			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			74.4%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

Movement	SBR
Land Configurations	7
Volume (vph)	310
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.4
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1562
Flt Permitted	1.00
Satd. Flow (perm)	1562
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	365
RTOR Reduction (vph)	111
Lane Group Flow (vph)	254
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	33.8
Effective Green, g (s)	33.8
Actuated g/C Ratio	0.34
Clearance Time (s)	5.4
Vehicle Extension (s)	2.6
Lane Grp Cap (vph)	528
v/s Ratio Prot	
v/s Ratio Perm	0.16
v/c Ratio	0.48
Uniform Delay, d1	26.2
Progression Factor	1.00
Incremental Delay, d2	3.1
Delay (s)	29.3
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis - Cumulative No Project AM
 2: El Dorado Hills Blvd/El Dorado Hills Blvd / Salmon Falls Rd & Green Valley Rd

9/3/2015
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	 
Volume (vph)	10	440	30	150	1040	100	10	40	50	190	260	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	3505		1770	3486		1770	1693			1824	1559
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	3505		1770	3486		1770	1693			1824	1559
Peak-hour factor, PHF	0.84	0.84	0.84	0.89	0.89	0.89	0.66	0.66	0.66	0.80	0.80	0.80
Adj. Flow (vph)	12	524	36	169	1169	112	15	61	76	238	325	138
RTOR Reduction (vph)	0	4	0	0	6	0	0	38	0	0	0	92
Lane Group Flow (vph)	12	556	0	169	1275	0	15	99	0	0	563	46
Confl. Peds. (#/hr)						2			2			2
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	1.8	25.6		20.7	44.5		10.8	10.8			38.7	38.7
Effective Green, g (s)	1.8	25.6		20.7	44.5		10.8	10.8			38.7	38.7
Actuated g/C Ratio	0.02	0.22		0.18	0.38		0.09	0.09			0.33	0.33
Clearance Time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	27	771		315	1333		164	157			606	518
v/s Ratio Prot	0.01	0.16		c0.10	c0.37		0.01	c0.06			c0.31	
v/s Ratio Perm												0.03
v/c Ratio	0.44	0.72		0.54	0.96		0.09	0.63			0.93	0.09
Uniform Delay, d1	56.8	42.0		43.4	35.0		48.3	50.8			37.5	26.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	8.3	4.1		1.4	15.7		0.1	5.6			20.3	0.0
Delay (s)	65.0	46.1		44.8	50.7		48.3	56.4			57.8	26.7
Level of Service	E	D		D	D		D	E			E	C
Approach Delay (s)		46.5			50.0			55.6			51.7	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			50.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			116.3			Sum of lost time (s)		20.5				
Intersection Capacity Utilization			79.1%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis - Cumulative No Project AM

3: Silva Valley Pkwy & Green Valley Rd























9/3/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Volume (vph)	20	430	230	130	840	30	390	60	70	20	60	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frbp, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.92			0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3539	1544	1770	3518		1770	1700			1732	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	3539	1544	1770	3518		1770	1700			1732	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.71	0.71	0.71	0.77	0.77	0.77
Adj. Flow (vph)	22	462	247	143	923	33	549	85	99	26	78	78
RTOR Reduction (vph)	0	0	195	0	2	0	0	36	0	0	27	0
Lane Group Flow (vph)	22	462	52	143	954	0	549	148	0	0	155	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	2.2	21.1	21.1	12.2	31.1		34.2	34.2			13.7	
Effective Green, g (s)	2.2	21.1	21.1	12.2	31.1		34.2	34.2			13.7	
Actuated g/C Ratio	0.02	0.21	0.21	0.12	0.31		0.34	0.34			0.14	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	39	750	327	217	1099		608	584			238	
v/s Ratio Prot	0.01	0.13		c0.08	c0.27		c0.31	0.09			c0.09	
v/s Ratio Perm			0.03									
v/c Ratio	0.56	0.62	0.16	0.66	0.87		0.90	0.25			0.65	
Uniform Delay, d1	48.2	35.5	32.0	41.7	32.3		31.1	23.5			40.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	14.3	1.5	0.2	6.3	7.4		16.7	0.2			5.6	
Delay (s)	62.4	37.0	32.2	48.0	39.7		47.8	23.6			46.3	
Level of Service	E	D	C	D	D		D	C			D	
Approach Delay (s)		36.2			40.8			41.7			46.3	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			40.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			99.5			Sum of lost time (s)		18.3				
Intersection Capacity Utilization			67.7%			ICU Level of Service		C				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 4: Francisco Drive & Francisco Dr

















Serrano Westside/Pedregal EIR
 Cumulative No Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	40	20	410	10	50	10	390	180	60	490	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	0.97		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1771		1681	1646		1770	3539	1544	1770	3527	
Flt Permitted	0.95	1.00		0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1771		1681	1646		1770	3539	1544	1770	3527	
Peak-hour factor, PHF	0.86	0.86	0.86	0.52	0.52	0.52	0.92	0.92	0.92	0.75	0.75	0.75
Adj. Flow (vph)	12	47	23	788	19	96	11	424	196	80	653	13
RTOR Reduction (vph)	0	21	0	0	12	0	0	0	137	0	1	0
Lane Group Flow (vph)	12	49	0	457	434	0	11	424	59	80	665	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot			Perm	Prot	
Protected Phases	4	4		8	8		5	2			1	6
Permitted Phases										2		
Actuated Green, G (s)	6.8	6.8		24.7	24.7		0.7	22.2	22.2	4.4	25.9	
Effective Green, g (s)	6.8	6.8		24.7	24.7		0.7	22.2	22.2	4.4	25.9	
Actuated g/C Ratio	0.09	0.09		0.33	0.33		0.01	0.30	0.30	0.06	0.35	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	162	163		560	549		17	1060	463	105	1233	
v/s Ratio Prot	0.01	c0.03		c0.27	0.26		0.01	0.12		c0.05	c0.19	
v/s Ratio Perm									0.04			
v/c Ratio	0.07	0.30		0.82	0.79		0.65	0.40	0.13	0.76	0.54	
Uniform Delay, d1	30.8	31.4		22.6	22.4		36.6	20.7	18.9	34.3	19.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	1.0		9.0	7.6		62.0	1.1	0.6	27.3	1.7	
Delay (s)	31.0	32.5		31.6	30.0		98.6	21.8	19.5	61.6	21.0	
Level of Service	C	C		C	C		F	C	B	E	C	
Approach Delay (s)		32.3			30.8			22.4			25.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			26.9			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			74.1			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			47.0%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group















HCM Unsignalized Intersection Capacity Analysis
5: Apian Way & Silva Valley Pkwy

Serrano Westside/Pedregal EIR
Cumulative No Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	10	110	240	10	110	40	230	120	70	330	30
Peak Hour Factor	0.68	0.68	0.68	0.70	0.70	0.70	0.63	0.63	0.63	0.69	0.69	0.69
Hourly flow rate (vph)	74	15	162	343	14	157	63	365	190	101	478	43
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	250	514	619	623								
Volume Left (vph)	74	343	63	101								
Volume Right (vph)	162	157	190	43								
Hadj (s)	-0.30	-0.02	-0.13	0.02								
Departure Headway (s)	9.3	8.6	8.5	8.7								
Degree Utilization, x	0.64	1.23	1.46	1.50								
Capacity (veh/h)	380	413	435	428								
Control Delay (s)	27.6	150.9	244.7	260.7								
Approach Delay (s)	27.6	150.9	244.7	260.7								
Approach LOS	D	F	F	F								
Intersection Summary												
Delay			198.6									
HCM Level of Service			F									
Intersection Capacity Utilization			69.8%	ICU Level of Service	C							
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
6: Harvard Way & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
Cumulative No Project - AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Volume (vph)	370	260	390	410	420	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	6.0		4.0	6.0
Lane Util. Factor	1.00	1.00	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.98	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Fr t	1.00	0.85	0.92		1.00	1.00
Fl t Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1546	3232		3433	3539
Fl t Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1546	3232		3433	3539
Peak-hour factor, PHF	0.72	0.72	0.83	0.83	0.90	0.90
Adj. Flow (vph)	514	361	470	494	467	1089
RTOR Reduction (vph)	0	240	183	0	0	0
Lane Group Flow (vph)	514	121	781	0	467	1089
Confl. Peds. (#/hr)		8		8		
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	29.1	29.1	24.4		14.2	42.6
Effective Green, g (s)	29.1	29.1	24.4		14.2	42.6
Actuated g/C Ratio	0.33	0.33	0.28		0.16	0.49
Clearance Time (s)	4.6	4.6	6.0		4.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	592	517	906		560	1733
v/s Ratio Prot	c0.29		c0.24		c0.14	0.31
v/s Ratio Perm		0.08				
v/c Ratio	0.87	0.23	0.86		0.83	0.63
Uniform Delay, d1	27.2	20.9	29.7		35.3	16.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	12.4	0.1	8.2		9.9	0.5
Delay (s)	39.5	21.0	37.9		45.2	16.9
Level of Service	D	C	D		D	B
Approach Delay (s)	31.9		37.9			25.4
Approach LOS	C		D			C
Intersection Summary						
HCM Average Control Delay			30.6		HCM Level of Service	C
HCM Volume to Capacity ratio			0.86			
Actuated Cycle Length (s)			87.0		Sum of lost time (s)	19.3
Intersection Capacity Utilization			69.0%		ICU Level of Service	C
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy













Serrano Westside/Pedregal EIR
Cumulative No Project - AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	100	400	120	80	20	650	320	50	40	400	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.97		1.00	0.98		1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1544	1770	1793		1770	1809		1770	1863	1512
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1544	1770	1793		1770	1809		1770	1863	1512
Peak-hour factor, PHF	0.57	0.57	0.57	0.78	0.78	0.78	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	158	175	702	154	103	26	722	356	56	44	444	322
RTOR Reduction (vph)	0	0	461	0	7	0	0	3	0	0	0	145
Lane Group Flow (vph)	158	175	241	154	122	0	722	409	0	44	444	177
Confl. Peds. (#/hr)			8			8			8			8
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	24.4	24.4	24.4	18.9	18.9		43.2	71.9		6.5	35.2	35.2
Effective Green, g (s)	24.4	24.4	24.4	18.9	18.9		43.2	71.9		6.5	35.2	35.2
Actuated g/C Ratio	0.17	0.17	0.17	0.14	0.14		0.31	0.52		0.05	0.25	0.25
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	309	326	270	240	243		548	932		82	470	381
v/s Ratio Prot	0.09	0.09		c0.09	0.07		c0.41	0.23		0.02	c0.24	
v/s Ratio Perm			c0.16									0.12
v/c Ratio	0.51	0.54	0.89	0.64	0.50		1.32	0.44		0.54	0.94	0.46
Uniform Delay, d1	52.2	52.5	56.3	57.1	56.0		48.2	21.2		65.1	51.2	44.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.6	0.9	27.9	5.8	1.6		155.4	0.2		5.2	27.9	0.7
Delay (s)	52.8	53.3	84.2	62.9	57.6		203.6	21.4		70.2	79.1	44.9
Level of Service	D	D	F	E	E		F	C		E	E	D
Approach Delay (s)		74.2			60.5			137.4			65.0	
Approach LOS		E			E			F			E	
Intersection Summary												
HCM Average Control Delay			92.7				HCM Level of Service			F		
HCM Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			139.6				Sum of lost time (s)			17.9		
Intersection Capacity Utilization			85.0%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: Olson Ln & El Dorado Hills Blvd






















Serrano Westside/Pedregal EIR
Cumulative No Project - AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	70	160	60	680	1330	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.8	3.8	3.6	5.7	5.7	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Fr t	1.00	0.85	1.00	1.00	0.99	
Fl t Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1560	1770	3539	3517	
Fl t Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1560	1770	3539	3517	
Peak-hour factor, PHF	0.75	0.75	0.95	0.95	0.88	0.88
Adj. Flow (vph)	93	213	63	716	1511	57
RTOR Reduction (vph)	0	119	0	0	2	0
Lane Group Flow (vph)	93	94	63	716	1566	0
Confl. Peds. (#/hr)		4				2
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	12.2	12.2	5.0	49.7	41.1	
Effective Green, g (s)	12.2	12.2	5.0	49.7	41.1	
Actuated g/C Ratio	0.17	0.17	0.07	0.70	0.58	
Clearance Time (s)	3.8	3.8	3.6	5.7	5.7	
Vehicle Extension (s)	3.1	3.1	2.2	3.2	3.2	
Lane Grp Cap (vph)	302	267	124	2463	2024	
v/s Ratio Prot	0.05		c0.04	0.20	c0.45	
v/s Ratio Perm		c0.06				
v/c Ratio	0.31	0.35	0.51	0.29	0.77	
Uniform Delay, d1	25.9	26.1	32.0	4.1	11.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.6	0.8	1.7	0.1	1.9	
Delay (s)	26.5	27.0	33.7	4.2	13.5	
Level of Service	C	C	C	A	B	
Approach Delay (s)	26.8			6.6	13.5	
Approach LOS	C			A	B	
Intersection Summary						
HCM Average Control Delay			13.0		HCM Level of Service	B
HCM Volume to Capacity ratio			0.66			
Actuated Cycle Length (s)			71.4		Sum of lost time (s)	13.1
Intersection Capacity Utilization			59.9%		ICU Level of Service	B
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: Wilson Blvd & El Dorado Hills Blvd























Serrano Westside/Pedregal EIR
Cumulative No Project - AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	140	10	290	100	10	20	90	610	120	10	1470	70	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.3	5.3		4.6		3.7	5.7		3.7	5.7		
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95		
Frbp, ped/bikes		1.00	0.98		1.00		1.00	1.00		1.00	1.00		
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00		
Fr		1.00	0.85		0.98		1.00	0.98		1.00	0.99		
Flt Protected		0.96	1.00		0.96		0.95	1.00		0.95	1.00		
Satd. Flow (prot)		1780	1556		1752		1770	3436		1770	3513		
Flt Permitted		0.96	1.00		0.96		0.95	1.00		0.95	1.00		
Satd. Flow (perm)		1780	1556		1752		1770	3436		1770	3513		
Peak-hour factor, PHF	0.94	0.94	0.94	0.42	0.42	0.42	0.88	0.88	0.88	0.94	0.94	0.94	
Adj. Flow (vph)	149	11	309	238	24	48	102	693	136	11	1564	74	
RTOR Reduction (vph)	0	0	144	0	4	0	0	6	0	0	2	0	
Lane Group Flow (vph)	0	160	165	0	306	0	102	823	0	11	1636	0	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2	
Turn Type	Split		Perm	Split			Prot			Prot			
Protected Phases	4	4		3	3		5	2		1	6		
Permitted Phases			4										
Actuated Green, G (s)		17.1	17.1		27.7		9.3	80.2		2.5	73.4		
Effective Green, g (s)		17.1	17.1		27.7		9.3	80.2		2.5	73.4		
Actuated g/C Ratio		0.12	0.12		0.19		0.06	0.55		0.02	0.50		
Clearance Time (s)		5.3	5.3		4.6		3.7	5.7		3.7	5.7		
Vehicle Extension (s)		3.3	3.3		2.0		2.0	3.3		2.0	3.3		
Lane Grp Cap (vph)		207	181		331		112	1877		30	1757		
v/s Ratio Prot		0.09			c0.17		c0.06	0.24		0.01	c0.47		
v/s Ratio Perm			c0.11										
v/c Ratio		0.77	0.91		0.92		0.91	0.44		0.37	0.93		
Uniform Delay, d1		63.0	64.1		58.5		68.3	19.9		71.4	34.3		
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2		16.6	42.8		30.2		56.9	0.2		2.8	9.5		
Delay (s)		79.5	106.9		88.7		125.2	20.0		74.1	43.8		
Level of Service		E	F		F		F	C		E	D		
Approach Delay (s)		97.6			88.7			31.6			44.0		
Approach LOS		F			F			C			D		
Intersection Summary													
HCM Average Control Delay			52.2		HCM Level of Service						D		
HCM Volume to Capacity ratio			0.93										
Actuated Cycle Length (s)			146.8		Sum of lost time (s)					19.3			
Intersection Capacity Utilization			82.3%		ICU Level of Service					E			
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: Serrano Parkway & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
 Cumulative No Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	30	80	590	40	110	50	660	130	80	1730	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.89		1.00	0.95		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1660		1681	1633		1770	3539	1540	1770	3525	
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1660		1681	1633		1770	3539	1540	1770	3525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	33	87	641	43	120	54	717	141	87	1880	43
RTOR Reduction (vph)	0	60	0	0	10	0	0	0	71	0	1	0
Lane Group Flow (vph)	54	60	0	410	384	0	54	717	70	87	1922	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot			Perm	Prot	
Protected Phases	7	7		8	8		5	2			1	6
Permitted Phases									2			
Actuated Green, G (s)	7.5	7.5		38.2	38.2		5.0	73.6	73.6	11.7	80.3	
Effective Green, g (s)	7.5	7.5		38.2	38.2		5.0	73.6	73.6	11.7	80.3	
Actuated g/C Ratio	0.05	0.05		0.26	0.26		0.03	0.49	0.49	0.08	0.54	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Vehicle Extension (s)	2.0	2.0		4.0	4.0		2.0	4.2	4.2	2.0	4.2	
Lane Grp Cap (vph)	89	84		432	420		60	1752	762	139	1904	
v/s Ratio Prot	0.03	c0.04		c0.24	0.23		c0.03	0.20		0.05	c0.55	
v/s Ratio Perm									0.05			
v/c Ratio	0.61	0.72		0.95	0.91		0.90	0.41	0.09	0.63	1.01	
Uniform Delay, d1	69.2	69.6		54.3	53.6		71.6	23.8	19.9	66.4	34.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.8	21.3		30.5	24.3		79.8	0.2	0.1	6.2	23.0	
Delay (s)	76.9	90.9		84.8	78.0		151.4	24.0	19.9	72.6	57.2	
Level of Service	E	F		F	E		F	C	B	E	E	
Approach Delay (s)		86.6			81.4			30.9			57.8	
Approach LOS		F			F			C			E	
Intersection Summary												
HCM Average Control Delay			57.7			HCM Level of Service				E		
HCM Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			148.7			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			94.5%			ICU Level of Service			F			
Analysis Period (min)			15									

c Critical Lane Group



























HCM Unsignalized Intersection Capacity Analysis
 11: Serrano Parkway & Penela Way

Serrano Westside/Pedregal EIR
 Cumulative No Project - AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↖	↗	↘
Volume (veh/h)	180	60	10	660	90	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.76	0.76	0.79	0.79
Hourly flow rate (vph)	220	73	13	868	114	13
Pedestrians	2			2		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			293		1153	258
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			293		1153	258
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		47	98
cM capacity (veh/h)			1269		216	779
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	293	13	868	127		
Volume Left	0	13	0	114		
Volume Right	73	0	0	13		
cSH	1700	1269	1700	232		
Volume to Capacity	0.17	0.01	0.51	0.54		
Queue Length 95th (ft)	0	1	0	73		
Control Delay (s)	0.0	7.9	0.0	37.6		
Lane LOS		A		E		
Approach Delay (s)	0.0	0.1		37.6		
Approach LOS				E		
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			47.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
 12: Silva Valley Parkway & Serrano Parkway

Serrano Westside/Pedregal EIR
 Cumulative No Project - AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 			 		
Volume (vph)	90	80	120	610	250	460	240	520	190	300	690	160	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3		
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95		
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.91		1.00	0.90		1.00	1.00	0.85	1.00	0.97		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1770	3191		1770	3164		1770	3539	1559	1770	3429		
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1770	3191		1770	3164		1770	3539	1559	1770	3429		
Peak-hour factor, PHF	0.78	0.78	0.78	0.86	0.86	0.86	0.62	0.62	0.62	0.83	0.83	0.83	
Adj. Flow (vph)	115	103	154	709	291	535	387	839	306	361	831	193	
RTOR Reduction (vph)	0	140	0	0	230	0	0	0	146	0	13	0	
Lane Group Flow (vph)	115	117	0	709	596	0	387	839	160	361	1011	0	
Confl. Peds. (#/hr)			2			2			2			2	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA		
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases									2				
Actuated Green, G (s)	13.2	12.9		44.1	43.8		27.0	33.5	33.5	30.0	36.5		
Effective Green, g (s)	13.2	12.9		44.1	43.8		27.0	33.5	33.5	30.0	36.5		
Actuated g/C Ratio	0.09	0.09		0.32	0.31		0.19	0.24	0.24	0.22	0.26		
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3		
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5	2.5	2.5	2.5		
Lane Grp Cap (vph)	167	295		561	996		343	852	375	381	899		
v/s Ratio Prot	0.06	0.04		c0.40	c0.19		c0.22	0.24		0.20	c0.29		
v/s Ratio Perm									0.10				
v/c Ratio	0.69	0.40		1.26	0.60		1.13	0.98	0.43	0.95	1.12		
Uniform Delay, d1	61.0	59.4		47.5	40.2		56.0	52.5	44.7	53.8	51.3		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	10.3	0.6		132.5	0.8		88.0	26.9	0.6	32.5	70.3		
Delay (s)	71.3	60.1		180.0	41.0		144.1	79.4	45.3	86.2	121.6		
Level of Service	E	E		F	D		F	E	D	F	F		
Approach Delay (s)		63.5			105.2			88.9			112.4		
Approach LOS		E			F			F			F		
Intersection Summary													
HCM 2000 Control Delay			98.9									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.13										
Actuated Cycle Length (s)			139.1									Sum of lost time (s)	18.6
Intersection Capacity Utilization			95.9%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative No Project
AM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Dr

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	110	103	93.2%	73.6	16.2	E
	Through	640	635	99.2%	8.2	0.9	A
	Right Turn	30	29	95.0%	5.1	2.4	A
	Subtotal	780	766	98.2%	16.8	2.0	B
SB	Left Turn	70	67	95.1%	102.3	10.1	F
	Through	1670	1686	101.0%	26.5	2.2	C
	Right Turn	660	657	99.6%	43.2	5.4	D
	Subtotal	2400	2410	100.4%	33.2	3.3	C
EB	Left Turn	150	145	96.3%	83.9	9.7	F
	Through	90	91	101.6%	88.8	12.4	F
	Right Turn	60	59	97.7%	10.8	3.0	B
	Subtotal	300	295	98.2%	70.9	9.2	E
WB	Left Turn	30	32	106.7%	61.2	8.2	E
	Through	70	70	99.3%	69.7	5.8	E
	Right Turn	50	54	107.6%	40.3	9.3	D
	Subtotal	150	155	103.5%	57.9	4.9	E
Total		3630	3626	99.9%	33.8	2.8	C

Intersection 15

El Dorado Hills Blvd/US-50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	910	831	91.3%	103.9	16.0	F
	Through	470	470	100.1%	24.6	2.1	C
	Right Turn	130	135	103.8%	5.1	0.5	A
	Subtotal	1510	1436	95.1%	68.7	9.2	E
SB	Left Turn	70	73	104.0%	67.3	5.3	E
	Through	1080	1081	100.1%	20.7	2.6	C
	Right Turn	610	622	102.0%	3.5	0.3	A
	Subtotal	1760	1775	100.9%	16.6	1.6	B
EB	Left Turn	250	245	97.9%	143.3	41.0	F
	Through	70	74	105.9%	168.8	51.1	F
	Right Turn	570	590	103.5%	22.0	22.1	C
	Subtotal	890	909	102.1%	66.8	29.8	E
WB	Left Turn	80	83	104.1%	63.4	4.4	E
	Through	100	98	98.0%	66.0	4.2	E
	Right Turn	60	66	109.8%	4.1	0.8	A
	Subtotal	240	247	103.0%	48.7	2.8	D
Total		4400	4368	99.3%	46.0	6.8	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative No Project
AM Peak Hour

Intersection 16

El Dorado Hills Blvd/US-50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	1320	1251	94.8%	29.8	9.4	C
	Right Turn	490	475	96.9%	10.2	0.3	B
	Subtotal	1810	1726	95.4%	24.3	6.7	C
SB	Left Turn	280	272	97.2%	38.2	7.4	D
	Through	1450	1472	101.5%	15.0	9.3	B
	Right Turn						
	Subtotal	1730	1744	100.8%	18.6	8.3	B
EB	Left Turn						
	Through						
	Right Turn	1090	1108	101.7%	35.6	20.7	D
	Subtotal	1090	1108	101.7%	35.6	20.7	D
WB	Left Turn						
	Through						
	Right Turn	190	190	99.8%	0.6	0.1	A
	Subtotal	190	190	99.8%	0.6	0.1	A
Total		4820	4768	98.9%	23.9	8.4	C

Intersection 17

Latrobe Rd/Town Center Blvd

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	27	91.0%	247.4	87.0	F
	Through	1430	1347	94.2%	149.0	49.9	F
	Right Turn	60	60	99.8%	13.4	8.3	B
	Subtotal	1520	1434	94.4%	145.3	48.9	F
SB	Left Turn	530	534	100.8%	122.7	37.9	F
	Through	1540	1565	101.6%	20.6	1.7	C
	Right Turn	470	481	102.4%	7.6	1.6	A
	Subtotal	2540	2580	101.6%	39.3	8.7	D
EB	Left Turn	60	62	102.8%	64.7	7.3	E
	Through	20	20	99.5%	65.0	10.7	E
	Right Turn	20	19	93.5%	17.5	3.5	B
	Subtotal	100	100	100.3%	55.9	5.3	E
WB	Left Turn	110	112	102.2%	95.0	26.4	F
	Through	50	52	104.6%	95.6	27.8	F
	Right Turn	320	321	100.2%	57.8	17.8	E
	Subtotal	480	485	101.1%	70.4	20.6	E
Total		4640	4600	99.1%	75.9	17.6	E

HCM Signalized Intersection Capacity Analysis
18: White Rock Road & Latrobe Road



























Serrano Westside/Pedregal EIR
Cumulative No Project - AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	350	150	40	390	600	190	10	980	170	110	820	740
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	4908		3433	3539	1583	1770	6408	1561	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	4908		3433	3539	1583	1770	6408	1561	3433	5085	1583
Peak-hour factor, PHF	0.92	0.86	0.86	0.82	0.82	0.92	0.74	0.92	0.74	0.92	0.92	0.92
Adj. Flow (vph)	380	174	47	476	732	207	14	1065	230	120	891	804
RTOR Reduction (vph)	0	36	0	0	0	116	0	0	38	0	0	220
Lane Group Flow (vph)	380	185	0	476	732	91	14	1065	193	120	891	584
Confl. Peds. (#/hr)			2						2			
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	18.9	32.1		20.0	35.1	35.1	1.2	52.5	52.5	13.0	64.3	64.3
Effective Green, g (s)	18.9	32.1		20.0	35.1	35.1	1.2	52.5	52.5	13.0	64.3	64.3
Actuated g/C Ratio	0.13	0.23		0.14	0.25	0.25	0.01	0.38	0.38	0.09	0.46	0.46
Clearance Time (s)	4.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	463	1125		490	887	397	15	2403	585	319	2335	727
v/s Ratio Prot	0.11	0.04		c0.14	c0.21		0.01	c0.17		0.03	0.18	
v/s Ratio Perm						0.06			0.12			c0.37
v/c Ratio	0.82	0.16		0.97	0.83	0.23	0.93	0.44	0.33	0.38	0.38	0.80
Uniform Delay, d1	58.9	43.2		59.7	49.6	41.7	69.4	32.8	31.2	59.7	24.8	32.4
Progression Factor	1.00	1.00		0.90	0.58	0.63	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.1	0.1		30.1	5.4	0.3	197.1	0.6	1.5	0.7	0.5	9.2
Delay (s)	70.0	43.3		84.0	34.4	26.6	266.4	33.4	32.7	60.4	25.3	41.6
Level of Service	E	D		F	C	C	F	C	C	E	C	D
Approach Delay (s)		60.2			49.9			35.8			34.8	
Approach LOS		E			D			D			C	
Intersection Summary												
HCM Average Control Delay			42.2									HCM Level of Service D
HCM Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			140.0									Sum of lost time (s) 23.2
Intersection Capacity Utilization			79.5%									ICU Level of Service D
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 19: White Rock Road & Post Street

























Serrano Westside/Pedregal EIR
 Cumulative No Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Volume (vph)	160	260	10	40	1020	200	40	10	20	50	20	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.90		1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5085	1538	1770	4938		1770	1650		1770	1603	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5085	1538	1770	4938		1770	1650		1770	1603	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	193	313	12	50	1275	250	47	12	23	54	22	130
RTOR Reduction (vph)	0	0	4	0	16	0	0	22	0	0	119	0
Lane Group Flow (vph)	193	313	8	50	1509	0	47	13	0	54	33	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		7	3		4	8	
Permitted Phases			2									
Actuated Green, G (s)	26.7	93.9	93.9	6.4	72.9		7.9	5.6		13.1	11.6	
Effective Green, g (s)	26.7	93.9	93.9	6.4	72.9		7.9	5.6		13.1	11.6	
Actuated g/C Ratio	0.19	0.67	0.67	0.05	0.52		0.06	0.04		0.09	0.08	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Vehicle Extension (s)	1.0	3.6	3.6	1.0	3.6		1.0	1.0		3.0	3.0	
Lane Grp Cap (vph)	338	3411	1032	81	2571		100	66		166	133	
v/s Ratio Prot	c0.11	0.06		0.03	c0.31		c0.03	0.01		c0.03	c0.02	
v/s Ratio Perm			0.01									
v/c Ratio	0.57	0.09	0.01	0.62	0.59		0.47	0.20		0.33	0.25	
Uniform Delay, d1	51.4	8.1	7.6	65.6	23.2		64.0	65.0		59.3	60.1	
Progression Factor	0.88	0.79	0.88	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.1	0.0	9.4	1.0		1.3	0.5		1.1	1.0	
Delay (s)	46.5	6.4	6.7	75.0	24.1		65.3	65.6		60.5	61.1	
Level of Service	D	A	A	E	C		E	E		E	E	
Approach Delay (s)		21.4			25.8			65.4			60.9	
Approach LOS		C			C			E			E	
Intersection Summary												
HCM Average Control Delay			29.2			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)		25.4				
Intersection Capacity Utilization			63.5%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
20: White Rock Road & Vine Street

Serrano Westside/Pedregal EIR
Cumulative No Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	10	280	50	50	1100	100	130	20	280	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	4953		1770	5012		1770	1581		1770	1710	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1769	4953		1770	5012		1770	1581		1770	1710	
Peak-hour factor, PHF	0.89	0.89	0.89	0.69	0.69	0.69	0.86	0.86	0.86	0.81	0.81	0.81
Adj. Flow (vph)	11	315	56	72	1594	145	151	23	326	12	25	25
RTOR Reduction (vph)	0	19	0	0	8	0	0	263	0	0	23	0
Lane Group Flow (vph)	11	352	0	72	1731	0	151	86	0	12	27	0
Confl. Peds. (#/hr)	2		2			2			2			3
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)	0.6	30.6		6.3	37.0		14.7	14.7		6.0	6.0	
Effective Green, g (s)	0.6	30.6		6.3	37.0		14.7	14.7		6.0	6.0	
Actuated g/C Ratio	0.01	0.41		0.08	0.49		0.19	0.19		0.08	0.08	
Clearance Time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	3.7		2.0	3.0		3.6	3.6		3.6	3.6	
Lane Grp Cap (vph)	14	2007		148	2456		345	308		141	136	
v/s Ratio Prot	0.01	0.07		c0.04	c0.35		c0.09	0.05		0.01	c0.02	
v/s Ratio Perm												
v/c Ratio	0.79	0.18		0.49	0.70		0.44	0.28		0.09	0.20	
Uniform Delay, d1	37.4	14.4		33.1	15.0		26.8	25.9		32.2	32.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	123.8	0.1		0.9	0.9		1.1	0.6		0.3	0.9	
Delay (s)	161.2	14.4		34.0	15.9		27.8	26.5		32.5	33.4	
Level of Service	F	B		C	B		C	C		C	C	
Approach Delay (s)		18.7			16.7			26.9			33.2	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM Average Control Delay			19.2			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			75.5			Sum of lost time (s)		11.9				
Intersection Capacity Utilization			57.2%			ICU Level of Service		B				
Analysis Period (min)			15									

c Critical Lane Group

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative No Project
AM Peak Hour

Intersection 25

Silva Valley Pkwy/US-50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	570	551	96.6%	7.5	0.4	A
	Right Turn	30	29	95.7%	2.5	0.2	A
	Subtotal	600	580	96.6%	7.2	0.4	A
SB	Left Turn						
	Through	440	428	97.4%	21.0	2.1	C
	Right Turn	1010	1007	99.7%	28.3	5.7	C
	Subtotal	1450	1435	99.0%	26.1	4.6	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	960	978	101.8%	20.7	2.2	C
	Through	10	10	100.0%	25.1	5.0	C
	Right Turn	270	263	97.5%	13.3	0.7	B
	Subtotal	1240	1251	100.9%	19.2	1.8	B
Total		3290	3266	99.3%	20.1	2.2	C

Intersection 26























Silva Valley Pkwy/US-50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	350	338	96.4%	3.9	0.4	A
	Right Turn	210	206	97.9%	7.9	0.3	A
	Subtotal	560	543	97.0%	5.4	0.3	A
SB	Left Turn						
	Through	1120	1145	102.2%	2.7	0.2	A
	Right Turn	280	261	93.3%	5.4	0.2	A
	Subtotal	1400	1406	100.4%	3.2	0.2	A
EB	Left Turn	250	242	96.7%	14.6	0.7	B
	Through						
	Right Turn	40	44	110.5%	13.7	1.6	B
	Subtotal	290	286	98.6%	14.4	0.5	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2250	2235	99.3%	5.2	0.2	A

HCM Signalized Intersection Capacity Analysis
 1: Green Valley Rd & Francisco Dr

Serrano Westside/Pedregal EIR
 Cumulative No Project - PM Peak Hour
























												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	320	850	280	80	110	550	120	310	330	90	140	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Lane Util. Factor	0.97	0.95	1.00		1.00	0.95	1.00	0.97	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	1547		1770	3539	1560	3433	3415		1770	1863
Flt Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	1547		1770	3539	1560	3433	3415		1770	1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.89	0.84	0.84	0.84	0.90	0.90
Adj. Flow (vph)	344	914	301	90	124	618	135	369	393	107	156	267
RTOR Reduction (vph)	0	0	209	0	0	0	97	0	24	0	0	0
Lane Group Flow (vph)	344	914	92	0	214	618	38	369	476	0	156	267
Confl. Peds. (#/hr)			2				2			2		
Turn Type	Prot		Perm	Prot	Prot		Perm	Prot			Prot	
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2				6					
Actuated Green, G (s)	12.5	29.8	29.8		11.0	28.3	28.3	12.6	31.6		8.0	27.5
Effective Green, g (s)	12.5	29.8	29.8		11.0	28.3	28.3	12.6	31.6		8.0	27.5
Actuated g/C Ratio	0.12	0.30	0.30		0.11	0.28	0.28	0.13	0.32		0.08	0.28
Clearance Time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Vehicle Extension (s)	0.2	1.9	1.9		0.2	1.9	1.9	0.2	2.1		0.2	2.6
Lane Grp Cap (vph)	429	1055	461		195	1002	441	433	1079		142	512
v/s Ratio Prot	0.10	c0.26			c0.12	0.17		c0.11	0.14		c0.09	c0.14
v/s Ratio Perm			0.06				0.02					
v/c Ratio	0.80	0.87	0.20		1.10	0.62	0.09	0.85	0.44		1.10	0.52
Uniform Delay, d1	42.5	33.2	26.2		44.5	31.1	26.4	42.8	27.2		46.0	30.7
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	9.8	7.4	0.1		92.9	0.8	0.0	14.4	1.3		104.4	3.8
Delay (s)	52.3	40.6	26.3		137.4	31.9	26.4	57.2	28.5		150.4	34.4
Level of Service	D	D	C		F	C	C	E	C		F	C
Approach Delay (s)		40.4				54.5			40.7			61.4
Approach LOS		D				D			D			E
Intersection Summary												
HCM Average Control Delay			47.1			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			13.4			
Intersection Capacity Utilization			82.5%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

Movement	SBR
Land Configurations	7
Volume (vph)	180
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.4
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1561
Flt Permitted	1.00
Satd. Flow (perm)	1561
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	200
RTOR Reduction (vph)	145
Lane Group Flow (vph)	55
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	27.5
Effective Green, g (s)	27.5
Actuated g/C Ratio	0.28
Clearance Time (s)	5.4
Vehicle Extension (s)	2.6
Lane Grp Cap (vph)	429
v/s Ratio Prot	
v/s Ratio Perm	0.04
v/c Ratio	0.13
Uniform Delay, d1	27.2
Progression Factor	1.00
Incremental Delay, d2	0.6
Delay (s)	27.9
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis - Cumulative No Project PM
 2: El Dorado Hills Blvd/El Dorado Hills Blvd / Salmon Falls Rd & Green Valley Rd

























9/7/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Volume (vph)	70	1110	10	100	720	140	60	190	150	130	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Fr t	1.00	1.00		1.00	0.98		1.00	0.93			1.00	0.85
Fl t Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	3534		1770	3440		1770	1727			1798	1560
Fl t Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (perm)	1770	3534		1770	3440		1770	1727			1798	1560
Peak-hour factor, PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.84	0.84	0.84	0.89	0.89	0.89
Adj. Flow (vph)	75	1194	11	119	857	167	71	226	179	146	56	67
RTOR Reduction (vph)	0	1	0	0	13	0	0	25	0	0	0	57
Lane Group Flow (vph)	75	1204	0	119	1011	0	71	380	0	0	202	10
Confl. Peds. (#/hr)						2			2			2
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	10.6	37.1		10.7	37.2		25.0	25.0			16.2	16.2
Effective Green, g (s)	10.6	37.1		10.7	37.2		25.0	25.0			16.2	16.2
Actuated g/C Ratio	0.10	0.34		0.10	0.34		0.23	0.23			0.15	0.15
Clearance Time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	171	1197		172	1168		404	394			266	230
v/s Ratio Prot	0.04	c0.34		c0.07	0.29		0.04	c0.22			c0.11	
v/s Ratio Perm												0.01
v/c Ratio	0.44	1.01		0.69	0.87		0.18	0.97			0.76	0.04
Uniform Delay, d1	46.6	36.2		47.8	33.8		34.0	41.8			44.8	40.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.3	27.5		10.5	7.5		0.1	35.8			10.5	0.0
Delay (s)	48.0	63.7		58.3	41.3		34.0	77.6			55.3	40.0
Level of Service	D	E		E	D		C	E			E	D
Approach Delay (s)		62.8			43.1			71.1			51.5	
Approach LOS		E			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			56.0			HCM 2000 Level of Service					E	
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			109.5			Sum of lost time (s)		20.5				
Intersection Capacity Utilization			83.7%			ICU Level of Service		E				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis 3: - Cumulative No Project PM Silva Valley Pkwy & Green Valley Rd























9/7/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Volume (vph)	70	920	400	70	600	20	300	40	120	10	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.89			0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3539	1546	1770	3519		1770	1635			1670	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	3539	1546	1770	3519		1770	1635			1670	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90	0.69	0.69	0.69
Adj. Flow (vph)	73	958	417	76	652	22	333	44	133	14	29	87
RTOR Reduction (vph)	0	0	269	0	2	0	0	101	0	0	78	0
Lane Group Flow (vph)	73	958	148	76	672	0	333	76	0	0	52	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	6.5	24.4	24.4	5.7	23.6		17.9	17.9			7.6	
Effective Green, g (s)	6.5	24.4	24.4	5.7	23.6		17.9	17.9			7.6	
Actuated g/C Ratio	0.09	0.33	0.33	0.08	0.32		0.24	0.24			0.10	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	155	1168	510	136	1123		428	396			171	
v/s Ratio Prot	0.04	c0.27		c0.04	0.19		c0.19	0.05			c0.03	
v/s Ratio Perm			0.10									
v/c Ratio	0.47	0.82	0.29	0.56	0.60		0.78	0.19			0.30	
Uniform Delay, d1	32.1	22.7	18.3	32.9	21.2		26.1	22.3			30.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	1.6	4.7	0.3	3.9	0.9		8.3	0.2			0.7	
Delay (s)	33.7	27.5	18.6	36.8	22.0		34.5	22.4			31.4	
Level of Service	C	C	B	D	C		C	C			C	
Approach Delay (s)		25.2			23.5			30.3			31.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.0			HCM 2000 Level of Service					C	
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			73.9			Sum of lost time (s)			18.3			
Intersection Capacity Utilization			64.5%			ICU Level of Service					C	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: Brittany Way & Francisco Dr













Serrano Westside/Pedregal EIR
Cumulative No Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	30	10	250	10	50	10	560	400	30	480	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.96		1.00	0.95		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1794		1681	1626		1770	3539	1546	1770	3527	
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1794		1681	1626		1770	3539	1546	1770	3527	
Peak-hour factor, PHF	0.89	0.89	0.89	0.60	0.60	0.60	0.94	0.94	0.94	0.84	0.84	0.84
Adj. Flow (vph)	22	34	11	417	17	83	11	596	426	36	571	12
RTOR Reduction (vph)	0	10	0	0	23	0	0	0	253	0	2	0
Lane Group Flow (vph)	22	35	0	263	231	0	11	596	173	36	581	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot			Perm		Prot
Protected Phases	4	4		8	8		5	2			1	6
Permitted Phases									2			
Actuated Green, G (s)	4.9	4.9		14.7	14.7		0.6	25.3	25.3	1.5	26.2	
Effective Green, g (s)	4.9	4.9		14.7	14.7		0.6	25.3	25.3	1.5	26.2	
Actuated g/C Ratio	0.08	0.08		0.24	0.24		0.01	0.41	0.41	0.02	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	139	141		396	383		17	1435	627	43	1481	
v/s Ratio Prot	0.01	c0.02		c0.16	0.14		0.01	c0.17		c0.02	0.16	
v/s Ratio Perm									0.11			
v/c Ratio	0.16	0.25		0.66	0.60		0.65	0.42	0.28	0.84	0.39	
Uniform Delay, d1	26.8	27.0		21.6	21.3		30.8	13.3	12.4	30.3	12.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.9		4.2	2.7		62.0	0.9	1.1	76.6	0.8	
Delay (s)	27.4	27.9		25.8	23.9		92.8	14.2	13.5	106.9	13.4	
Level of Service	C	C		C	C		F	B	B	F	B	
Approach Delay (s)		27.7			24.9			14.7			18.8	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			18.6			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			62.4			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			44.2%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group















HCM Unsignalized Intersection Capacity Analysis
5: Apian Way & Silva Valley Pkwy

Serrano Westside/Pedregal EIR
Cumulative No Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	10	60	150	10	90	100	380	120	100	260	100
Peak Hour Factor	0.79	0.79	0.79	0.87	0.87	0.87	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	38	13	76	172	11	103	118	447	141	118	306	118
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	127	287	706	541								
Volume Left (vph)	38	172	118	118								
Volume Right (vph)	76	103	141	118								
Hadj (s)	-0.27	-0.06	-0.05	-0.05								
Departure Headway (s)	8.3	7.7	6.8	6.8								
Degree Utilization, x	0.29	0.61	1.33	1.02								
Capacity (veh/h)	403	458	543	541								
Control Delay (s)	14.7	22.1	181.2	69.8								
Approach Delay (s)	14.7	22.1	181.2	69.8								
Approach LOS	B	C	F	F								
Intersection Summary												
Delay			104.7									
HCM Level of Service			F									
Intersection Capacity Utilization			68.5%	ICU Level of Service	C							
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
6: Harvard Way & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
Cumulative No Project - PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Volume (vph)	180	250	1060	210	280	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	6.0		4.0	6.0
Lane Util. Factor	1.00	1.00	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Fr t	1.00	0.85	0.98		1.00	1.00
Fl t Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1548	3440		3433	3539
Fl t Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1548	3440		3433	3539
Peak-hour factor, PHF	0.84	0.84	0.94	0.94	0.87	0.87
Adj. Flow (vph)	214	298	1128	223	322	759
RTOR Reduction (vph)	0	247	15	0	0	0
Lane Group Flow (vph)	214	51	1336	0	322	759
Confl. Peds. (#/hr)		8		8		
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	13.5	13.5	35.7		10.5	50.2
Effective Green, g (s)	13.5	13.5	35.7		10.5	50.2
Actuated g/C Ratio	0.17	0.17	0.45		0.13	0.64
Clearance Time (s)	4.6	4.6	6.0		4.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	304	266	1560		458	2257
v/s Ratio Prot	c0.12		c0.39		c0.09	0.21
v/s Ratio Perm		0.03				
v/c Ratio	0.70	0.19	0.86		0.70	0.34
Uniform Delay, d1	30.7	27.9	19.2		32.6	6.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.9	0.1	4.7		4.0	0.0
Delay (s)	36.6	28.1	23.9		36.6	6.6
Level of Service	D	C	C		D	A
Approach Delay (s)	31.6		23.9			15.5
Approach LOS	C		C			B
Intersection Summary						
HCM Average Control Delay			22.2		HCM Level of Service	C
HCM Volume to Capacity ratio			0.79			
Actuated Cycle Length (s)			78.7		Sum of lost time (s)	19.0
Intersection Capacity Utilization			67.4%		ICU Level of Service	C
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy













Serrano Westside/Pedregal EIR
Cumulative No Project - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	20	380	20	20	20	350	500	20	20	370	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.93		1.00	0.99		1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1549	1770	1695		1770	1848		1770	1863	1521
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1549	1770	1695		1770	1848		1770	1863	1521
Peak-hour factor, PHF	0.87	0.87	0.87	0.60	0.60	0.60	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	126	23	437	33	33	33	412	588	24	22	411	78
RTOR Reduction (vph)	0	0	380	0	27	0	0	1	0	0	0	35
Lane Group Flow (vph)	126	23	57	33	39	0	412	611	0	22	411	43
Confl. Peds. (#/hr)			8			8			8			8
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	14.0	14.0	14.0	9.5	9.5		31.3	62.8		3.1	34.6	34.6
Effective Green, g (s)	14.0	14.0	14.0	9.5	9.5		31.3	62.8		3.1	34.6	34.6
Actuated g/C Ratio	0.13	0.13	0.13	0.09	0.09		0.29	0.59		0.03	0.32	0.32
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	231	243	202	157	150		516	1082		51	601	490
v/s Ratio Prot	c0.07	0.01		0.02	c0.02		c0.23	0.33		0.01	c0.22	
v/s Ratio Perm			0.04									0.03
v/c Ratio	0.55	0.09	0.28	0.21	0.26		0.80	0.56		0.43	0.68	0.09
Uniform Delay, d1	43.7	41.1	42.1	45.4	45.6		35.1	13.8		51.2	31.6	25.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	0.1	0.3	0.7	0.9		8.2	0.6		4.2	2.9	0.1
Delay (s)	45.1	41.1	42.4	46.1	46.5		43.3	14.3		55.4	34.5	25.4
Level of Service	D	D	D	D	D		D	B		E	C	C
Approach Delay (s)		42.9			46.4			26.0			34.0	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM Average Control Delay			33.2				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			107.3				Sum of lost time (s)			17.9		
Intersection Capacity Utilization			65.3%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: Olson Ln & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
Cumulative No Project - PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	80	160	1230	780	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.8	3.8	3.6	5.7	5.7	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Fr t	1.00	0.85	1.00	1.00	0.99	
Fl t Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1561	1770	3539	3516	
Fl t Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1561	1770	3539	3516	
Peak-hour factor, PHF	0.87	0.87	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	92	174	1337	848	33
RTOR Reduction (vph)	0	78	0	0	3	0
Lane Group Flow (vph)	46	14	174	1337	878	0
Confl. Peds. (#/hr)		4				2
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.6	8.6	10.4	38.4	24.4	
Effective Green, g (s)	8.6	8.6	10.4	38.4	24.4	
Actuated g/C Ratio	0.15	0.15	0.18	0.68	0.43	
Clearance Time (s)	3.8	3.8	3.6	5.7	5.7	
Vehicle Extension (s)	3.1	3.1	2.2	3.2	3.2	
Lane Grp Cap (vph)	269	238	326	2405	1518	
v/s Ratio Prot	c0.03		0.10	c0.38	0.25	
v/s Ratio Perm		0.01				
v/c Ratio	0.17	0.06	0.53	0.56	0.58	
Uniform Delay, d1	20.8	20.5	20.9	4.7	12.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.1	1.0	0.3	0.6	
Delay (s)	21.2	20.6	21.9	5.0	12.7	
Level of Service	C	C	C	A	B	
Approach Delay (s)	20.8			6.9	12.7	
Approach LOS	C			A	B	
Intersection Summary						
HCM Average Control Delay			9.7	HCM Level of Service		A
HCM Volume to Capacity ratio			0.49			
Actuated Cycle Length (s)			56.5	Sum of lost time (s)		9.5
Intersection Capacity Utilization			49.6%	ICU Level of Service		A
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: Wilson Blvd & El Dorado Hills Blvd























Serrano Westside/Pedregal EIR
Cumulative No Project - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	10	150	110	10	10	260	1380	120	10	820	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.6		3.7	5.7		3.7	5.7	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00	0.98		1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frft		1.00	0.85		0.99		1.00	0.99		1.00	0.99	
Flt Protected		0.96	1.00		0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1787	1550		1767		1770	3489		1770	3499	
Flt Permitted		0.96	1.00		0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1787	1550		1767		1770	3489		1770	3499	
Peak-hour factor, PHF	0.94	0.94	0.94	0.42	0.42	0.42	0.88	0.88	0.88	0.94	0.94	0.94
Adj. Flow (vph)	64	11	160	262	24	24	295	1568	136	11	872	64
RTOR Reduction (vph)	0	0	149	0	2	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	75	11	0	308	0	295	1700	0	11	932	0
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Turn Type	Split		Perm	Split			Prot			Prot		
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)		8.4	8.4		26.5		25.3	70.3		2.2	47.2	
Effective Green, g (s)		8.4	8.4		26.5		25.3	70.3		2.2	47.2	
Actuated g/C Ratio		0.07	0.07		0.21		0.20	0.55		0.02	0.37	
Clearance Time (s)		5.3	5.3		4.6		3.7	5.7		3.7	5.7	
Vehicle Extension (s)		3.3	3.3		2.0		2.0	3.3		2.0	3.3	
Lane Grp Cap (vph)		118	103		370		353	1936		31	1303	
v/s Ratio Prot		c0.04			c0.17		c0.17	c0.49		0.01	0.27	
v/s Ratio Perm			0.01									
v/c Ratio		0.64	0.10		0.83		0.84	0.88		0.35	0.72	
Uniform Delay, d1		57.7	55.6		48.0		48.7	24.5		61.5	34.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		11.0	0.5		14.0		15.0	4.9		2.5	1.9	
Delay (s)		68.6	56.1		62.0		63.7	29.4		64.1	35.9	
Level of Service		E	E		E		E	C		E	D	
Approach Delay (s)		60.1			62.0			34.5			36.3	
Approach LOS		E			E			C			D	
Intersection Summary												
HCM Average Control Delay			39.1				HCM Level of Service				D	
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			126.7				Sum of lost time (s)			13.6		
Intersection Capacity Utilization			71.7%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 10: Serrano Parkway & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
 Cumulative No Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	40	70	110	40	40	120	1680	530	50	950	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.90		1.00	0.94		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1684		1681	1635		1770	3539	1542	1770	3497	
Flt Permitted	0.95	1.00		0.95	0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1684		1681	1635		1770	3539	1542	1770	3497	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	43	76	120	43	43	130	1826	576	54	1033	76
RTOR Reduction (vph)	0	49	0	0	22	0	0	0	160	0	4	0
Lane Group Flow (vph)	54	70	0	104	80	0	130	1826	416	54	1105	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot			Perm	Prot	
Protected Phases	7	7		8	8		5	2			1	6
Permitted Phases									2			
Actuated Green, G (s)	6.9	6.9		14.5	14.5		12.3	72.2	72.2	5.3	65.2	
Effective Green, g (s)	6.9	6.9		14.5	14.5		12.3	72.2	72.2	5.3	65.2	
Actuated g/C Ratio	0.06	0.06		0.12	0.12		0.11	0.62	0.62	0.05	0.56	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Vehicle Extension (s)	2.0	2.0		4.0	4.0		2.0	4.2	4.2	2.0	4.2	
Lane Grp Cap (vph)	105	100		209	203		187	2191	955	80	1955	
v/s Ratio Prot	0.03	c0.04		c0.06	0.05		c0.07	c0.52		0.03	0.32	
v/s Ratio Perm									0.27			
v/c Ratio	0.51	0.70		0.50	0.39		0.70	0.83	0.44	0.68	0.57	
Uniform Delay, d1	53.2	53.8		47.7	47.0		50.3	17.5	11.6	54.8	16.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	16.5		2.5	1.7		8.7	3.1	0.5	16.2	0.5	
Delay (s)	55.0	70.4		50.2	48.7		59.1	20.5	12.1	71.0	17.1	
Level of Service	D	E		D	D		E	C	B	E	B	
Approach Delay (s)		65.6			49.5			20.6			19.6	
Approach LOS		E			D			C			B	
Intersection Summary												
HCM Average Control Delay			23.7			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			116.6			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			73.8%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 11: Serrano Parkway & Penela Way



























Serrano Westside/Pedregal EIR
 Cumulative No Project - PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↖	↗	↘
Volume (veh/h)	550	70	10	150	50	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.76	0.76	0.79	0.79
Hourly flow rate (vph)	671	85	13	197	63	13
Pedestrians	2			2		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			756		939	715
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			756		939	715
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		78	97
cM capacity (veh/h)			855		288	430
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	756	13	197	76		
Volume Left	0	13	0	63		
Volume Right	85	0	0	13		
cSH	1700	855	1700	305		
Volume to Capacity	0.44	0.02	0.12	0.25		
Queue Length 95th (ft)	0	1	0	24		
Control Delay (s)	0.0	9.3	0.0	20.7		
Lane LOS		A		C		
Approach Delay (s)	0.0	0.6		20.7		
Approach LOS				C		
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			43.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis - Cumulative No Project PM

12: Silva Valley Parkway & Serrano Parkway

9/7/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	130	300	90	210	90	340	90	700	590	230	510	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	0.88		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3405		1770	3083		1770	3539	1559	1770	3478	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3405		1770	3083		1770	3539	1559	1770	3478	
Peak-hour factor, PHF	0.77	0.77	0.77	0.86	0.86	0.86	0.61	0.61	0.61	0.84	0.84	0.84
Adj. Flow (vph)	169	390	117	244	105	395	148	1148	967	274	607	71
RTOR Reduction (vph)	0	20	0	0	312	0	0	0	231	0	6	0
Lane Group Flow (vph)	169	487	0	244	188	0	148	1148	736	274	672	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	14.6	21.8		17.1	24.3		15.6	46.6	46.6	24.5	55.5	
Effective Green, g (s)	14.6	21.8		17.1	24.3		15.6	46.6	46.6	24.5	55.5	
Actuated g/C Ratio	0.11	0.17		0.13	0.19		0.12	0.36	0.36	0.19	0.43	
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3	
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	200	577		235	582		214	1282	564	337	1501	
v/s Ratio Prot	0.10	c0.14		c0.14	0.06		0.08	0.32		c0.15	0.19	
v/s Ratio Perm									c0.47			
v/c Ratio	0.84	0.84		1.04	0.32		0.69	0.90	1.30	0.81	0.45	
Uniform Delay, d1	55.9	51.8		55.8	45.0		54.2	38.7	41.0	49.9	25.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	26.1	10.7		69.1	0.2		8.6	8.4	149.4	13.6	0.2	
Delay (s)	82.0	62.5		124.8	45.3		62.8	47.1	190.4	63.4	25.9	
Level of Service	F	E		F	D		E	D	F	E	C	
Approach Delay (s)		67.4			71.4			109.4			36.7	
Approach LOS		E			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			82.2				HCM 2000 Level of Service				F	
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			128.6				Sum of lost time (s)				18.6	
Intersection Capacity Utilization			73.4%				ICU Level of Service				D	
Analysis Period (min)			15									

c Critical Lane Group

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative No Project
PM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Dr

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	57	81.0%	51.9	6.9	D
	Through	1510	1388	91.9%	32.2	4.2	C
	Right Turn	70	62	89.0%	36.8	8.3	D
	Subtotal	1650	1507	91.3%	33.1	4.1	C
SB	Left Turn	90	90	99.6%	136.3	51.4	F
	Through	820	824	100.5%	50.3	11.3	D
	Right Turn	220	233	105.9%	39.2	4.1	D
	Subtotal	1130	1147	101.5%	55.1	13.1	E
EB	Left Turn	610	464	76.1%	357.1	14.3	F
	Through	110	89	80.5%	359.3	14.9	F
	Right Turn	450	352	78.3%	95.1	4.6	F
	Subtotal	1170	905	77.3%	255.5	11.6	F
WB	Left Turn	70	62	88.0%	83.8	25.0	F
	Through	130	114	87.9%	309.8	89.2	F
	Right Turn	210	188	89.3%	287.9	94.4	F
	Subtotal	410	364	88.7%	260.2	80.6	F
Total		4360	3922	90.0%	111.9	8.8	F

Intersection 15

El Dorado Hills Blvd/US-50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	1280	939	73.4%	81.0	10.9	F
	Through	1310	1169	89.2%	20.7	1.3	C
	Right Turn	220	195	88.5%	6.7	0.6	A
	Subtotal	2810	2303	82.0%	44.0	4.3	D
SB	Left Turn	70	64	91.6%	56.5	8.4	E
	Through	1150	1068	92.9%	38.3	8.9	D
	Right Turn	120	115	95.5%	1.6	0.4	A
	Subtotal	1340	1247	93.1%	35.9	7.9	D
EB	Left Turn	240	233	97.0%	95.7	41.1	F
	Through	50	52	103.4%	119.9	64.7	F
	Right Turn	530	517	97.5%	25.7	35.1	C
	Subtotal	820	801	97.7%	52.0	37.9	D
WB	Left Turn	60	59	98.2%	69.1	8.0	E
	Through	80	82	102.6%	69.6	3.7	E
	Right Turn	100	104	103.7%	3.7	0.9	A
	Subtotal	240	245	102.0%	41.6	3.8	D
Total		5210	4596	88.2%	42.9	9.0	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative No Project
PM Peak Hour

Intersection 16

El Dorado Hills Blvd/US-50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	2280	1784	78.2%	13.9	3.9	B
	Right Turn	500	414	82.8%	8.0	0.4	A
	Subtotal	2780	2198	79.1%	12.8	3.1	B
SB	Left Turn	200	183	91.7%	51.4	11.6	D
	Through	1540	1410	91.6%	65.9	42.4	E
	Right Turn						
	Subtotal	1740	1594	91.6%	64.3	38.4	E
EB	Left Turn						
	Through						
	Right Turn	760	736	96.8%	52.5	50.8	D
	Subtotal	760	736	96.8%	52.5	50.8	D
WB	Left Turn						
	Through						
	Right Turn	530	532	100.3%	1.5	0.2	A
	Subtotal	530	532	100.3%	1.5	0.2	A
Total		5810	5059	87.1%	33.5	19.0	C

Intersection 17






























Latrobe Rd/Town Center Blvd

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	6	63.0%	730.1	149.7	F
	Through	1590	1376	86.5%	310.6	66.3	F
	Right Turn	110	106	95.9%	44.9	19.4	D
	Subtotal	1710	1488	87.0%	293.5	63.4	F
SB	Left Turn	700	627	89.5%	162.1	24.7	F
	Through	1540	1467	95.3%	28.5	4.3	C
	Right Turn	60	54	89.7%	3.6	1.2	A
	Subtotal	2300	2148	93.4%	67.0	10.5	E
EB	Left Turn	330	326	98.8%	72.9	7.6	E
	Through	60	59	97.8%	64.9	4.0	E
	Right Turn	90	97	107.8%	20.2	3.6	C
	Subtotal	480	482	100.4%	61.3	5.2	E
WB	Left Turn	20	12	60.5%	599.3	88.6	F
	Through	20	11	52.5%	502.8	68.8	F
	Right Turn	860	493	57.3%	369.8	32.4	F
	Subtotal	900	516	57.3%	377.9	32.9	F
Total		5390	4633	86.0%	172.9	18.9	F

HCM Signalized Intersection Capacity Analysis
18: White Rock Road & Latrobe Road

Serrano Westside/Pedregal EIR
Cumulative No Project - PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	 	 		 				 		 	 		
Volume (vph)	580	650	50	310	370	250	10	880	620	350	790	510	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7	
Lane Util. Factor	0.97	0.91		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	5026		3433	3539	1583	1770	6408	1561	3433	5085	1583	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	5026		3433	3539	1583	1770	6408	1561	3433	5085	1583	
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.82	0.82	0.74	0.74	0.74	0.86	0.86	0.86	
Adj. Flow (vph)	674	756	58	378	451	305	14	1189	838	407	919	593	
RTOR Reduction (vph)	0	6	0	0	0	146	0	0	104	0	0	222	
Lane Group Flow (vph)	674	808	0	378	451	159	14	1189	734	407	919	371	
Confl. Peds. (#/hr)			2						2				
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases						8			2			6	
Actuated Green, G (s)	25.0	32.5		20.4	29.8	29.8	2.0	66.7	66.7	18.0	82.7	82.7	
Effective Green, g (s)	25.0	32.5		20.4	29.8	29.8	2.0	66.7	66.7	18.0	82.7	82.7	
Actuated g/C Ratio	0.16	0.20		0.13	0.19	0.19	0.01	0.42	0.42	0.11	0.52	0.52	
Clearance Time (s)	4.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	536	1021		438	659	295	22	2671	651	386	2628	818	
v/s Ratio Prot	c0.20	c0.16		0.11	0.13		0.01	0.19		c0.12	0.18		
v/s Ratio Perm						0.10			c0.47			0.23	
v/c Ratio	1.26	0.79		0.86	0.68	0.54	0.64	0.45	1.13	1.05	0.35	0.45	
Uniform Delay, d1	67.5	60.5		68.4	60.7	58.9	78.6	33.4	46.6	71.0	22.8	24.4	
Progression Factor	1.00	1.00		0.62	0.91	1.13	1.00	1.00	1.00	0.76	0.19	0.35	
Incremental Delay, d2	130.4	4.3		14.5	2.6	1.8	47.5	0.5	75.6	57.3	0.3	1.5	
Delay (s)	197.9	64.8		57.2	58.1	68.3	126.1	33.9	122.3	111.3	4.6	10.1	
Level of Service	F	E		E	E	E	F	C	F	F	A	B	
Approach Delay (s)		125.1			60.6			70.9			28.9		
Approach LOS		F			E			E			C		
Intersection Summary													
HCM Average Control Delay			69.1		HCM Level of Service				E				
HCM Volume to Capacity ratio			1.07										
Actuated Cycle Length (s)			160.0		Sum of lost time (s)				20.4				
Intersection Capacity Utilization			86.3%		ICU Level of Service				E				
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 19: White Rock Road & Post Street

























Serrano Westside/Pedregal EIR
 Cumulative No Project - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	290	1310	20	30	580	120	40	20	30	200	20	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5085	1536	1770	4930		1770	1667		1770	1578	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5085	1536	1770	4930		1770	1667		1770	1578	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	349	1578	24	38	725	150	47	23	35	217	22	337
RTOR Reduction (vph)	0	0	5	0	17	0	0	34	0	0	306	0
Lane Group Flow (vph)	349	1578	19	38	858	0	47	24	0	217	53	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		7	3		4	8	
Permitted Phases			2									
Actuated Green, G (s)	48.3	101.8	101.8	6.0	58.8		17.2	6.3		24.9	14.8	
Effective Green, g (s)	48.3	101.8	101.8	6.0	58.8		17.2	6.3		24.9	14.8	
Actuated g/C Ratio	0.30	0.64	0.64	0.04	0.37		0.11	0.04		0.16	0.09	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Vehicle Extension (s)	1.0	3.6	3.6	1.0	3.6		1.0	1.0		3.0	3.0	
Lane Grp Cap (vph)	534	3235	977	66	1812		190	66		275	146	
v/s Ratio Prot	c0.20	c0.31		0.02	0.17		0.03	0.01		c0.12	c0.03	
v/s Ratio Perm			0.01									
v/c Ratio	0.65	0.49	0.02	0.58	0.47		0.25	0.37		0.79	0.36	
Uniform Delay, d1	48.6	15.3	10.7	75.7	38.7		65.5	74.9		65.0	68.2	
Progression Factor	0.88	0.70	0.58	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.2	0.0	7.3	0.9		0.2	1.3		13.9	1.5	
Delay (s)	43.6	10.9	6.3	83.1	39.6		65.7	76.2		78.9	69.7	
Level of Service	D	B	A	F	D		E	E		E	E	
Approach Delay (s)		16.7			41.4			71.5			73.2	
Approach LOS		B			D			E			E	
Intersection Summary												
HCM Average Control Delay			33.9			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			20.2			
Intersection Capacity Utilization			72.5%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
20: White Rock Road & Vine Street

Serrano Westside/Pedregal EIR
Cumulative No Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	60	1130	130	270	520	110	90	20	180	170	70	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.87		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4994		1770	4931		1770	1590		1770	1734	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4994		1770	4931		1770	1590		1770	1734	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.81	0.81	0.81	0.90	0.90	0.90
Adj. Flow (vph)	66	1242	143	346	667	141	111	25	222	189	78	56
RTOR Reduction (vph)	0	10	0	0	21	0	0	194	0	0	21	0
Lane Group Flow (vph)	66	1375	0	346	787	0	111	53	0	189	113	0
Confl. Peds. (#/hr)	2		2			2			2			3
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)	6.9	36.6		25.5	55.9		13.9	13.9		17.5	17.5	
Effective Green, g (s)	6.9	36.6		25.5	55.9		13.9	13.9		17.5	17.5	
Actuated g/C Ratio	0.06	0.33		0.23	0.50		0.12	0.12		0.16	0.16	
Clearance Time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	3.7		2.0	3.0		3.6	3.6		3.6	3.6	
Lane Grp Cap (vph)	110	1641		405	2474		221	198		278	272	
v/s Ratio Prot	0.04	c0.28		c0.20	0.16		c0.06	0.03		c0.11	0.07	
v/s Ratio Perm												
v/c Ratio	0.60	0.84		0.85	0.32		0.50	0.27		0.68	0.42	
Uniform Delay, d1	50.9	34.7		41.2	16.5		45.5	44.1		44.3	42.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.8	4.0		15.4	0.1		2.2	0.9		6.8	1.3	
Delay (s)	56.7	38.7		56.6	16.5		47.7	45.0		51.1	43.6	
Level of Service	E	D		E	B		D	D		D	D	
Approach Delay (s)		39.5			28.5			45.8			48.0	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM Average Control Delay			37.2			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			111.4			Sum of lost time (s)			17.9			
Intersection Capacity Utilization			77.4%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative No Project
PM Peak Hour

Intersection 25

Silva Valley Pkwy/US-50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	1220	1214	99.5%	9.0	1.1	A
	Right Turn	40	37	93.0%	2.8	0.2	A
	Subtotal	1260	1251	99.3%	8.8	1.0	A
SB	Left Turn						
	Through	770	744	96.6%	13.2	0.6	B
	Right Turn	390	399	102.3%	11.9	0.7	B
	Subtotal	1160	1143	98.5%	12.7	0.6	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	540	538	99.7%	18.3	0.6	B
	Through	10	10	101.0%	24.3	4.2	C
	Right Turn	430	437	101.6%	24.2	1.5	C
	Subtotal	980	986	100.6%	21.0	0.9	C
Total		3400	3380	99.4%	13.7	0.4	B

Intersection 26

Silva Valley Pkwy/US-50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	600	603	100.5%	6.9	0.4	A
	Right Turn	770	777	100.9%	8.3	0.7	A
	Subtotal	1370	1381	100.8%	7.7	0.5	A
SB	Left Turn						
	Through	950	932	98.1%	6.5	0.4	A
	Right Turn	360	352	97.7%	5.7	0.2	A
	Subtotal	1310	1284	98.0%	6.3	0.3	A
EB	Left Turn	660	648	98.1%	15.6	1.0	B
	Through						
	Right Turn	40	38	94.5%	14.0	0.9	B
	Subtotal	700	686	97.9%	15.5	0.9	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3380	3350	99.1%	8.8	0.2	A

HCM Signalized Intersection Capacity Analysis
1: Green Valley Rd & Francisco Dr

Serrano Westside/Pedregal EIR
Cumulative Plus Project - AM Peak Hour

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	140	300	220	30	100	840	100	240	230	20	130	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Lane Util. Factor	0.97	0.95	1.00		1.00	0.95	1.00	0.97	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Fr _t	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.99		1.00	1.00
Fl _t Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	1547		1770	3539	1560	3433	3493		1770	1863
Fl _t Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	1547		1770	3539	1560	3433	3493		1770	1863
Peak-hour factor, PHF	0.96	0.96	0.96	0.90	0.90	0.90	0.90	0.84	0.84	0.84	0.85	0.85
Adj. Flow (vph)	146	312	229	33	111	933	111	286	274	24	153	376
RTOR Reduction (vph)	0	0	165	0	0	0	77	0	6	0	0	0
Lane Group Flow (vph)	146	312	64	0	144	933	34	286	292	0	153	376
Confl. Peds. (#/hr)			2				2			2		
Turn Type	Prot		Perm	Prot	Prot		Perm	Prot			Prot	
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2				6					
Actuated Green, G (s)	5.7	27.8	27.8		8.8	30.9	30.9	11.0	34.8		9.0	33.3
Effective Green, g (s)	5.7	27.8	27.8		8.8	30.9	30.9	11.0	34.8		9.0	33.3
Actuated g/C Ratio	0.06	0.28	0.28		0.09	0.31	0.31	0.11	0.35		0.09	0.33
Clearance Time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Vehicle Extension (s)	0.2	1.9	1.9		0.2	1.9	1.9	0.2	2.1		0.2	2.6
Lane Grp Cap (vph)	196	984	430		156	1094	482	378	1216		159	620
v/s Ratio Prot	0.04	0.09			c0.08	c0.26		c0.08	0.08		c0.09	c0.20
v/s Ratio Perm			0.04				0.02					
v/c Ratio	0.74	0.32	0.15		0.92	0.85	0.07	0.76	0.24		0.96	0.61
Uniform Delay, d1	46.4	28.6	27.2		45.3	32.4	24.4	43.2	23.2		45.3	27.9
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	12.6	0.1	0.1		49.0	6.4	0.0	7.5	0.5		59.5	4.4
Delay (s)	59.0	28.7	27.2		94.3	38.8	24.4	50.7	23.7		104.8	32.2
Level of Service	E	C	C		F	D	C	D	C		F	C
Approach Delay (s)		34.6				44.2			36.9			43.7
Approach LOS		C				D			D			D
Intersection Summary												
HCM Average Control Delay			40.8			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			74.9%			ICU Level of Service			D			
Analysis Period (min)			15									


























c Critical Lane Group

Movement	SBR
Lane Configurations	7
Volume (vph)	320
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.4
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1562
Flt Permitted	1.00
Satd. Flow (perm)	1562
Peak-hour factor, PHF	0.85
Adj. Flow (vph)	376
RTOR Reduction (vph)	110
Lane Group Flow (vph)	266
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	33.3
Effective Green, g (s)	33.3
Actuated g/C Ratio	0.33
Clearance Time (s)	5.4
Vehicle Extension (s)	2.6
Lane Grp Cap (vph)	520
v/s Ratio Prot	
v/s Ratio Perm	0.17
v/c Ratio	0.51
Uniform Delay, d1	26.8
Progression Factor	1.00
Incremental Delay, d2	3.6
Delay (s)	30.4
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2: El Dorado Hills Blvd/El Dorado Hills Blvd / Salmon Falls Rd & Green Valley Rd

Cumulative Plus Project AM
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	 
Volume (vph)	10	440	30	160	1000	100	10	40	60	190	270	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	3505		1770	3484		1770	1679			1825	1559
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1770	3505		1770	3484		1770	1679			1825	1559
Peak-hour factor, PHF	0.84	0.84	0.84	0.89	0.89	0.89	0.66	0.66	0.66	0.80	0.80	0.80
Adj. Flow (vph)	12	524	36	180	1124	112	15	61	91	238	338	125
RTOR Reduction (vph)	0	4	0	0	6	0	0	45	0	0	0	83
Lane Group Flow (vph)	12	556	0	180	1230	0	15	107	0	0	576	42
Confl. Peds. (#/hr)							2		2			2
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	2.2	23.9		20.6	42.3		11.2	11.2			39.1	39.1
Effective Green, g (s)	2.2	23.9		20.6	42.3		11.2	11.2			39.1	39.1
Actuated g/C Ratio	0.02	0.21		0.18	0.37		0.10	0.10			0.34	0.34
Clearance Time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	33	726		316	1278		171	163			618	528
v/s Ratio Prot	0.01	0.16		c0.10	c0.35		0.01	c0.06			c0.32	
v/s Ratio Perm												0.03
v/c Ratio	0.36	0.77		0.57	0.96		0.09	0.66			0.93	0.08
Uniform Delay, d1	55.9	43.1		43.3	35.7		47.4	50.2			36.8	25.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	4.9	5.7		1.9	17.2		0.1	7.0			20.8	0.0
Delay (s)	60.8	48.8		45.2	52.9		47.5	57.2			57.6	25.9
Level of Service	E	D		D	D		D	E			E	C
Approach Delay (s)		49.0			52.0			56.4			51.9	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			51.6			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			115.3			Sum of lost time (s)		20.5				
Intersection Capacity Utilization			78.5%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

3: Silva Valley Pkwy & Green Valley Rd























Cumulative Plus Project AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Volume (vph)	20	420	250	120	810	30	390	60	80	20	60	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.91			0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3539	1544	1770	3517		1770	1690			1732	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	3539	1544	1770	3517		1770	1690			1732	
Peak-hour factor, PHF	0.93	0.93	0.93	0.91	0.91	0.91	0.71	0.71	0.71	0.77	0.77	0.77
Adj. Flow (vph)	22	452	269	132	890	33	549	85	113	26	78	78
RTOR Reduction (vph)	0	0	211	0	2	0	0	46	0	0	30	0
Lane Group Flow (vph)	22	452	58	132	921	0	549	152	0	0	152	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	2.2	19.4	19.4	9.9	27.1		29.7	29.7			12.9	
Effective Green, g (s)	2.2	19.4	19.4	9.9	27.1		29.7	29.7			12.9	
Actuated g/C Ratio	0.02	0.22	0.22	0.11	0.30		0.33	0.33			0.14	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	43	761	332	194	1056		582	556			247	
v/s Ratio Prot	0.01	0.13		c0.07	c0.26		c0.31	0.09			c0.09	
v/s Ratio Perm			0.04									
v/c Ratio	0.51	0.59	0.17	0.68	0.87		0.94	0.27			0.62	
Uniform Delay, d1	43.5	31.9	28.9	38.6	29.9		29.4	22.3			36.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	7.5	1.3	0.3	8.6	8.1		24.0	0.2			3.9	
Delay (s)	50.9	33.1	29.1	47.3	38.0		53.4	22.5			40.2	
Level of Service	D	C	C	D	D		D	C			D	
Approach Delay (s)		32.2			39.1			45.2			40.2	
Approach LOS		C			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			39.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			90.2			Sum of lost time (s)			18.3			
Intersection Capacity Utilization			66.9%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: Brittany Way & Francisco Dr

















Serrano Westside/Pedregal EIR
Cumulative Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	40	20	410	10	50	10	410	190	60	480	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.95		1.00	0.97		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1771		1681	1646		1770	3539	1544	1770	3527	
Flt Permitted	0.95	1.00		0.95	0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1771		1681	1646		1770	3539	1544	1770	3527	
Peak-hour factor, PHF	0.86	0.86	0.86	0.52	0.52	0.52	0.92	0.92	0.92	0.75	0.75	0.75
Adj. Flow (vph)	12	47	23	788	19	96	11	446	207	80	640	13
RTOR Reduction (vph)	0	21	0	0	12	0	0	0	145	0	1	0
Lane Group Flow (vph)	12	49	0	457	434	0	11	446	62	80	652	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot			Perm	Prot	
Protected Phases	4	4		8	8		5	2			1	6
Permitted Phases									2			
Actuated Green, G (s)	6.8	6.8		24.7	24.7		0.7	22.2	22.2	4.4	25.9	
Effective Green, g (s)	6.8	6.8		24.7	24.7		0.7	22.2	22.2	4.4	25.9	
Actuated g/C Ratio	0.09	0.09		0.33	0.33		0.01	0.30	0.30	0.06	0.35	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	162	163		560	549		17	1060	463	105	1233	
v/s Ratio Prot	0.01	c0.03		c0.27	0.26		0.01	0.13		c0.05	c0.18	
v/s Ratio Perm									0.04			
v/c Ratio	0.07	0.30		0.82	0.79		0.65	0.42	0.13	0.76	0.53	
Uniform Delay, d1	30.8	31.4		22.6	22.4		36.6	20.8	18.9	34.3	19.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	1.0		9.0	7.6		62.0	1.2	0.6	27.3	1.6	
Delay (s)	31.0	32.5		31.6	30.0		98.6	22.0	19.5	61.6	20.9	
Level of Service	C	C		C	C		F	C	B	E	C	
Approach Delay (s)		32.3			30.8			22.5			25.3	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			26.8			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			74.1			Sum of lost time (s)		16.0				
Intersection Capacity Utilization			46.8%			ICU Level of Service		A				
Analysis Period (min)			15									

c Critical Lane Group















HCM Unsignalized Intersection Capacity Analysis
5: Apian Way & Silva Valley Pkwy

Serrano Westside/Pedregal EIR
Cumulative Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	50	10	110	240	10	110	40	230	120	70	350	30
Peak Hour Factor	0.68	0.68	0.68	0.70	0.70	0.70	0.63	0.63	0.63	0.69	0.69	0.69
Hourly flow rate (vph)	74	15	162	343	14	157	63	365	190	101	507	43
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	250	514	619	652								
Volume Left (vph)	74	343	63	101								
Volume Right (vph)	162	157	190	43								
Hadj (s)	-0.30	-0.02	-0.13	0.03								
Departure Headway (s)	9.3	8.6	8.5	8.7								
Degree Utilization, x	0.64	1.23	1.46	1.57								
Capacity (veh/h)	380	413	435	419								
Control Delay (s)	27.6	150.9	244.7	290.6								
Approach Delay (s)	27.6	150.9	244.7	290.6								
Approach LOS	D	F	F	F								
Intersection Summary												
Delay			209.0									
HCM Level of Service			F									
Intersection Capacity Utilization			70.7%	ICU Level of Service	C							
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
6: Harvard Way & El Dorado Hills Blvd























Serrano Westside/Pedregal EIR
Cumulative Plus Project - AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Volume (vph)	370	260	410	430	420	960
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	6.0		4.0	6.0
Lane Util. Factor	1.00	1.00	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.98	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Fr t	1.00	0.85	0.92		1.00	1.00
Fl t Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1546	3232		3433	3539
Fl t Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1546	3232		3433	3539
Peak-hour factor, PHF	0.72	0.72	0.83	0.83	0.90	0.90
Adj. Flow (vph)	514	361	494	518	467	1067
RTOR Reduction (vph)	0	241	181	0	0	0
Lane Group Flow (vph)	514	120	831	0	467	1067
Confl. Peds. (#/hr)		8		8		
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	29.2	29.2	25.6		14.1	43.7
Effective Green, g (s)	29.2	29.2	25.6		14.1	43.7
Actuated g/C Ratio	0.33	0.33	0.29		0.16	0.50
Clearance Time (s)	4.6	4.6	6.0		4.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	586	512	938		549	1753
v/s Ratio Prot	c0.29		c0.26		c0.14	0.30
v/s Ratio Perm		0.08				
v/c Ratio	0.88	0.23	0.89		0.85	0.61
Uniform Delay, d1	27.8	21.4	29.9		36.0	16.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	13.5	0.1	9.8		11.6	0.4
Delay (s)	41.3	21.5	39.7		47.6	16.5
Level of Service	D	C	D		D	B
Approach Delay (s)	33.1		39.7			26.0
Approach LOS	C		D			C
Intersection Summary						
HCM Average Control Delay			31.9		HCM Level of Service	C
HCM Volume to Capacity ratio			0.88			
Actuated Cycle Length (s)			88.2		Sum of lost time (s)	19.3
Intersection Capacity Utilization			70.2%		ICU Level of Service	C
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy













Serrano Westside/Pedregal EIR
Cumulative Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	100	410	120	80	20	640	320	50	40	420	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	0.99		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.97		1.00	0.98		1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1544	1770	1793		1770	1809		1770	1863	1512
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1544	1770	1793		1770	1809		1770	1863	1512
Peak-hour factor, PHF	0.57	0.57	0.57	0.78	0.78	0.78	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	158	175	719	154	103	26	711	356	56	44	467	311
RTOR Reduction (vph)	0	0	453	0	7	0	0	3	0	0	0	134
Lane Group Flow (vph)	158	175	266	154	122	0	711	409	0	44	467	177
Confl. Peds. (#/hr)			8			8			8			8
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	26.1	26.1	26.1	19.0	19.0		43.1	71.6		6.6	35.1	35.1
Effective Green, g (s)	26.1	26.1	26.1	19.0	19.0		43.1	71.6		6.6	35.1	35.1
Actuated g/C Ratio	0.18	0.18	0.18	0.13	0.13		0.31	0.51		0.05	0.25	0.25
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	327	344	285	238	241		540	917		83	463	376
v/s Ratio Prot	0.09	0.09		c0.09	0.07		c0.40	0.23		0.02	c0.25	
v/s Ratio Perm			c0.17									0.12
v/c Ratio	0.48	0.51	0.93	0.65	0.51		1.32	0.45		0.53	1.01	0.47
Uniform Delay, d1	51.5	51.8	56.7	57.9	56.7		49.0	22.2		65.8	53.0	45.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.4	0.4	35.3	5.9	1.7		155.2	0.3		5.0	44.0	0.7
Delay (s)	51.9	52.2	92.0	63.9	58.4		204.3	22.4		70.8	97.0	45.8
Level of Service	D	D	F	E	E		F	C		E	F	D
Approach Delay (s)		79.3			61.4			137.6			76.3	
Approach LOS		E			E			F			E	
Intersection Summary												
HCM Average Control Delay			97.0			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			141.2			Sum of lost time (s)			17.9			
Intersection Capacity Utilization			85.5%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: Olson Ln & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
Cumulative Plus Project - AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	70	140	60	730	1360	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.8	3.8	3.6	5.7	5.7	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Fr t	1.00	0.85	1.00	1.00	0.99	
Fl t Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1560	1770	3539	3517	
Fl t Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1560	1770	3539	3517	
Peak-hour factor, PHF	0.75	0.75	0.95	0.95	0.88	0.88
Adj. Flow (vph)	93	187	63	768	1545	57
RTOR Reduction (vph)	0	118	0	0	2	0
Lane Group Flow (vph)	93	69	63	768	1600	0
Confl. Peds. (#/hr)		4				2
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	12.0	12.0	5.0	51.8	43.2	
Effective Green, g (s)	12.0	12.0	5.0	51.8	43.2	
Actuated g/C Ratio	0.16	0.16	0.07	0.71	0.59	
Clearance Time (s)	3.8	3.8	3.6	5.7	5.7	
Vehicle Extension (s)	3.1	3.1	2.2	3.2	3.2	
Lane Grp Cap (vph)	290	255	121	2501	2073	
v/s Ratio Prot	c0.05		c0.04	0.22	c0.45	
v/s Ratio Perm		0.04				
v/c Ratio	0.32	0.27	0.52	0.31	0.77	
Uniform Delay, d1	27.1	26.8	33.0	4.0	11.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.6	2.3	0.1	1.9	
Delay (s)	27.7	27.4	35.3	4.1	13.2	
Level of Service	C	C	D	A	B	
Approach Delay (s)	27.5			6.5	13.2	
Approach LOS	C			A	B	
Intersection Summary						
HCM Average Control Delay			12.6		HCM Level of Service	B
HCM Volume to Capacity ratio			0.66			
Actuated Cycle Length (s)			73.3		Sum of lost time (s)	13.1
Intersection Capacity Utilization			60.7%		ICU Level of Service	B
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: Wilson Blvd & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
Cumulative Plus Project - AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	140	10	290	130	10	20	90	640	130	30	10	1470
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.6		3.7	5.7			3.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			1.00	0.95
Frbp, ped/bikes		1.00	0.98		1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frft		1.00	0.85		0.98		1.00	0.97			1.00	0.99
Flt Protected		0.96	1.00		0.96		0.95	1.00			0.95	1.00
Satd. Flow (prot)		1780	1556		1756		1770	3433			1770	3513
Flt Permitted		0.96	1.00		0.96		0.95	1.00			0.95	1.00
Satd. Flow (perm)		1780	1556		1756		1770	3433			1770	3513
Peak-hour factor, PHF	0.94	0.94	0.94	0.42	0.42	0.42	0.88	0.88	0.88	0.92	0.94	0.94
Adj. Flow (vph)	149	11	309	310	24	48	102	727	148	33	11	1564
RTOR Reduction (vph)	0	0	123	0	3	0	0	7	0	0	0	2
Lane Group Flow (vph)	0	160	186	0	379	0	102	868	0	0	44	1636
Confl. Peds. (#/hr)	2		2	2		2	2		2	2	2	
Turn Type	Split		Perm	Split			Prot			Prot	Prot	
Protected Phases	4	4		3	3		5	2		1	1	6
Permitted Phases			4									
Actuated Green, G (s)		17.7	17.7		30.0		9.3	75.4			7.2	73.3
Effective Green, g (s)		17.7	17.7		30.0		9.3	75.4			7.2	73.3
Actuated g/C Ratio		0.12	0.12		0.20		0.06	0.50			0.05	0.49
Clearance Time (s)		5.3	5.3		4.6		3.7	5.7			3.7	5.7
Vehicle Extension (s)		3.3	3.3		2.0		2.0	3.3			2.0	3.3
Lane Grp Cap (vph)		211	184		352		110	1730			85	1721
v/s Ratio Prot		0.09			c0.22		c0.06	0.25			0.02	c0.47
v/s Ratio Perm			c0.12									
v/c Ratio		0.76	1.01		1.08		0.93	0.50			0.52	0.95
Uniform Delay, d1		63.9	66.0		59.8		69.8	24.6			69.5	36.4
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		14.7	69.8		69.8		61.8	0.3			2.2	12.1
Delay (s)		78.5	135.8		129.6		131.6	24.9			71.7	48.5
Level of Service		E	F		F		F	C			E	D
Approach Delay (s)		116.3			129.6			36.0				49.1
Approach LOS		F			F			D				D
Intersection Summary												
HCM Average Control Delay			63.2				HCM Level of Service				E	
HCM Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			149.6				Sum of lost time (s)			19.3		
Intersection Capacity Utilization			83.9%				ICU Level of Service			E		
Analysis Period (min)			15									























c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	70
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	74
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	2
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
 10: Serrano Parkway & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	40	80	650	40	100	50	720	120	110	1720	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.90		1.00	0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1676		1681	1642		1770	3539	1539	1770	3525	
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1676		1681	1642		1770	3539	1539	1770	3525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	43	87	707	43	109	54	783	130	120	1870	43
RTOR Reduction (vph)	0	48	0	0	8	0	0	0	68	0	1	0
Lane Group Flow (vph)	65	82	0	438	413	0	54	783	62	120	1912	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot			Perm	Prot	
Protected Phases	7	7		8	8		5	2			1	6
Permitted Phases										2		
Actuated Green, G (s)	8.0	8.0		39.0	39.0		5.0	71.3	71.3	14.0	80.3	
Effective Green, g (s)	8.0	8.0		39.0	39.0		5.0	71.3	71.3	14.0	80.3	
Actuated g/C Ratio	0.05	0.05		0.26	0.26		0.03	0.48	0.48	0.09	0.54	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Vehicle Extension (s)	2.0	2.0		4.0	4.0		2.0	4.2	4.2	2.0	4.2	
Lane Grp Cap (vph)	94	89		437	427		59	1682	732	165	1887	
v/s Ratio Prot	0.04	c0.05		c0.26	0.25		0.03	0.22		c0.07	c0.54	
v/s Ratio Perm									0.04			
v/c Ratio	0.69	0.92		1.00	0.97		0.92	0.47	0.08	0.73	1.01	
Uniform Delay, d1	69.8	70.7		55.5	54.9		72.3	26.5	21.5	66.1	34.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.2	67.3		43.6	34.8		85.3	0.3	0.1	12.7	24.1	
Delay (s)	86.0	138.0		99.1	89.7		157.6	26.8	21.6	78.8	58.9	
Level of Service	F	F		F	F		F	C	C	E	E	
Approach Delay (s)		120.6			94.5			33.4			60.1	
Approach LOS		F			F			C			E	
Intersection Summary												
HCM Average Control Delay			63.9			HCM Level of Service				E		
HCM Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)			17.7			
Intersection Capacity Utilization			96.1%			ICU Level of Service			F			
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
 11: Serrano Parkway & Penela Way




























Serrano Westside/Pedregal EIR
 Cumulative Plus Project - AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↖	↗	↘
Volume (veh/h)	200	70	10	630	90	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.76	0.76	0.79	0.79
Hourly flow rate (vph)	244	85	13	829	114	13
Pedestrians	2			2		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			329		1144	289
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			329		1144	289
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		48	98
cM capacity (veh/h)			1230		218	749
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	329	13	829	127		
Volume Left	0	13	0	114		
Volume Right	85	0	0	13		
cSH	1700	1230	1700	235		
Volume to Capacity	0.19	0.01	0.49	0.54		
Queue Length 95th (ft)	0	1	0	72		
Control Delay (s)	0.0	8.0	0.0	36.9		
Lane LOS		A		E		
Approach Delay (s)	0.0	0.1		36.9		
Approach LOS				E		
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			45.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

12: Silva Valley Parkway & Serrano Parkway

Cumulative Plus Project AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			 		 	 		
Volume (vph)	100	90	120	580	250	460	240	520	190	300	730	160	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3		
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95		
Frbp, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.91		1.00	0.90		1.00	1.00	0.85	1.00	0.97		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1770	3207		1770	3164		1770	3539	1559	1770	3434		
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1770	3207		1770	3164		1770	3539	1559	1770	3434		
Peak-hour factor, PHF	0.78	0.78	0.78	0.86	0.86	0.86	0.62	0.62	0.62	0.83	0.83	0.83	
Adj. Flow (vph)	128	115	154	674	291	535	387	839	306	361	880	193	
RTOR Reduction (vph)	0	140	0	0	222	0	0	0	145	0	12	0	
Lane Group Flow (vph)	128	129	0	674	604	0	387	839	161	361	1061	0	
Confl. Peds. (#/hr)			2			2			2			2	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA		
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases									2				
Actuated Green, G (s)	14.8	13.0		42.1	40.3		28.0	34.3	34.3	31.2	37.5		
Effective Green, g (s)	14.8	13.0		42.1	40.3		28.0	34.3	34.3	31.2	37.5		
Actuated g/C Ratio	0.11	0.09		0.30	0.29		0.20	0.25	0.25	0.22	0.27		
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3		
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5	2.5	2.5	2.5		
Lane Grp Cap (vph)	188	299		535	916		356	872	384	396	925		
v/s Ratio Prot	0.07	0.04		c0.38	c0.19		c0.22	0.24		0.20	c0.31		
v/s Ratio Perm									0.10				
v/c Ratio	0.68	0.43		1.26	0.66		1.09	0.96	0.42	0.91	1.15		
Uniform Delay, d1	59.9	59.6		48.5	43.4		55.6	51.8	44.1	52.7	50.8		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	8.9	0.7		131.4	1.5		73.0	21.6	0.5	24.7	78.7		
Delay (s)	68.8	60.3		180.0	45.0		128.6	73.4	44.6	77.4	129.6		
Level of Service	E	E		F	D		F	E	D	E	F		
Approach Delay (s)		63.1			105.6			81.6			116.4		
Approach LOS		E			F			F			F		
Intersection Summary													
HCM 2000 Control Delay			97.8									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.13										
Actuated Cycle Length (s)			139.2									Sum of lost time (s)	18.6
Intersection Capacity Utilization			95.3%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Marble Valley/Pedregal/Lime Rock
Cumulative Plus Project
AM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Dr

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	80	79	99.0%	62.8	7.9	E
	Through	650	641	98.6%	10.5	1.0	B
	Right Turn	70	63	89.4%	7.4	2.5	A
	Subtotal	800	782	97.8%	15.6	1.8	B
SB	Left Turn	70	69	98.7%	115.3	15.3	F
	Through	1690	1677	99.2%	34.4	2.6	C
	Right Turn	690	705	102.2%	58.1	4.7	E
	Subtotal	2450	2451	100.1%	43.5	2.6	D
EB	Left Turn	160	158	98.6%	108.6	32.1	F
	Through	100	102	101.8%	118.1	36.4	F
	Right Turn	60	62	103.5%	12.6	5.7	B
	Subtotal	320	322	100.5%	93.3	28.3	F
WB	Left Turn	130	129	99.2%	64.4	9.8	E
	Through	120	120	99.7%	88.7	9.9	F
	Right Turn	80	87	108.6%	69.7	18.3	E
	Subtotal	330	336	101.7%	74.4	11.1	E
Total		3900	3891	99.8%	44.8	4.2	D

Intersection 15

El Dorado Hills Blvd/US-50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	920	839	91.2%	107.7	6.8	F
	Through	490	477	97.4%	24.7	2.1	C
	Right Turn	130	128	98.7%	5.3	0.6	A
	Subtotal	1540	1445	93.8%	71.2	3.8	E
SB	Left Turn	70	65	93.3%	65.2	3.7	E
	Through	1170	1172	100.2%	19.9	1.5	B
	Right Turn	640	632	98.7%	3.4	0.4	A
	Subtotal	1880	1869	99.4%	15.9	1.0	B
EB	Left Turn	250	250	99.9%	146.6	71.7	F
	Through	70	67	95.1%	169.9	75.6	F
	Right Turn	540	539	99.8%	26.1	38.1	C
	Subtotal	860	856	99.5%	72.8	51.7	E
WB	Left Turn	80	81	101.5%	64.1	4.8	E
	Through	100	103	103.3%	66.8	4.5	E
	Right Turn	60	67	111.0%	4.2	0.9	A
	Subtotal	240	251	104.6%	49.5	3.8	D
Total		4520	4420	97.8%	46.9	9.6	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Marble Valley/Pedregal/Lime Rock
Cumulative Plus Project
AM Peak Hour

Intersection 16

El Dorado Hills Blvd/US-50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	1330	1238	93.1%	34.1	5.9	C
	Right Turn	490	479	97.7%	11.2	0.7	B
	Subtotal	1820	1717	94.3%	27.7	4.3	C
SB	Left Turn	320	316	98.7%	39.6	5.2	D
	Through	1470	1476	100.4%	16.9	8.7	B
	Right Turn						
	Subtotal	1790	1792	100.1%	20.9	6.8	C
EB	Left Turn						
	Through						
	Right Turn	1080	1077	99.7%	18.1	5.3	B
	Subtotal	1080	1077	99.7%	18.1	5.3	B
WB	Left Turn						
	Through						
	Right Turn	210	210	99.8%	0.6	0.1	A
	Subtotal	210	210	99.8%	0.6	0.1	A
Total		4900	4795	97.9%	21.8	2.8	C

Intersection 17

Latrobe Rd/Town Center Blvd

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	40	37	92.8%	319.2	132.2	F
	Through	1450	1343	92.6%	187.6	75.9	F
	Right Turn	50	50	100.6%	21.9	19.4	C
	Subtotal	1540	1431	92.9%	185.2	75.0	F
SB	Left Turn	550	524	95.3%	117.8	33.3	F
	Through	1550	1554	100.2%	19.4	2.3	B
	Right Turn	450	468	104.0%	7.9	1.6	A
	Subtotal	2550	2546	99.8%	37.5	8.2	D
EB	Left Turn	50	55	110.2%	68.1	10.0	E
	Through	20	20	98.5%	69.4	7.5	E
	Right Turn	20	21	106.5%	17.6	7.6	B
	Subtotal	90	96	106.8%	57.1	4.5	E
WB	Left Turn	120	115	95.5%	79.3	14.2	E
	Through	50	48	95.8%	77.2	11.6	E
	Right Turn	320	317	99.0%	47.1	8.1	D
	Subtotal	490	479	97.8%	57.8	9.1	E
Total		4670	4552	97.5%	86.2	20.2	F

HCM Signalized Intersection Capacity Analysis
18: White Rock Road & Latrobe Road

Serrano Westside/Pedregal EIR
Cumulative Plus Project - AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	350	150	40	390	600	200	10	990	170	110	830	750	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7	
Lane Util. Factor	0.97	0.91		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3433	4908		3433	3539	1583	1770	6408	1561	3433	5085	1583	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3433	4908		3433	3539	1583	1770	6408	1561	3433	5085	1583	
Peak-hour factor, PHF	0.92	0.86	0.86	0.82	0.82	0.92	0.74	0.92	0.74	0.92	0.92	0.92	
Adj. Flow (vph)	380	174	47	476	732	217	14	1076	230	120	902	815	
RTOR Reduction (vph)	0	36	0	0	0	115	0	0	37	0	0	220	
Lane Group Flow (vph)	380	185	0	476	732	102	14	1076	193	120	902	595	
Confl. Peds. (#/hr)			2						2				
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases						8			2			6	
Actuated Green, G (s)	18.9	32.1		20.0	35.1	35.1	1.2	52.5	52.5	13.0	64.3	64.3	
Effective Green, g (s)	18.9	32.1		20.0	35.1	35.1	1.2	52.5	52.5	13.0	64.3	64.3	
Actuated g/C Ratio	0.13	0.23		0.14	0.25	0.25	0.01	0.38	0.38	0.09	0.46	0.46	
Clearance Time (s)	4.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	463	1125		490	887	397	15	2403	585	319	2335	727	
v/s Ratio Prot	0.11	0.04		c0.14	c0.21		0.01	c0.17		0.03	0.18		
v/s Ratio Perm						0.06			0.12			c0.38	
v/c Ratio	0.82	0.16		0.97	0.83	0.26	0.93	0.45	0.33	0.38	0.39	0.82	
Uniform Delay, d1	58.9	43.2		59.7	49.6	42.0	69.4	32.9	31.2	59.7	24.9	32.8	
Progression Factor	1.00	1.00		0.91	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.1	0.1		30.1	5.4	0.3	197.1	0.6	1.5	0.7	0.5	9.9	
Delay (s)	70.0	43.3		84.2	34.3	24.8	266.4	33.5	32.7	60.4	25.4	42.7	
Level of Service	E	D		F	C	C	F	C	C	E	C	D	
Approach Delay (s)		60.2			49.5			35.8			35.4		
Approach LOS		E			D			D			D		
Intersection Summary													
HCM Average Control Delay			42.2									HCM Level of Service	D
HCM Volume to Capacity ratio			0.88										
Actuated Cycle Length (s)			140.0									Sum of lost time (s)	23.2
Intersection Capacity Utilization			80.1%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 19: White Rock Road & Post Street

























Serrano Westside/Pedregal EIR
 Cumulative Plus Project - AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	160	260	10	40	1020	200	50	10	20	50	20	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.90		1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5085	1538	1770	4938		1770	1650		1770	1603	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5085	1538	1770	4938		1770	1650		1770	1603	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	193	313	12	50	1275	250	58	12	23	54	22	130
RTOR Reduction (vph)	0	0	4	0	16	0	0	22	0	0	119	0
Lane Group Flow (vph)	193	313	8	50	1509	0	58	13	0	54	33	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		7	3		4	8	
Permitted Phases			2									
Actuated Green, G (s)	26.7	93.7	93.7	6.4	72.7		8.1	5.6		13.3	11.6	
Effective Green, g (s)	26.7	93.7	93.7	6.4	72.7		8.1	5.6		13.3	11.6	
Actuated g/C Ratio	0.19	0.67	0.67	0.05	0.52		0.06	0.04		0.10	0.08	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Vehicle Extension (s)	1.0	3.6	3.6	1.0	3.6		1.0	1.0		3.0	3.0	
Lane Grp Cap (vph)	338	3403	1029	81	2564		102	66		168	133	
v/s Ratio Prot	c0.11	0.06		0.03	c0.31		c0.03	0.01		c0.03	c0.02	
v/s Ratio Perm			0.01									
v/c Ratio	0.57	0.09	0.01	0.62	0.59		0.57	0.20		0.32	0.25	
Uniform Delay, d1	51.4	8.2	7.7	65.6	23.3		64.2	65.0		59.1	60.1	
Progression Factor	0.88	0.79	0.88	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.1	0.0	9.4	1.0		4.3	0.5		1.1	1.0	
Delay (s)	46.5	6.5	6.8	75.0	24.3		68.5	65.6		60.3	61.1	
Level of Service	D	A	A	E	C		E	E		E	E	
Approach Delay (s)		21.4			25.9			67.4			60.9	
Approach LOS		C			C			E			E	
Intersection Summary												
HCM Average Control Delay			29.6			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			25.4			
Intersection Capacity Utilization			63.5%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
20: White Rock Road & Vine Street












Serrano Westside/Pedregal EIR
Cumulative Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	10	280	50	50	1100	100	130	20	280	10	20	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.86		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	4953		1770	5012		1770	1581		1770	1710	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1769	4953		1770	5012		1770	1581		1770	1710	
Peak-hour factor, PHF	0.89	0.89	0.89	0.69	0.69	0.69	0.86	0.86	0.86	0.81	0.81	0.81
Adj. Flow (vph)	11	315	56	72	1594	145	151	23	326	12	25	25
RTOR Reduction (vph)	0	19	0	0	8	0	0	263	0	0	23	0
Lane Group Flow (vph)	11	352	0	72	1731	0	151	86	0	12	27	0
Confl. Peds. (#/hr)	2		2			2			2			3
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)	0.6	30.6		6.3	37.0		14.7	14.7		6.0	6.0	
Effective Green, g (s)	0.6	30.6		6.3	37.0		14.7	14.7		6.0	6.0	
Actuated g/C Ratio	0.01	0.41		0.08	0.49		0.19	0.19		0.08	0.08	
Clearance Time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	3.7		2.0	3.0		3.6	3.6		3.6	3.6	
Lane Grp Cap (vph)	14	2007		148	2456		345	308		141	136	
v/s Ratio Prot	0.01	0.07		c0.04	c0.35		c0.09	0.05		0.01	c0.02	
v/s Ratio Perm												
v/c Ratio	0.79	0.18		0.49	0.70		0.44	0.28		0.09	0.20	
Uniform Delay, d1	37.4	14.4		33.1	15.0		26.8	25.9		32.2	32.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	123.8	0.1		0.9	0.9		1.1	0.6		0.3	0.9	
Delay (s)	161.2	14.4		34.0	15.9		27.8	26.5		32.5	33.4	
Level of Service	F	B		C	B		C	C		C	C	
Approach Delay (s)		18.7			16.7			26.9			33.2	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM Average Control Delay			19.2			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			75.5			Sum of lost time (s)		11.9				
Intersection Capacity Utilization			57.2%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group













HCM Unsignalized Intersection Capacity Analysis
 21: Project Drwy (North) & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	100	40	790	1480	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	109	43	859	1609	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1161	
pX, platoon unblocked	0.64	0.64	0.64			
vC, conflicting volume	2136	815	1630			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1660	0	876			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	84	91			
cM capacity (veh/h)	52	699	494			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	109	43	429	429	1072	558
Volume Left	0	43	0	0	0	0
Volume Right	109	0	0	0	0	22
cSH	699	494	1700	1700	1700	1700
Volume to Capacity	0.16	0.09	0.25	0.25	0.63	0.33
Queue Length 95th (ft)	14	7	0	0	0	0
Control Delay (s)	11.1	13.0	0.0	0.0	0.0	0.0
Lane LOS	B	B				
Approach Delay (s)	11.1	0.6			0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			54.4%		ICU Level of Service	A
Analysis Period (min)			15			


















HCM Unsignalized Intersection Capacity Analysis
 22: Project Drwy (South) & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Volume (veh/h)	0	30	830	50	20	1870
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	33	902	54	22	2033
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1104					
pX, platoon unblocked	0.85	0.85			0.85	
vC, conflicting volume	1989	478			957	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1814	42			603	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			97	
cM capacity (veh/h)	58	869			828	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	33	601	355	22	1016	1016
Volume Left	0	0	0	22	0	0
Volume Right	33	0	54	0	0	0
cSH	869	1700	1700	828	1700	1700
Volume to Capacity	0.04	0.35	0.21	0.03	0.60	0.60
Queue Length 95th (ft)	3	0	0	2	0	0
Control Delay (s)	9.3	0.0	0.0	9.5	0.0	0.0
Lane LOS	A			A		
Approach Delay (s)	9.3	0.0		0.1		
Approach LOS	A					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			55.0%	ICU Level of Service	B	
Analysis Period (min)			15			

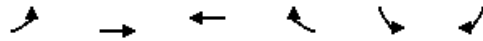
HCM Unsignalized Intersection Capacity Analysis
 23: Serrano Parkway & Serrano Project Dwy

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	240	30	20	680	20	0	0	30	0	0	110
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	261	33	22	739	22	0	0	33	0	0	120
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		560										
pX, platoon unblocked												
vC, conflicting volume	761			293			1179	1082	277	1103	1087	750
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	761			293			1179	1082	277	1103	1087	750
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	96	100	100	71
cM capacity (veh/h)	851			1268			117	214	762	178	212	411
Direction, Lane #												
	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total	293	22	761	33	120							
Volume Left	0	22	0	0	0							
Volume Right	33	0	22	33	120							
cSH	1700	1268	1700	762	411							
Volume to Capacity	0.17	0.02	0.45	0.04	0.29							
Queue Length 95th (ft)	0	1	0	3	30							
Control Delay (s)	0.0	7.9	0.0	9.9	17.3							
Lane LOS		A		A	C							
Approach Delay (s)	0.0	0.2		9.9	17.3							
Approach LOS				A	C							
Intersection Summary												
Average Delay			2.1									
Intersection Capacity Utilization			50.5%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 24: Wilson Blvd & Pedregal Dwy

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↶		↶	
Volume (veh/h)	10	330	130	20	30	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	359	141	22	33	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			884			
pX, platoon unblocked						
vC, conflicting volume	163				353	82
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	163				353	82
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				95	99
cM capacity (veh/h)	1413				613	962
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	179	179	94	69	43
Volume Left	11	0	0	0	0	33
Volume Right	0	0	0	0	22	11
cSH	1413	1700	1700	1700	1700	675
Volume to Capacity	0.01	0.11	0.11	0.06	0.04	0.06
Queue Length 95th (ft)	1	0	0	0	0	5
Control Delay (s)	7.6	0.0	0.0	0.0	0.0	10.7
Lane LOS	A					B
Approach Delay (s)	0.2			0.0		10.7
Approach LOS						B
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			19.1%		ICU Level of Service	A
Analysis Period (min)			15			

Intersection 25

Silva Valley Pkwy/US-50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	570	557	97.7%	8.4	0.4	A
	Right Turn	30	30	100.3%	2.3	0.4	A
	Subtotal	600	587	97.8%	8.1	0.4	A
SB	Left Turn						
	Through	450	442	98.2%	22.5	2.9	C
	Right Turn	1040	1049	100.9%	31.0	5.8	C
	Subtotal	1490	1491	100.1%	28.5	4.9	C
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	1000	1011	101.1%	30.7	6.8	C
	Through	10	10	99.0%	37.9	8.6	D
	Right Turn	270	267	98.8%	14.6	1.4	B
	Subtotal	1280	1288	100.6%	27.5	5.9	C
Total		3370	3366	99.9%	24.6	1.9	C

Intersection 26

Silva Valley Pkwy/US-50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	350	348	99.5%	3.6	0.2	A
	Right Turn	210	203	96.6%	7.9	0.2	A
	Subtotal	560	551	98.4%	5.2	0.2	A
SB	Left Turn						
	Through	1170	1182	101.0%	2.6	0.2	A
	Right Turn	280	271	96.8%	5.4	0.2	A
	Subtotal	1450	1452	100.2%	3.1	0.1	A
EB	Left Turn	250	238	95.3%	16.7	1.1	B
	Through						
	Right Turn	40	45	111.8%	14.6	1.0	B
	Subtotal	290	283	97.6%	16.4	0.9	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		2300	2286	99.4%	5.3	0.1	A

HCM Signalized Intersection Capacity Analysis
 1: Green Valley Rd & Francisco Dr

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - PM Peak Hour

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	330	860	280	80	100	520	120	320	330	80	140	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Lane Util. Factor	0.97	0.95	1.00		1.00	0.95	1.00	0.97	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	0.98		1.00	1.00	0.99	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Fr _t	1.00	1.00	0.85		1.00	1.00	0.85	1.00	0.97		1.00	1.00
Fl _t Protected	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	1547		1770	3539	1560	3433	3426		1770	1863
Fl _t Permitted	0.95	1.00	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	1547		1770	3539	1560	3433	3426		1770	1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.89	0.89	0.89	0.89	0.84	0.84	0.84	0.90	0.90
Adj. Flow (vph)	355	925	301	90	112	584	135	381	393	95	156	278
RTOR Reduction (vph)	0	0	206	0	0	0	97	0	21	0	0	0
Lane Group Flow (vph)	355	925	95	0	202	584	38	381	467	0	156	278
Confl. Peds. (#/hr)			2				2			2		
Turn Type	Prot		Perm	Prot	Prot		Perm	Prot			Prot	
Protected Phases	5	2		1	1	6		3	8		7	4
Permitted Phases			2				6					
Actuated Green, G (s)	12.8	30.0	30.0		11.0	28.2	28.2	12.8	31.4		8.0	27.1
Effective Green, g (s)	12.8	30.0	30.0		11.0	28.2	28.2	12.8	31.4		8.0	27.1
Actuated g/C Ratio	0.13	0.30	0.30		0.11	0.28	0.28	0.13	0.31		0.08	0.27
Clearance Time (s)	4.0	5.7	5.7		4.0	5.7	5.7	4.0	5.9		4.0	5.4
Vehicle Extension (s)	0.2	1.9	1.9		0.2	1.9	1.9	0.2	2.1		0.2	2.6
Lane Grp Cap (vph)	439	1062	464		195	998	440	439	1076		142	505
v/s Ratio Prot	0.10	c0.26			c0.11	0.17		c0.11	0.14		c0.09	c0.15
v/s Ratio Perm			0.06				0.02					
v/c Ratio	0.81	0.87	0.21		1.04	0.59	0.09	0.87	0.43		1.10	0.55
Uniform Delay, d ₁	42.4	33.2	26.1		44.5	30.9	26.4	42.8	27.2		46.0	31.2
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d ₂	9.9	7.7	0.1		74.2	0.6	0.0	15.9	1.3		104.4	4.3
Delay (s)	52.4	40.9	26.2		118.7	31.4	26.5	58.7	28.5		150.4	35.5
Level of Service	D	D	C		F	C	C	E	C		F	D
Approach Delay (s)		40.7				49.8			41.7			60.9
Approach LOS		D				D			D			E
Intersection Summary												
HCM Average Control Delay			46.3			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			13.4			
Intersection Capacity Utilization			82.2%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group
























Movement	SBR
Lane Configurations	7
Volume (vph)	190
Ideal Flow (vphpl)	1900
Total Lost time (s)	5.4
Lane Util. Factor	1.00
Frbp, ped/bikes	0.99
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1561
Flt Permitted	1.00
Satd. Flow (perm)	1561
Peak-hour factor, PHF	0.90
Adj. Flow (vph)	211
RTOR Reduction (vph)	154
Lane Group Flow (vph)	57
Confl. Peds. (#/hr)	2
Turn Type	Perm
Protected Phases	
Permitted Phases	4
Actuated Green, G (s)	27.1
Effective Green, g (s)	27.1
Actuated g/C Ratio	0.27
Clearance Time (s)	5.4
Vehicle Extension (s)	2.6
Lane Grp Cap (vph)	423
v/s Ratio Prot	
v/s Ratio Perm	0.04
v/c Ratio	0.14
Uniform Delay, d1	27.6
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	28.2
Level of Service	C
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

2: El Dorado Hills Blvd/El Dorado Hills Blvd / Salmon Falls Rd & Green Valley Rd

Cumulative Plus Project PM

9/7/2015
























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Volume (vph)	70	1100	10	100	710	140	60	180	140	130	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99			1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00		1.00	0.98		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1770	3534		1770	3439		1770	1728			1798	1560
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (perm)	1770	3534		1770	3439		1770	1728			1798	1560
Peak-hour factor, PHF	0.93	0.93	0.93	0.84	0.84	0.84	0.84	0.84	0.84	0.89	0.89	0.89
Adj. Flow (vph)	75	1183	11	119	845	167	71	214	167	146	56	67
RTOR Reduction (vph)	0	1	0	0	13	0	0	24	0	0	0	57
Lane Group Flow (vph)	75	1193	0	119	999	0	71	357	0	0	202	10
Confl. Peds. (#/hr)						2			2			2
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases												3
Actuated Green, G (s)	10.8	37.1		10.9	37.2		24.2	24.2			16.2	16.2
Effective Green, g (s)	10.8	37.1		10.9	37.2		24.2	24.2			16.2	16.2
Actuated g/C Ratio	0.10	0.34		0.10	0.34		0.22	0.22			0.15	0.15
Clearance Time (s)	3.5	6.0		3.5	6.0		5.5	5.5			5.5	5.5
Vehicle Extension (s)	2.5	5.0		2.5	5.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	175	1203		177	1174		393	384			267	232
v/s Ratio Prot	0.04	c0.34		c0.07	0.29		0.04	c0.21			c0.11	
v/s Ratio Perm												0.01
v/c Ratio	0.43	0.99		0.67	0.85		0.18	0.93			0.76	0.04
Uniform Delay, d1	46.1	35.8		47.3	33.3		34.3	41.5			44.5	39.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	1.2	24.0		8.8	6.7		0.1	28.1			10.3	0.0
Delay (s)	47.4	59.7		56.1	40.0		34.4	69.6			54.8	39.7
Level of Service	D	E		E	D		C	E			D	D
Approach Delay (s)		59.0			41.6			64.0			51.0	
Approach LOS		E			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			52.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			108.9			Sum of lost time (s)		20.5				
Intersection Capacity Utilization			82.3%			ICU Level of Service		E				
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis - Cumulative Plus Project PM

3: Silva Valley Pkwy & Green Valley Rd























9/7/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Volume (vph)	70	920	380	70	590	20	300	40	140	10	20	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.88			0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3539	1546	1770	3519		1770	1626			1670	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	
Satd. Flow (perm)	1770	3539	1546	1770	3519		1770	1626			1670	
Peak-hour factor, PHF	0.96	0.96	0.96	0.92	0.92	0.92	0.90	0.90	0.90	0.69	0.69	0.69
Adj. Flow (vph)	73	958	396	76	641	22	333	44	156	14	29	87
RTOR Reduction (vph)	0	0	256	0	2	0	0	118	0	0	78	0
Lane Group Flow (vph)	73	958	140	76	661	0	333	82	0	0	52	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		8	8		4	4	
Permitted Phases			6									
Actuated Green, G (s)	6.5	24.4	24.4	5.7	23.6		17.9	17.9			7.6	
Effective Green, g (s)	6.5	24.4	24.4	5.7	23.6		17.9	17.9			7.6	
Actuated g/C Ratio	0.09	0.33	0.33	0.08	0.32		0.24	0.24			0.10	
Clearance Time (s)	4.0	5.7	5.7	4.0	5.7		4.6	4.6			4.0	
Vehicle Extension (s)	2.5	3.0	3.0	2.5	3.0		2.5	2.5			2.5	
Lane Grp Cap (vph)	155	1168	510	136	1123		428	393			171	
v/s Ratio Prot	0.04	c0.27		c0.04	0.19		c0.19	0.05			c0.03	
v/s Ratio Perm			0.09									
v/c Ratio	0.47	0.82	0.27	0.56	0.59		0.78	0.21			0.30	
Uniform Delay, d1	32.1	22.7	18.2	32.9	21.1		26.1	22.3			30.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	1.6	4.7	0.3	3.9	0.8		8.3	0.2			0.7	
Delay (s)	33.7	27.5	18.5	36.8	21.9		34.5	22.5			31.4	
Level of Service	C	C	B	D	C		C	C			C	
Approach Delay (s)		25.3			23.4			30.0			31.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.0			HCM 2000 Level of Service					C	
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			73.9			Sum of lost time (s)			18.3			
Intersection Capacity Utilization			64.5%			ICU Level of Service					C	
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: Brittany Way & Francisco Dr

















Serrano Westside/Pedregal EIR
Cumulative Plus Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	20	30	250	10	50	10	570	410	30	490	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.91		1.00	0.95		1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1693		1681	1626		1770	3539	1546	1770	3527	
Flt Permitted	0.95	1.00		0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1693		1681	1626		1770	3539	1546	1770	3527	
Peak-hour factor, PHF	0.89	0.89	0.89	0.60	0.60	0.60	0.94	0.94	0.94	0.84	0.84	0.84
Adj. Flow (vph)	11	22	34	417	17	83	11	606	436	36	583	12
RTOR Reduction (vph)	0	31	0	0	23	0	0	0	259	0	2	0
Lane Group Flow (vph)	11	25	0	263	231	0	11	606	177	36	593	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot			Perm	Prot	
Protected Phases	4	4		8	8		5	2			1	6
Permitted Phases									2			
Actuated Green, G (s)	4.8	4.8		14.7	14.7		0.6	25.3	25.3	1.5	26.2	
Effective Green, g (s)	4.8	4.8		14.7	14.7		0.6	25.3	25.3	1.5	26.2	
Actuated g/C Ratio	0.08	0.08		0.24	0.24		0.01	0.41	0.41	0.02	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	136	130		397	384		17	1437	628	43	1483	
v/s Ratio Prot	0.01	c0.01		c0.16	0.14		0.01	c0.17		c0.02	0.17	
v/s Ratio Perm									0.11			
v/c Ratio	0.08	0.19		0.66	0.60		0.65	0.42	0.28	0.84	0.40	
Uniform Delay, d1	26.7	26.9		21.6	21.2		30.7	13.3	12.4	30.3	12.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.7		4.1	2.7		62.0	0.9	1.1	76.6	0.8	
Delay (s)	27.0	27.6		25.7	23.8		92.7	14.2	13.5	106.9	13.4	
Level of Service	C	C		C	C		F	B	B	F	B	
Approach Delay (s)		27.5			24.8			14.7			18.7	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM Average Control Delay			18.5			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			62.3			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			44.5%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group















HCM Unsignalized Intersection Capacity Analysis
5: Apian Way & Silva Valley Pkwy

Serrano Westside/Pedregal EIR
Cumulative Plus Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	30	10	60	150	10	90	100	390	130	100	260	100
Peak Hour Factor	0.79	0.79	0.79	0.87	0.87	0.87	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	38	13	76	172	11	103	118	459	153	118	306	118
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	127	287	729	541								
Volume Left (vph)	38	172	118	118								
Volume Right (vph)	76	103	153	118								
Hadj (s)	-0.27	-0.06	-0.06	-0.05								
Departure Headway (s)	8.3	7.7	6.8	6.8								
Degree Utilization, x	0.29	0.61	1.37	1.02								
Capacity (veh/h)	404	458	534	541								
Control Delay (s)	14.7	22.1	198.7	69.7								
Approach Delay (s)	14.7	22.1	198.7	69.7								
Approach LOS	B	C	F	F								
Intersection Summary												
Delay			113.3									
HCM Level of Service			F									
Intersection Capacity Utilization			69.6%	ICU Level of Service	C							
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
6: Harvard Way & El Dorado Hills Blvd























Serrano Westside/Pedregal EIR
Cumulative Plus Project - PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 		 	 
Volume (vph)	200	280	1030	210	280	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	6.0		4.0	6.0
Lane Util. Factor	1.00	1.00	0.95		0.97	0.95
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Fr t	1.00	0.85	0.97		1.00	1.00
Fl t Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1548	3438		3433	3539
Fl t Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1548	3438		3433	3539
Peak-hour factor, PHF	0.84	0.84	0.94	0.94	0.87	0.87
Adj. Flow (vph)	238	333	1096	223	322	747
RTOR Reduction (vph)	0	270	16	0	0	0
Lane Group Flow (vph)	238	63	1303	0	322	747
Confl. Peds. (#/hr)		8		8		
Turn Type		Perm			Prot	
Protected Phases	4		2		1	6
Permitted Phases		4				
Actuated Green, G (s)	14.8	14.8	34.5		10.5	49.0
Effective Green, g (s)	14.8	14.8	34.5		10.5	49.0
Actuated g/C Ratio	0.19	0.19	0.44		0.13	0.62
Clearance Time (s)	4.6	4.6	6.0		4.0	6.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	332	291	1505		457	2201
v/s Ratio Prot	c0.13		c0.38		c0.09	0.21
v/s Ratio Perm		0.04				
v/c Ratio	0.72	0.21	0.87		0.70	0.34
Uniform Delay, d1	30.0	27.1	20.1		32.7	7.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	6.0	0.1	5.3		4.0	0.0
Delay (s)	36.1	27.2	25.3		36.7	7.2
Level of Service	D	C	C		D	A
Approach Delay (s)	30.9		25.3			16.1
Approach LOS	C		C			B
Intersection Summary						
HCM Average Control Delay			23.1		HCM Level of Service	C
HCM Volume to Capacity ratio			0.80			
Actuated Cycle Length (s)			78.8		Sum of lost time (s)	19.0
Intersection Capacity Utilization			67.5%		ICU Level of Service	C
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy













Serrano Westside/Pedregal EIR
Cumulative Plus Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	20	390	20	20	20	390	510	20	20	370	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Fr _t	1.00	1.00	0.85	1.00	0.93		1.00	0.99		1.00	1.00	0.85
Fl _t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1548	1770	1694		1770	1848		1770	1863	1519
Fl _t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1548	1770	1694		1770	1848		1770	1863	1519
Peak-hour factor, PHF	0.87	0.87	0.87	0.60	0.60	0.60	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	126	23	448	33	33	33	459	600	24	22	411	78
RTOR Reduction (vph)	0	0	393	0	27	0	0	1	0	0	0	36
Lane Group Flow (vph)	126	23	55	33	39	0	459	623	0	22	411	42
Confl. Peds. (#/hr)			8			8			8			8
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	14.1	14.1	14.1	9.8	9.8		38.4	69.7		3.2	34.5	34.5
Effective Green, g (s)	14.1	14.1	14.1	9.8	9.8		38.4	69.7		3.2	34.5	34.5
Actuated g/C Ratio	0.12	0.12	0.12	0.09	0.09		0.33	0.61		0.03	0.30	0.30
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	218	229	190	151	145		593	1123		49	560	457
v/s Ratio Prot	c0.07	0.01		0.02	c0.02		c0.26	0.34		0.01	c0.22	
v/s Ratio Perm			0.04									0.03
v/c Ratio	0.58	0.10	0.29	0.22	0.27		0.77	0.55		0.45	0.73	0.09
Uniform Delay, d1	47.5	44.7	45.7	48.9	49.1		34.3	13.3		54.9	36.0	28.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	2.3	0.1	0.3	0.7	1.0		6.0	0.5		4.7	4.7	0.1
Delay (s)	49.8	44.7	46.1	49.6	50.1		40.3	13.8		59.6	40.7	28.9
Level of Service	D	D	D	D	D		D	B		E	D	C
Approach Delay (s)		46.8			49.9			25.0			39.7	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM Average Control Delay			35.0			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			114.7			Sum of lost time (s)			17.9			
Intersection Capacity Utilization			67.5%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: Olson Ln & El Dorado Hills Blvd





















Serrano Westside/Pedregal EIR
Cumulative Plus Project - PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	40	90	160	1300	870	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.8	3.8	3.6	5.7	5.7	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Fr t	1.00	0.85	1.00	1.00	0.99	
Fl t Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1561	1770	3539	3519	
Fl t Permitted	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1770	1561	1770	3539	3519	
Peak-hour factor, PHF	0.87	0.87	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	103	174	1413	946	33
RTOR Reduction (vph)	0	88	0	0	2	0
Lane Group Flow (vph)	46	15	174	1413	977	0
Confl. Peds. (#/hr)		4				2
Turn Type		Perm	Prot			
Protected Phases	4		5	2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.6	8.6	10.6	40.3	26.1	
Effective Green, g (s)	8.6	8.6	10.6	40.3	26.1	
Actuated g/C Ratio	0.15	0.15	0.18	0.69	0.45	
Clearance Time (s)	3.8	3.8	3.6	5.7	5.7	
Vehicle Extension (s)	3.1	3.1	2.2	3.2	3.2	
Lane Grp Cap (vph)	261	230	321	2442	1573	
v/s Ratio Prot	c0.03		0.10	c0.40	0.28	
v/s Ratio Perm		0.01				
v/c Ratio	0.18	0.07	0.54	0.58	0.62	
Uniform Delay, d1	21.8	21.4	21.7	4.7	12.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.1	1.2	0.3	0.8	
Delay (s)	22.1	21.6	22.9	5.0	13.1	
Level of Service	C	C	C	A	B	
Approach Delay (s)	21.7			7.0	13.1	
Approach LOS	C			A	B	
Intersection Summary						
HCM Average Control Delay			10.0	HCM Level of Service		B
HCM Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			58.4	Sum of lost time (s)		9.5
Intersection Capacity Utilization			52.1%	ICU Level of Service		A
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: Wilson Blvd & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
Cumulative Plus Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	60	10	150	140	20	20	260	1380	150	80	20	820
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3	5.3		4.6		3.7	5.7			3.7	5.7
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95			1.00	0.95
Frbp, ped/bikes		1.00	0.98		1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Frft		1.00	0.85		0.98		1.00	0.99			1.00	0.99
Flt Protected		0.96	1.00		0.96		0.95	1.00			0.95	1.00
Satd. Flow (prot)		1787	1548		1763		1770	3478			1770	3493
Flt Permitted		0.96	1.00		0.96		0.95	1.00			0.95	1.00
Satd. Flow (perm)		1787	1548		1763		1770	3478			1770	3493
Peak-hour factor, PHF	0.94	0.94	0.94	0.42	0.42	0.42	0.88	0.88	0.88	0.94	0.94	0.94
Adj. Flow (vph)	64	11	160	333	48	48	295	1568	170	85	21	872
RTOR Reduction (vph)	0	0	151	0	3	0	0	5	0	0	0	4
Lane Group Flow (vph)	0	75	9	0	426	0	295	1733	0	0	106	942
Confl. Peds. (#/hr)	2		2	2		2	2		2	2	2	
Turn Type	Split		Perm	Split			Prot			Prot	Prot	
Protected Phases	4	4		3	3		5	2		1	1	6
Permitted Phases			4									
Actuated Green, G (s)		8.3	8.3		36.6		27.8	75.3			10.3	57.8
Effective Green, g (s)		8.3	8.3		36.6		27.8	75.3			10.3	57.8
Actuated g/C Ratio		0.06	0.06		0.24		0.19	0.50			0.07	0.39
Clearance Time (s)		5.3	5.3		4.6		3.7	5.7			3.7	5.7
Vehicle Extension (s)		3.3	3.3		2.0		2.0	3.3			2.0	3.3
Lane Grp Cap (vph)		99	86		431		328	1748			122	1348
v/s Ratio Prot		c0.04			c0.24		c0.17	c0.50			0.06	0.27
v/s Ratio Perm			0.01									
v/c Ratio		0.76	0.10		0.99		0.90	0.99			0.87	0.70
Uniform Delay, d1		69.8	67.2		56.4		59.6	36.9			69.1	38.7
Progression Factor		1.00	1.00		1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		28.1	0.6		39.8		25.3	19.4			42.5	1.6
Delay (s)		97.9	67.8		96.2		84.9	56.3			111.6	40.3
Level of Service		F	E		F		F	E			F	D
Approach Delay (s)		77.4			96.2			60.4				47.5
Approach LOS		E			F			E				D
Intersection Summary												
HCM Average Control Delay			62.0				HCM Level of Service				E	
HCM Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			149.8				Sum of lost time (s)				19.3	
Intersection Capacity Utilization			77.5%				ICU Level of Service				D	
Analysis Period (min)			15									

c Critical Lane Group



Movement	SBR
Lane Configurations	
Volume (vph)	70
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frbp, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.94
Adj. Flow (vph)	74
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	2
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis
 10: Serrano Parkway & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	40	120	160	40	40	110	1780	520	80	930	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Lane Util. Factor	1.00	1.00		0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.89		1.00	0.95		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1653		1681	1645		1770	3539	1542	1770	3496	
Flt Permitted	0.95	1.00		0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1653		1681	1645		1770	3539	1542	1770	3496	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	43	130	174	43	43	120	1935	565	87	1011	76
RTOR Reduction (vph)	0	83	0	0	15	0	0	0	153	0	3	0
Lane Group Flow (vph)	54	90	0	132	113	0	120	1935	412	87	1084	0
Confl. Peds. (#/hr)						2			2			2
Turn Type	Split			Split			Prot		Perm	Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases									2			
Actuated Green, G (s)	7.0	7.0		16.2	16.2		12.1	73.5	73.5	7.0	68.4	
Effective Green, g (s)	7.0	7.0		16.2	16.2		12.1	73.5	73.5	7.0	68.4	
Actuated g/C Ratio	0.06	0.06		0.13	0.13		0.10	0.61	0.61	0.06	0.56	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	5.7	5.7	4.0	5.7	
Vehicle Extension (s)	2.0	2.0		4.0	4.0		2.0	4.2	4.2	2.0	4.2	
Lane Grp Cap (vph)	102	95		224	220		176	2143	934	102	1970	
v/s Ratio Prot	0.03	c0.05		c0.08	0.07		c0.07	c0.55		c0.05	0.31	
v/s Ratio Perm									0.27			
v/c Ratio	0.53	0.95		0.59	0.51		0.68	0.90	0.44	0.85	0.55	
Uniform Delay, d1	55.6	57.0		49.5	48.9		52.8	20.8	12.9	56.7	16.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.3	74.0		4.6	2.7		8.4	6.0	0.5	44.6	0.4	
Delay (s)	57.9	131.1		54.1	51.6		61.2	26.8	13.4	101.3	17.2	
Level of Service	E	F		D	D		E	C	B	F	B	
Approach Delay (s)		113.7			52.9			25.5			23.4	
Approach LOS		F			D			C			C	
Intersection Summary												
HCM Average Control Delay			31.3			HCM Level of Service			C			
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			121.4			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			85.5%			ICU Level of Service			E			
Analysis Period (min)			15									

c Critical Lane Group























HCM Unsignalized Intersection Capacity Analysis
 11: Serrano Parkway & Penela Way

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗		↘	↖	↗	↘
Volume (veh/h)	550	80	10	150	60	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.82	0.82	0.76	0.76	0.79	0.79
Hourly flow rate (vph)	671	98	13	197	76	13
Pedestrians	2			2		
Lane Width (ft)	12.0			12.0		
Walking Speed (ft/s)	4.0			4.0		
Percent Blockage	0			0		
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1220					
pX, platoon unblocked						
vC, conflicting volume			768		945	722
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			768		945	722
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		73	97
cM capacity (veh/h)			846		286	426
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	768	13	197	89		
Volume Left	0	13	0	76		
Volume Right	98	0	0	13		
cSH	1700	846	1700	300		
Volume to Capacity	0.45	0.02	0.12	0.30		
Queue Length 95th (ft)	0	1	0	30		
Control Delay (s)	0.0	9.3	0.0	22.0		
Lane LOS		A		C		
Approach Delay (s)	0.0	0.6		22.0		
Approach LOS				C		
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			45.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis - Cumulative Plus Project PM
 12: Silva Valley Parkway & Serrano Parkway

9/7/2015

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	130	320	90	220	90	350	90	710	610	230	520	60	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3		
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.97		1.00	0.88		1.00	1.00	0.85	1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1770	3411		1770	3080		1770	3539	1559	1770	3479		
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	1770	3411		1770	3080		1770	3539	1559	1770	3479		
Peak-hour factor, PHF	0.77	0.77	0.77	0.86	0.86	0.86	0.61	0.61	0.61	0.84	0.84	0.84	
Adj. Flow (vph)	169	416	117	256	105	407	148	1164	1000	274	619	71	
RTOR Reduction (vph)	0	17	0	0	312	0	0	0	236	0	6	0	
Lane Group Flow (vph)	169	516	0	256	200	0	148	1164	764	274	684	0	
Confl. Peds. (#/hr)			2			2			2			2	
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA		
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases									2				
Actuated Green, G (s)	16.0	23.4		19.1	26.5		16.4	51.6	51.6	26.1	61.3		
Effective Green, g (s)	16.0	23.4		19.1	26.5		16.4	51.6	51.6	26.1	61.3		
Actuated g/C Ratio	0.12	0.17		0.14	0.19		0.12	0.37	0.37	0.19	0.44		
Clearance Time (s)	4.0	5.3		4.0	5.3		4.0	5.3	5.3	4.0	5.3		
Vehicle Extension (s)	2.5	2.5		2.5	2.5		2.5	2.5	2.5	2.5	2.5		
Lane Grp Cap (vph)	204	575		243	588		209	1315	579	332	1536		
v/s Ratio Prot	0.10	c0.15		c0.14	c0.06		0.08	0.33		c0.15	0.20		
v/s Ratio Perm									c0.49				
v/c Ratio	0.83	0.90		1.05	0.34		0.71	0.89	1.32	0.83	0.45		
Uniform Delay, d1	60.1	56.5		59.9	48.6		58.9	40.8	43.6	54.2	26.9		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	22.9	16.6		72.5	0.3		9.7	7.4	155.9	15.0	0.2		
Delay (s)	82.9	73.2		132.4	48.8		68.6	48.2	199.5	69.1	27.1		
Level of Service	F	E		F	D		E	D	F	E	C		
Approach Delay (s)		75.5			76.7			115.0			39.0		
Approach LOS		E			E			F			D		
Intersection Summary													
HCM 2000 Control Delay			87.5									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.07										
Actuated Cycle Length (s)			138.8									Sum of lost time (s)	18.6
Intersection Capacity Utilization			75.2%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Marble Valley/Pedregal/Lime Rock
Cumulative Plus Project
PM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Dr

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	57	81.9%	56.3	6.5	E
	Through	1560	1450	92.9%	37.8	3.5	D
	Right Turn	170	160	94.1%	46.2	5.6	D
	Subtotal	1800	1667	92.6%	39.3	3.6	D
SB	Left Turn	100	94	93.7%	159.5	50.1	F
	Through	880	880	100.0%	57.3	16.9	E
	Right Turn	230	231	100.2%	41.7	5.0	D
	Subtotal	1210	1204	99.5%	62.3	16.3	E
EB	Left Turn	630	461	73.2%	375.0	5.0	F
	Through	130	95	73.2%	383.7	9.7	F
	Right Turn	440	308	69.9%	111.1	6.8	F
	Subtotal	1200	864	72.0%	282.0	7.1	F
WB	Left Turn	130	123	94.4%	83.3	27.5	F
	Through	120	106	88.3%	287.4	115.5	F
	Right Turn	220	203	92.1%	265.0	118.2	F
	Subtotal	470	431	91.8%	219.1	92.6	F
Total		4680	4167	89.0%	114.6	10.5	F

Intersection 15

El Dorado Hills Blvd/US-50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	1200	918	76.5%	67.8	12.7	E
	Through	1420	1308	92.1%	21.3	0.9	C
	Right Turn	240	212	88.1%	7.7	0.5	A
	Subtotal	2860	2438	85.2%	37.6	4.9	D
SB	Left Turn	70	63	89.9%	59.9	8.4	E
	Through	1210	1094	90.4%	43.6	5.8	D
	Right Turn	170	160	93.9%	2.1	0.8	A
	Subtotal	1450	1316	90.8%	39.3	5.2	D
EB	Left Turn	280	266	94.9%	116.9	81.1	F
	Through	60	58	97.2%	141.2	106.7	F
	Right Turn	530	519	97.9%	31.1	66.8	C
	Subtotal	870	843	96.9%	65.6	73.6	E
WB	Left Turn	60	64	105.8%	66.5	5.0	E
	Through	90	93	103.3%	69.8	5.0	E
	Right Turn	100	98	97.8%	4.1	1.2	A
	Subtotal	250	254	101.7%	43.7	2.9	D
Total		5430	4851	89.3%	43.0	14.2	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Marble Valley/Pedregal/Lime Rock
Cumulative Plus Project
PM Peak Hour

Intersection 16

El Dorado Hills Blvd/US-50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	2330	1906	81.8%	11.9	3.4	B
	Right Turn	540	461	85.4%	8.3	0.4	A
	Subtotal	2870	2367	82.5%	11.2	2.7	B
SB	Left Turn	260	225	86.7%	48.0	12.2	D
	Through	1540	1384	89.8%	61.8	32.6	E
	Right Turn						
	Subtotal	1800	1609	89.4%	60.0	29.6	E
EB	Left Turn						
	Through						
	Right Turn	770	748	97.1%	70.2	82.2	E
	Subtotal	770	748	97.1%	70.2	82.2	E
WB	Left Turn						
	Through						
	Right Turn	530	533	100.6%	1.5	0.1	A
	Subtotal	530	533	100.6%	1.5	0.1	A
Total		5970	5257	88.1%	33.4	17.5	C

Intersection 17


































Latrobe Rd/Town Center Blvd

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	8	83.0%	586.9	225.7	F
	Through	1720	1548	90.0%	271.6	58.4	F
	Right Turn	90	88	97.6%	42.1	17.3	D
	Subtotal	1820	1644	90.3%	260.9	56.7	F
SB	Left Turn	710	631	88.9%	161.6	25.3	F
	Through	1540	1445	93.8%	28.2	4.1	C
	Right Turn	60	54	89.7%	3.9	1.4	A
	Subtotal	2310	2130	92.2%	67.2	10.8	E
EB	Left Turn	320	325	101.7%	73.1	6.3	E
	Through	60	61	102.0%	60.6	7.4	E
	Right Turn	100	102	102.3%	21.1	3.1	C
	Subtotal	480	489	101.9%	60.6	4.2	E
WB	Left Turn	40	22	54.0%	608.1	52.0	F
	Through	20	10	51.0%	494.6	49.2	F
	Right Turn	830	491	59.2%	360.8	22.7	F
	Subtotal	890	523	58.8%	373.6	23.3	F
Total		5500	4786	87.0%	166.2	20.7	F

HCM Signalized Intersection Capacity Analysis
18: White Rock Road & Latrobe Road

Serrano Westside/Pedregal EIR
Cumulative Plus Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		  	  	
Volume (vph)	640	650	50	310	380	270	10	910	620	370	800	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Lane Util. Factor	0.97	0.91		0.97	0.95	1.00	1.00	0.86	1.00	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5026		3433	3539	1583	1770	6408	1561	3433	5085	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5026		3433	3539	1583	1770	6408	1561	3433	5085	1583
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.82	0.82	0.74	0.74	0.74	0.86	0.86	0.86
Adj. Flow (vph)	744	756	58	378	463	329	14	1230	838	430	930	593
RTOR Reduction (vph)	0	6	0	0	0	144	0	0	101	0	0	221
Lane Group Flow (vph)	744	808	0	378	463	185	14	1230	737	430	930	372
Confl. Peds. (#/hr)			2						2			
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			6
Actuated Green, G (s)	25.0	32.5		20.4	29.8	29.8	2.0	66.7	66.7	18.0	82.7	82.7
Effective Green, g (s)	25.0	32.5		20.4	29.8	29.8	2.0	66.7	66.7	18.0	82.7	82.7
Actuated g/C Ratio	0.16	0.20		0.13	0.19	0.19	0.01	0.42	0.42	0.11	0.52	0.52
Clearance Time (s)	4.0	5.7		6.0	5.8	5.8	5.0	5.7	5.7	5.0	5.7	5.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	536	1021		438	659	295	22	2671	651	386	2628	818
v/s Ratio Prot	c0.22	c0.16		0.11	0.13		0.01	0.19		c0.13	0.18	
v/s Ratio Perm						0.12			c0.47			0.24
v/c Ratio	1.39	0.79		0.86	0.70	0.63	0.64	0.46	1.13	1.11	0.35	0.46
Uniform Delay, d1	67.5	60.5		68.4	61.0	60.0	78.6	33.7	46.6	71.0	22.9	24.4
Progression Factor	1.00	1.00		0.61	0.91	1.06	1.00	1.00	1.00	0.78	0.23	0.32
Incremental Delay, d2	185.9	4.3		14.4	3.0	3.7	47.5	0.6	77.7	77.2	0.3	1.6
Delay (s)	253.4	64.8		56.4	58.2	67.1	126.1	34.2	124.3	132.7	5.6	9.3
Level of Service	F	E		E	E	E	F	C	F	F	A	A
Approach Delay (s)		154.9			60.1			71.1			34.7	
Approach LOS		F			E			E			C	
Intersection Summary												
HCM Average Control Delay			78.0									HCM Level of Service E
HCM Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			160.0									Sum of lost time (s) 20.4
Intersection Capacity Utilization			88.9%									ICU Level of Service E
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 19: White Rock Road & Post Street























Serrano Westside/Pedregal EIR
 Cumulative Plus Project - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	310	1310	20	30	610	120	40	20	30	200	20	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.91		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5085	1536	1770	4936		1770	1667		1770	1578	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	5085	1536	1770	4936		1770	1667		1770	1578	
Peak-hour factor, PHF	0.83	0.83	0.83	0.80	0.80	0.80	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	373	1578	24	38	762	150	47	23	35	217	22	337
RTOR Reduction (vph)	0	0	5	0	16	0	0	34	0	0	306	0
Lane Group Flow (vph)	373	1578	19	38	896	0	47	24	0	217	53	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot		Perm	Prot			Prot			Prot		
Protected Phases	5	2		1	6		7	3		4	8	
Permitted Phases			2									
Actuated Green, G (s)	48.3	101.8	101.8	6.0	58.8		17.2	6.3		24.9	14.8	
Effective Green, g (s)	48.3	101.8	101.8	6.0	58.8		17.2	6.3		24.9	14.8	
Actuated g/C Ratio	0.30	0.64	0.64	0.04	0.37		0.11	0.04		0.16	0.09	
Clearance Time (s)	5.2	6.0	6.0	4.5	6.0		5.2	6.0		4.5	4.5	
Vehicle Extension (s)	1.0	3.6	3.6	1.0	3.6		1.0	1.0		3.0	3.0	
Lane Grp Cap (vph)	534	3235	977	66	1814		190	66		275	146	
v/s Ratio Prot	c0.21	c0.31		0.02	0.18		0.03	0.01		c0.12	c0.03	
v/s Ratio Perm			0.01									
v/c Ratio	0.70	0.49	0.02	0.58	0.49		0.25	0.37		0.79	0.36	
Uniform Delay, d1	49.4	15.3	10.7	75.7	39.1		65.5	74.9		65.0	68.2	
Progression Factor	0.89	0.69	0.58	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.1	0.0	7.3	1.0		0.2	1.3		13.9	1.5	
Delay (s)	44.9	10.8	6.2	83.1	40.1		65.7	76.2		78.9	69.7	
Level of Service	D	B	A	F	D		E	E		E	E	
Approach Delay (s)		17.2			41.8			71.5			73.2	
Approach LOS		B			D			E			E	
Intersection Summary												
HCM Average Control Delay			34.2			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)			20.2			
Intersection Capacity Utilization			73.6%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
20: White Rock Road & Vine Street












Serrano Westside/Pedregal EIR
Cumulative Plus Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Volume (vph)	60	1130	130	270	540	110	90	20	180	170	70	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.87		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4994		1770	4936		1770	1590		1770	1734	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	4994		1770	4936		1770	1590		1770	1734	
Peak-hour factor, PHF	0.91	0.91	0.91	0.78	0.78	0.78	0.81	0.81	0.81	0.90	0.90	0.90
Adj. Flow (vph)	66	1242	143	346	692	141	111	25	222	189	78	56
RTOR Reduction (vph)	0	10	0	0	20	0	0	194	0	0	21	0
Lane Group Flow (vph)	66	1375	0	346	813	0	111	53	0	189	113	0
Confl. Peds. (#/hr)	2		2			2			2			3
Turn Type	Prot			Prot			Split			Split		
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Actuated Green, G (s)	6.9	36.6		25.5	55.9		13.9	13.9		17.5	17.5	
Effective Green, g (s)	6.9	36.6		25.5	55.9		13.9	13.9		17.5	17.5	
Actuated g/C Ratio	0.06	0.33		0.23	0.50		0.12	0.12		0.16	0.16	
Clearance Time (s)	3.5	6.0		3.5	5.3		4.2	4.2		4.2	4.2	
Vehicle Extension (s)	2.0	3.7		2.0	3.0		3.6	3.6		3.6	3.6	
Lane Grp Cap (vph)	110	1641		405	2477		221	198		278	272	
v/s Ratio Prot	0.04	c0.28		c0.20	0.16		c0.06	0.03		c0.11	0.07	
v/s Ratio Perm												
v/c Ratio	0.60	0.84		0.85	0.33		0.50	0.27		0.68	0.42	
Uniform Delay, d1	50.9	34.7		41.2	16.6		45.5	44.1		44.3	42.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.8	4.0		15.4	0.1		2.2	0.9		6.8	1.3	
Delay (s)	56.7	38.7		56.6	16.6		47.7	45.0		51.1	43.6	
Level of Service	E	D		E	B		D	D		D	D	
Approach Delay (s)		39.5			28.4			45.8			48.0	
Approach LOS		D			C			D			D	
Intersection Summary												
HCM Average Control Delay			37.1			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			111.4			Sum of lost time (s)			17.9			
Intersection Capacity Utilization			77.4%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group













HCM Unsignalized Intersection Capacity Analysis
 21: Project Drwy (North) & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	60	80	1460	930	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	65	87	1587	1011	33
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)					1161	
pX, platoon unblocked	0.81	0.81	0.81			
vC, conflicting volume	1995	522	1043			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1758	0	583			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	93	89			
cM capacity (veh/h)	55	878	799			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	65	87	793	793	674	370
Volume Left	0	87	0	0	0	0
Volume Right	65	0	0	0	0	33
cSH	878	799	1700	1700	1700	1700
Volume to Capacity	0.07	0.11	0.47	0.47	0.40	0.22
Queue Length 95th (ft)	6	9	0	0	0	0
Control Delay (s)	9.4	10.1	0.0	0.0	0.0	0.0
Lane LOS	A	B				
Approach Delay (s)	9.4	0.5			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			43.7%		ICU Level of Service	A
Analysis Period (min)			15			


















HCM Unsignalized Intersection Capacity Analysis
 22: Project Drwy (South) & El Dorado Hills Blvd

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Volume (veh/h)	0	30	1760	110	30	1080
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	33	1913	120	33	1174
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1104					
pX, platoon unblocked	0.43	0.43			0.43	
vC, conflicting volume	2625	1016			2033	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2132	0			760	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			91	
cM capacity (veh/h)	17	468			366	
Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	33	1275	757	33	587	587
Volume Left	0	0	0	33	0	0
Volume Right	33	0	120	0	0	0
cSH	468	1700	1700	366	1700	1700
Volume to Capacity	0.07	0.75	0.45	0.09	0.35	0.35
Queue Length 95th (ft)	6	0	0	7	0	0
Control Delay (s)	13.3	0.0	0.0	15.8	0.0	0.0
Lane LOS	B			C		
Approach Delay (s)	13.3	0.0		0.4		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			62.2%	ICU Level of Service	B	
Analysis Period (min)			15			

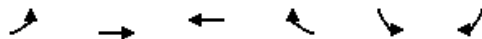
HCM Unsignalized Intersection Capacity Analysis
23: Serrano Parkway & Serrano Project Dwy

Serrano Westside/Pedregal EIR
Cumulative Plus Project - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	600	40	20	170	20	0	0	30	0	0	70
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	0	652	43	22	185	22	0	0	33	0	0	76
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		560										
pX, platoon unblocked												
vC, conflicting volume	207			696			978	924	674	946	935	196
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	207			696			978	924	674	946	935	196
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			100	100	93	100	100	91
cM capacity (veh/h)	1365			900			205	263	455	220	259	846
Direction, Lane #												
	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total	696	22	207	33	76							
Volume Left	0	22	0	0	0							
Volume Right	43	0	22	33	76							
cSH	1700	900	1700	455	846							
Volume to Capacity	0.41	0.02	0.12	0.07	0.09							
Queue Length 95th (ft)	0	2	0	6	7							
Control Delay (s)	0.0	9.1	0.0	13.5	9.7							
Lane LOS		A		B	A							
Approach Delay (s)	0.0	0.9		13.5	9.7							
Approach LOS				B	A							
Intersection Summary												
Average Delay				1.3								
Intersection Capacity Utilization			44.0%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
 24: Wilson Blvd & Pedregal Dwy

Serrano Westside/Pedregal EIR
 Cumulative Plus Project - PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↶		↶	
Volume (veh/h)	10	210	250	30	20	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	228	272	33	22	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			884			
pX, platoon unblocked						
vC, conflicting volume	304				424	152
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	304				424	152
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	99
cM capacity (veh/h)	1253				553	867
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	11	114	114	181	123	33
Volume Left	11	0	0	0	0	22
Volume Right	0	0	0	0	33	11
cSH	1253	1700	1700	1700	1700	629
Volume to Capacity	0.01	0.07	0.07	0.11	0.07	0.05
Queue Length 95th (ft)	1	0	0	0	0	4
Control Delay (s)	7.9	0.0	0.0	0.0	0.0	11.0
Lane LOS	A					B
Approach Delay (s)	0.4			0.0		11.0
Approach LOS						B
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			18.3%		ICU Level of Service	A
Analysis Period (min)			15			

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative Plus Project
PM Peak Hour

Intersection 25

Silva Valley Pkwy/US-50 WB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	1200	1516	126.3%	15.2	1.0	B
	Right Turn	40	35	88.5%	2.0	0.2	A
	Subtotal	1240	1551	125.1%	14.9	1.0	B
SB	Left Turn						
	Through	700	642	91.7%	9.3	0.7	A
	Right Turn	380	500	131.6%	4.2	0.2	A
	Subtotal	1080	1142	105.7%	7.1	0.5	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	580	523	90.1%	46.4	2.2	D
	Through	10	0	0.0%	0.0	0.0	A
	Right Turn	420	365	86.9%	48.6	6.5	D
	Subtotal	1010	888	87.9%	47.4	2.9	D
Total		3330	3581	107.5%	20.5	1.0	C

Intersection 26

Silva Valley Pkwy/US-50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	700	905	129.3%	9.2	0.5	A
	Right Turn	730	588	80.5%	4.3	0.2	A
	Subtotal	1430	1492	104.4%	7.3	0.3	A
SB	Left Turn						
	Through	960	962	100.2%	8.4	0.7	A
	Right Turn	320	193	60.4%	2.9	0.2	A
	Subtotal	1280	1155	90.2%	7.5	0.6	A
EB	Left Turn	540	660	122.2%	20.3	0.5	C
	Through						
	Right Turn	40	42	105.8%	10.2	1.3	B
	Subtotal	580	702	121.0%	19.7	0.5	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		3290	3349	101.8%	10.0	0.4	A

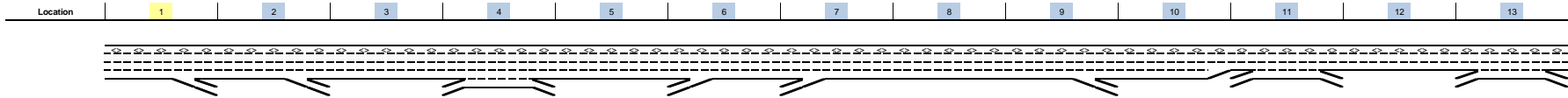
Cumulative No Project Roadway Segments Analysis		Peak Hour Volume		LOS Thresholds			V/ C Ratio		LOS	
Central El Dorado	Number of Lanes	AM	PM	LOS C	LOS D	LOS E	AM	PM	AM	PM
El Dorado Hills Blvd - Green Valley to US 50 (5 segments)										
Green Valley to Francisco	2A	450	460	850	1540	1650	0.27	0.28	C or better	C or better
Francisco to Governor	2A	1515	1564	850	1540	1650	0.92	0.95	D	E
Governor to Wilson	4AD	2260	2290	1850	3220	3290	0.69	0.70	D	D
Wilson to Serrano	4AD	2640	2790	1850	3220	3290	0.80	0.85	D	D
Serrano to Saratoga	5AD	3170	3400	2350	4060	4110	0.77	0.83	D	D
Saratoga to US 50	7AD	2700	2900	3215	5410	5420	0.50	0.54	C or better	C or better
Latrobe Road - US 50 to S. Shingle Rd (5 Segemtns)										
US 50 to Town Center	7AD	4360	5080	3215	5410	5420	0.80	0.94	D	D
Town Center to White Rock Rd	6AD	3090	3340	2760	4680	4710	0.66	0.71	D	D
White Rock to Golden Foothill Pkwy	6AD	2270	2660	2760	4680	4710	0.48	0.56	C or better	C or better
Golden Foothill Pkwy to Sun Ridge Meadow Rd	4AU	1600	1590	1760	3070	3130	0.51	0.51	C or better	C or better
Sun Ridge Meadow Rd to S. Shingle Rd	2A	590	610	850	1540	1650	0.36	0.37	C or better	C or better
White Rock Road - Scott Road to US 50 (5 Segments)										
Scott Rd to Four Seasons Dr.	4AD	1570	2010	1850	3220	3290	0.48	0.61	C or better	D
Four Seasons Dr to Latrobe Rd	4AD	1650	1980	1850	3220	3290	0.50	0.60	C or better	D
Latrobe Rd to Vine St	6AD	1480	1730	2760	4680	4710	0.31	0.37	C or better	C or better
Vine St to US 50	6AD	1740	2240	2760	4680	4710	0.37	0.48	C or better	C or better
Silva Valley Pkwy - Green Valley Rd to US 50 (4 Segments)										
Green Valley to Glenwood Way	2A	930	900	850	1540	1650	0.56	0.55	D	D
Glenwood Way to Appian Way	2A	780	900	850	1540	1650	0.47	0.55	C or better	D
Appian Way to Harvard Way	2A	1090	1030	850	1540	1650	0.66	0.62	D	D
Harvard Way to Serrano Pkwy	4AD	2130	1880	1850	3220	3290	0.65	0.57	D	D
Serrano Pkwy to US 50	4AD	2650	2590	1850	3220	3290	0.81	0.79	D	D
Serrano Pkwy - EDH Blvd to Bass Lake Rd - 3 segments										
EDH Blvd to Silva Valley Pkwy	2A	1010	920	850	1540	1650	0.61	0.56	D	D
Silva Valley to Villagio Dr	4AD	1830	1720	1850	3220	3290	0.56	0.52	C or better	C or better
Villagio Dr to Bass Lake Rd	2A	1010	1100	850	1540	1650	0.61	0.67	D	D
Saratoga Way - west of EDH Blvd (2 segments)										
EDH to Arrowhead	2A	1050	1550	850	1540	1650	0.64	0.94	D	E
Wilson Way - west of EDH Blvd (2 segments)										
EDH Blvd to Ridgeview Dr	4AU	550	510	1760	3070	3130	0.18	0.16	C or better	C or better
Olson Ln/Gillette Dr - west of EDH Blvd (2 segemtns)										
EDH Blvd to Gillete	2A	310	300	850	1540	1650	0.19	0.18	C or better	C or better
Harvard Way - EDH Blvd to Silva Valley Pkwy (1 segments)										
EDH Blvd to Silva Valley Pkwy	4AU	1370	830	1760	3070	3130	0.44	0.27	C or better	C or better

Cumulative Plus Project Roadway Segments Analysis		Peak Hour Volume		LOS Thresholds			V/ C Ratio		LOS	
Central El Dorado	Number of Lanes	AM	PM	LOS C	LOS D	LOS E	AM	PM	AM	PM
El Dorado Hills Blvd - Green Valley to US 50 (5 segments)										
Green Valley to Francisco	2A	460	440	850	1540	1650	0.28	0.27	C or better	C or better
Francisco to Governor	2A	1535	1554	850	1540	1650	0.93	0.94	D	E
Governor to Wilson	4AD	2300	2290	1850	3220	3290	0.70	0.70	D	D
Wilson to Serrano	4AD	2740	2840	1850	3220	3290	0.83	0.86	D	D
Serrano to Saratoga	5AD	3310	3520	2350	4060	4110	0.81	0.86	D	D
Saratoga to US 50	7AD	2700	3050	3215	5410	5420	0.50	0.56	C or better	C or better
Latrobe Road - US 50 to S. Shingle Rd (5 Segemtns)										
US 50 to Town Center	7AD	4380	5110	3215	5410	5420	0.81	0.94	D	D
Town Center to White Rock Rd	6AD	3110	3340	2760	4680	4710	0.66	0.71	D	D
White Rock to Golden Foothill Pkwy	6AD	2300	2670	2760	4680	4710	0.49	0.57	C or better	C or better
Golden Foothill Pkwy to Sun Ridge Meadow Rd	4AU	1600	1590	1760	3070	3130	0.51	0.51	C or better	C or better
Sun Ridge Meadow Rd to S. Shingle Rd	2A	590	600	850	1540	1650	0.36	0.36	C or better	C or better
White Rock Road - Scott Road to US 50 (5 Segments)										
Scott Rd to Four Seasons Dr.	4AD	1560	2040	1850	3220	3290	0.47	0.62	C or better	D
Four Seasons Dr to Latrobe Rd	4AD	1640	2000	1850	3220	3290	0.50	0.61	C or better	D
Latrobe Rd to Vine St	6AD	1490	1780	2760	4680	4710	0.32	0.38	C or better	C or better
Vine St to US 50	6AD	1730	2260	2760	4680	4710	0.37	0.48	C or better	C or better
Silva Valley Pkwy - Green Valley Rd to US 50 (4 Segments)										
Green Valley to Glenwood Way	2A	920	910	850	1540	1650	0.56	0.55	D	D
Glenwood Way to Appian Way	2A	770	900	850	1540	1650	0.47	0.55	C or better	D
Appian Way to Harvard Way	2A	1110	1010	850	1540	1650	0.67	0.61	D	D
Harvard Way to Serrano Pkwy	4AD	2160	1900	1850	3220	3290	0.66	0.58	D	D
Serrano Pkwy to US 50	4AD	2660	2610	1850	3220	3290	0.81	0.79	D	D
Serrano Pkwy - EDH Blvd to Bass Lake Rd - 3 segments										
EDH Blvd to Silva Valley Pkwy	2A	1000	920	850	1540	1650	0.61	0.56	D	D
Silva Valley to Villagio Dr	4AD	1800	1750	1850	3220	3290	0.55	0.53	C or better	C or better
Villagio Dr to Bass Lake Rd	2A	1010	1100	850	1540	1650	0.61	0.67	D	D
Saratoga Way - west of EDH Blvd (2 segments)										
EDH to Arrowhead	2A	1110	1560	850	1540	1650	0.67	0.95	D	E
Wilson Way - west of EDH Blvd (2 segments)										
EDH Blvd to Ridgeview Dr	4AU	550	510	1760	3070	3130	0.18	0.16	C or better	C or better
Olson Ln/Gillette Dr - west of EDH Blvd (2 segemtns)										
EDH Blvd to Gillete	2A	310	300	850	1540	1650	0.19	0.18	C or better	C or better
Harvard Way - EDH Blvd to Silva Valley Pkwy (1 segments)										
EDH Blvd to Silva Valley Pkwy	4AU	1380	840	1760	3070	3130	0.44	0.27	C or better	C or better

Project: Serrano/Pedregal
Freeway Corridor: Eastbound US 50

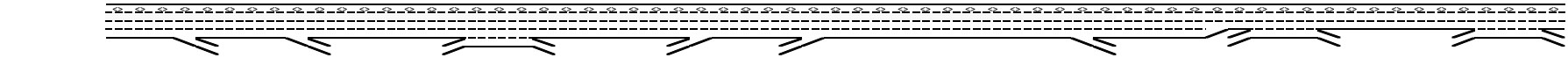
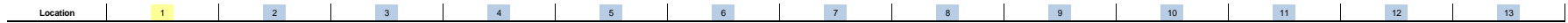
Alternative: Cumulative No Project
Time Period: AM Peak Hour

Data Entry Value
Calculated Value

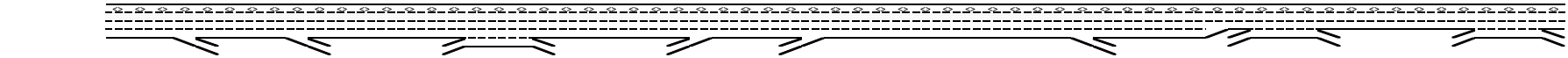
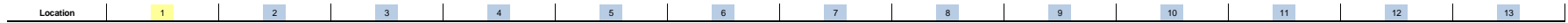


Key
 <- Express Lane (HOV)
 No Trucks

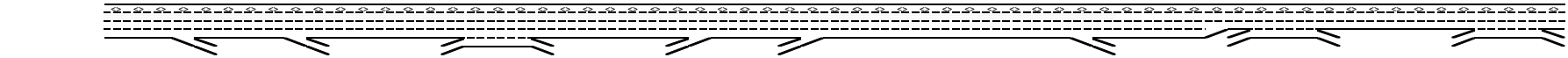
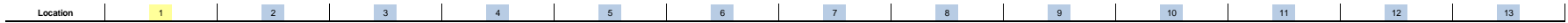
Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Define Freeway Segment													
Type	Diverge	Diverge	Basic	Weave	Basic	Merge	Merge	Basic	Diverge	Basic	Weave	Basic	Weave
Length (ft)	1,500	850	1,975	3,000	1,575	800	3,400	3,400	1,500	2,100	5,725	1,350	8,250
Accel Length						550	500						
Decel Length	150	150							150				
Mainline Volume	4,020	2,930	2,740	2,740	3,220	3,220	3,500	3,710	3,710	2,800	2,800	2,910	2,910
On Ramp Volume				770		280	210				430		1,160
Off Ramp Volume	1,090	190		290					910		320		1,130
Express Lane Volume	442	322	301	301	451	451	490	519	519	392	364	378	378
EL On Ramp Volume													
EL Off Ramp Volume													
Calculate Flow Rate in General Purpose Lanes (GP)													
GP Volume (vph)	3,578	2,608	2,439	3,209	2,769	3,049	3,220	3,191	3,191	2,408	2,866	2,532	3,692
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
GP Lanes	3	3	3	4	3	3	3	3	3	3	3	2	3
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	5.0	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{lv}	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.862	0.980	0.980	0.980	0.980	0.980
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	3,967	2,891	2,704	3,557	3,070	3,381	3,570	4,023	3,537	2,670	3,178	2,907	4,093
GP Flow (pcphp)	1,322	964	901	889	1,023	1,127	1,190	1,341	1,179	890	1,059	1,403	1,364
Calculate Speed in General Purpose Lanes													
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
f _{lv}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{lc}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes													
v/c ratio	0.56	0.41	0.38	0.38	0.44	0.48	0.51	0.57	0.50	0.38	0.45	0.60	0.58
Speed (mph)	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Density (pcphp)	20.3	14.8	13.9	13.7	15.7	17.3	18.3	20.6	18.1	13.7	16.3	21.6	21.0
LOS	C	B	B	B	B	B	C	C	C	B	B	C	C
Calculate Operations for Entering GP Lanes													
GP _{IN} Vol (pcph)				2,712		3,073	3,339				2,566		2,813
GP _{IN} Cap (pcph)				7,050		7,050	7,050				4,700		4,700
GP _{IN} v/c ratio				0.38		0.44	0.47				0.55		0.60
Calculate Operations for Exiting GP Lanes													
GP _{OUT} Vol (pcph)	2,770	2,683		3,248					2,295	2,670	2,836		2,839
GP _{OUT} Cap (pcph)	7,050	7,050		7,050					7,050	4,700	4,700		4,700
GP _{OUT} v/c ratio	0.39	0.38		0.46					0.33	0.57	0.60		0.60
Calculate Flow Rate in Express Lanes (EL)													



Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park	
EL Volume (vph)	442	322	301	301	451	451	490	519	519	392	364	378	378	
PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1	1	
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level	
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5	
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2	
f _{sv}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990	
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
EL Flow (pcph)	525	383	358	358	536	536	582	666	617	466	433	450	450	
EL Flow (pcphp)	525	383	358	358	536	536	582	666	617	466	433	450	450	
Calculate Speed in Express Lanes														
Lane Width (ft)														
Shoulder Width														
TRD														
f _{lv}														
f _{lc}														
Calcd FFS														
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65	
Calculate Operations in Express Lanes														
EL _{ex} v/c ratio	0.30	0.22	0.20	0.20	0.31	0.31	0.33	0.38	0.35	0.27	0.25	0.26	0.26	
Calculate On Ramp Flow Rate														
On Volume (vph)				770		280		210				430		1,160
PHF				0.92		0.92		0.92				0.71		0.92
Total Lanes				1		1		1				1		1
Terrain				Level		Level		Level				Level		Level
Grade %				0.0%		0.0%		0.0%				0.0%		0.0%
Grade Length (mi)				0.00		0.00		0.00				0.00		0.00
Truck & Bus %				2.0%		2.0%		2.0%				2.0%		3.0%
RV %				0.0%		0.0%		0.0%				0.0%		0.0%
E _T				1.5		1.5		1.5				1.5		1.5
E _R				1.2		1.2		1.2				1.2		1.2
f _{sv}				0.990		0.990		0.990				0.990		0.985
f _p				1.00		1.00		1.00				1.00		1.00
On Flow (pcph)				845		307		231				612		1,280
On Flow (pcphp)				845		307		231				612		1,280
Calculate On Ramp Roadway Operations														
On Ramp Type				Right		Right		Right				Right		Right
On Ramp Speed (mph)				45		25		45				45		45
On Ramp Cap (pcph)				2,100		1,900		2,100				2,100		2,100
On Ramp v/c ratio				0.40		0.16		0.11				0.29		0.61
Calculate Off Ramp Flow Rate														
Off Volume (vph)	1,090	190		290					910		320		1,130	
PHF	0.92	0.92		0.95					0.74		0.95		0.91	
Total Lanes	1	1		1					1		1		1	
Terrain	Level	Level		Level					Level		Level		Level	
Grade %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%	

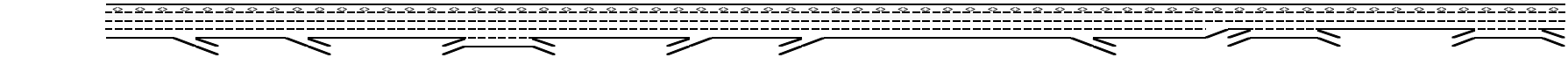
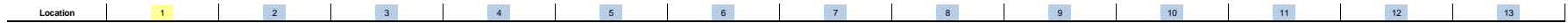


Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Grade Length (m)	0.00	0.00		0.00					0.00		0.00		0.00
Truck & Bus %	2.0%	2.0%		3.0%					2.0%		3.0%		2.0%
RV %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%
E ₁	1.5	1.5		1.5					1.5		1.5		1.5
E ₂	1.2	1.2		1.2					1.2		1.2		1.2
f _w	0.990	0.990		0.985					0.990		0.985		0.990
f _p	1.00	1.00		1.00					1.00		1.00		1.00
Off Flow (pcph)	1,197	209		310					1,242		342		1,254
Off Flow (pcpp)	1,197	209		310					1,242		342		1,254
Calculate Off Ramp Roadway Operations													
Off Ramp Type	Right	Right		Right					Right		Right		Right
Off Ramp Speed	45	25		45					45		45		45
Off Ramp Cap (pcph)	2,100	1,900		2,100					2,100		2,100		2,100
Off Ramp v/c ratio	0.57	0.11		0.15					0.59		0.16		0.60
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps													
Up Type		Off				Off	On		Off		Off		Off
Up Distance		2,350				1,575	800		4,900		2,100		1,350
Up Flow (pcph)		1,197				310	307		310		1,242		342
Down Type	Off	On				On	On		On		On		No
Down Distance	850	1,975				2,900	3,400		2,100		1,350		
Down Flow (pcph)	209	845				612	612		612		1,280		
Calculate Merge Influence Area Operations													
Effective v ₀ (pcph)						3,073	3,339						
Up Ramp L ₀						-127	937						
Down Ramp L ₀						3,631	3,750						
P _{FM} (Eqn 13-3)						0.593	0.592						
P _{FM} (Eqn 13-4)		#VALUE!				0.700			#VALUE!		#VALUE!		#VALUE!
P _{FM} (Eqn 13-5)	0.613												
P _{FM}						0.593	0.592						
v ₁₂ (pcph)						1,822	1,975						
v ₃ (pcph)						1,251	1,364						
v ₃₄ (pcph)													
v ₁₂₄ (pcph)						1,822	1,975						
v ₁₂₄₃ (pcph)						2,130	2,206						
Merge Speed Index						0.33	0.31						
Merge Area Speed						57.5	57.8						
Outer Lanes Volume						1,251	1,364						
Outer Lanes Speed						62.3	61.9						
Segment Speed						59.2	59.3						
Merge v/c ratio						0.46	0.48						
Merge Density						18.5	19.4						
Merge LOS						B	B						
Calculate Diverge Influence Area Operations													
Effective v ₀ (pcph)	3,967	2,891							3,537				
Up Ramp L ₀		9,837							5,345				
Down Ramp L ₀	359	862							1,057				
P _{FD} (Eqn 13-9)	0.606	0.678							0.614				
P _{FD} (Eqn 13-10)													
P _{FD} (Eqn 13-11)	0.563												
P _{FD}	0.606	0.678							0.614				
v ₁₂ (pcph)	2,875	2,028							2,652				
v ₃ (pcph)	1,092	863							885				



Key
 ⇌ Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
V ₅₄ (pcph)									2,652				
V ₁₂₄ (pcph)	2,875	2,028											
Diverge Speed Index	0.41	0.58							0.41				
Diverge Area Speed	55.7	51.7							55.6				
Outer Lanes Volume	1,092	863							885				
Outer Lanes Speed	70.9	71.3							71.3				
Segment Speed	59.2	56.4							58.8				
Diverge v/c ratio	0.65	0.46							0.60				
Diverge Density	27.6	20.3							25.7				
Diverge LOS	C	C							C				
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments													
On to Off Volume (vph)				50							10		460
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				3.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{av}				0.985							0.990		0.990
f _p				1.00							1.00		1.00
On to Off Flow (pcph)				55							11		505
Calculate On Ramp to Mainline Flow Rate for Weave Segments													
On to ML Volume (vph)				720							420		700
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				3.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{av}				0.985							0.990		0.990
f _p				1.00							1.00		1.00
On to ML Flow (pcph)				794							461		768
Calculate Mainline to Off Ramp Flow Rate for Weave Segments													
ML to Off Volume (vph)				240							310		670
PHF				0.95							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				6.0%							4.0%		4.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{av}				0.971							0.980		0.980
f _p				1.00							1.00		1.00
ML to Off Flow (pcph)				260							344		743
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments													
GP to GP Volume (vph)				2,199							2,126		1,862
PHF				0.95							0.92		0.92



Key
 ⇌ Express Lane (HOV)
 No Trucks

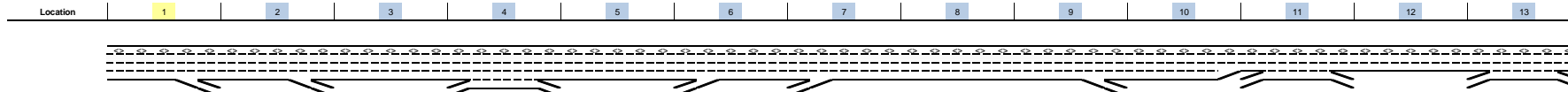
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Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				6.0%							4.0%		4.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{RV}				0.971							0.980		0.980
f _p				1.00							1.00		1.00
GP to GP Flow (pcph)				2,384							2,357		2,064
Calculate Weave Segment Operations													
Weave Type				One-sided							One-sided		One-sided
Weave Length				2,000							4,725		7,250
Segment Lanes				3							2		2
Weave Lanes				3					3		2		2
Weave Flow (pcph)				1,055							805		1,511
Non-Weave Flow				2,439							2,368		2,569
Segment Flow				3,493							3,173		4,080
Max Weave Length				4,038							5,092		6,351
Length Check				OK							OK		Not a Weave
Ideal Weave Capacity				2,194							2,322		2,419
f _{we}				0.974							0.982		0.983
f _p				0.997							0.999		0.998
Capacity Condition 1				6,392							4,553		4,748
Capacity Condition 2				11,259							9,277		6,360
Weave v/c ratio				0.53							0.68		0.84
Interchange Density				3							5		2
Lane Changes On to ML				1							1		1
Lane Changes ML to Off				1							1		1
Lane Changes On to Off				0							0		0
Min Lane Change Rate				1,055							805		1,511
Weave LC Rate				1,650							2,534		4,274
Non-Weave LC Rate 1				1,009							2,664		4,074
Non-Weave LC Rate 2				2,233							2,217		2,262
Non-Weave LC Rate 3				1,316							-286		-2,686
Segment LC Rate				2,967							4,751		6,536
Weave Intensity Factor				0.308							0.227		0.208
Weave Speed				53.2							55.8		56.4
Non-Weave Speed				51.8							51.6		44.3
Segment Speed				52.2							52.6		48.1
Weave Density				22.3							30.2		-
Weave LOS				C							D		Basic
Summarize Segment Operations													
Segment v/c ratio	0.65	0.46	0.38	0.53	0.44	0.46	0.48	0.57	0.60	0.38	0.68	0.60	0.58
Segment Density	27.6	20.3	13.9	22.3	15.7	18.5	19.4	20.6	25.7	13.7	30.2	21.6	21.0
Segment LOS	C	C	B	C	B	B	B	C	C	B	D	C	C
Over Capacity													

Project: Serrano/Pedregal
Freeway Corridor: Eastbound US 50

Alternative: Cumulative No Project
Time Period: PM Peak Hour

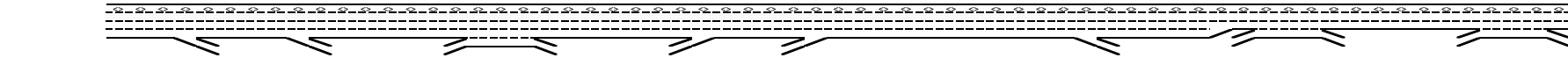
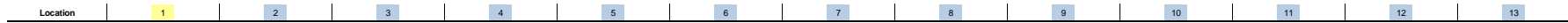
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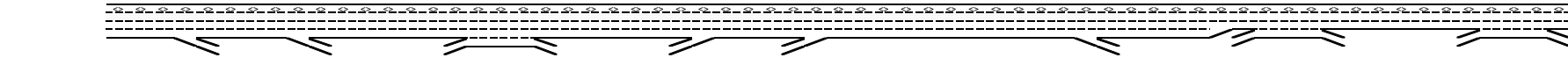
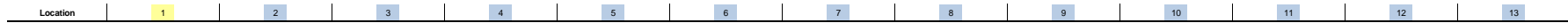
Key
 <- Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Define Freeway Segment													
Type	Diverge	Diverge	Basic	Weave	Basic	Merge	Merge	Basic	Diverge	Basic	Weave	Basic	Weave
Length (ft)	1,500	850	1,975	3,000	1,575	800	3,400	3,400	1,500	2,100	6,625	1,350	8,250
Accel Length						550	500						
Decel Length	150	150							150				
Mainline Volume	6,510	5,750	5,220	5,220	5,220	5,220	5,580	6,350	6,350	4,650	4,650	4,200	4,200
On Ramp Volume				700		360	770				260		1,130
Off Ramp Volume	760	530		700					1,700		710		1,660
Express Lane Volume	977	863	783	679	679	679	725	953	953	698	698	630	588
EL On Ramp Volume													
EL Off Ramp Volume													
Calculate Flow Rate in General Purpose Lanes (GP)													
GP Volume (vph)	5,534	4,888	4,437	5,241	4,541	4,901	5,625	5,398	5,398	3,953	4,213	3,570	4,742
PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
GP Lanes	3	3	3	4	3	3	3	3	3	3	3	2	3
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	6.0	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{lv}	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.952	0.995	0.995	0.995	0.995	0.995
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	5,733	5,064	4,597	5,431	4,705	5,078	5,828	5,843	5,592	4,095	4,364	3,699	4,913
GP Flow (pcphp)	1,911	1,688	1,532	1,358	1,568	1,693	1,943	1,948	1,864	1,365	1,455	1,249	1,638
Calculate Speed in General Purpose Lanes													
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
f _{lv}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{lc}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes													
v/c ratio	0.81	0.72	0.65	0.58	0.67	0.72	0.83	0.83	0.79	0.58	0.62	0.79	0.70
Speed (mph)	61.3	63.8	64.8	65.0	64.6	63.8	60.8	60.7	61.9	65.0	65.0	62.1	64.2
Density (pcphp)	31.2	26.4	23.7	20.9	24.3	26.5	31.9	32.1	30.1	21.0	22.4	29.8	25.5
LOS	D	D	C	C	C	D	D	D	D	C	C	D	C
Calculate Operations for Entering GP Lanes													
GP _{IN} Vol (pcph)				4,662		4,683	4,982				3,995		3,706
GP _{IN} Cap (pcph)				7,050		7,050	7,050				4,700		4,700
GP _{IN} v/c ratio				0.66		0.66	0.71				0.85		0.79
Calculate Operations for Exiting GP Lanes													
GP _{OUT} Vol (pcph)	4,899	4,482		4,658					3,822	4,095	3,606		3,071
GP _{OUT} Cap (pcph)	7,050	7,050		7,050					7,050	4,700	4,700		4,700
GP _{OUT} v/c ratio	0.69	0.64		0.66					0.54	0.87	0.77		0.65
Calculate Flow Rate in Express Lanes (EL)													



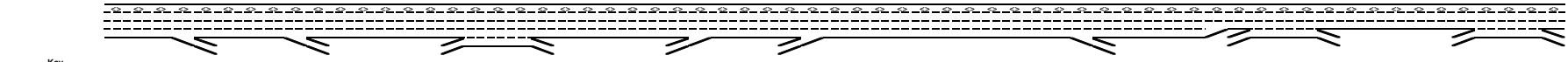
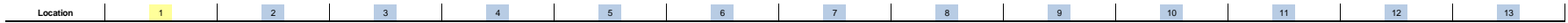
Key
 ⇔ Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
EL Volume (vph)	977	863	783	679	679	679	725	953	953	698	698	630	588
PHF	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{sv}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	1,096	968	879	762	762	762	814	1,154	1,069	783	783	707	660
EL Flow (pcphp)	1,096	968	879	762	762	762	814	1,154	1,069	783	783	707	660
Calculate Speed in Express Lanes													
Lane Width (ft)													
Shoulder Width													
TRD													
f _{lv}													
f _{lc}													
Calcd FFS													
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes													
EL _{ex} v/c ratio	0.63	0.55	0.50	0.44	0.44	0.44	0.47	0.66	0.61	0.45	0.45	0.40	0.38
Calculate On Ramp Flow Rate													
On Volume (vph)				700		360	770				260		1,130
PHF				0.92		0.92	0.92				0.71		0.95
Total Lanes				1		1	1				1		1
Terrain				Level		Level	Level				Level		Level
Grade %				0.0%		0.0%	0.0%				0.0%		0.0%
Grade Length (mi)				0.00		0.00	0.00				0.00		0.00
Truck & Bus %				2.0%		2.0%	2.0%				2.0%		3.0%
RV %				0.0%		0.0%	0.0%				0.0%		0.0%
E _T				1.5		1.5	1.5				1.5		1.5
E _R				1.2		1.2	1.2				1.2		1.2
f _{sv}				0.990		0.990	0.990				0.990		0.985
f _p				1.00		1.00	1.00				1.00		1.00
On Flow (pcph)				768		395	845				370		1,207
On Flow (pcphp)				768		395	845				370		1,207
Calculate On Ramp Roadway Operations													
On Ramp Type				Right		Right	Right				Right		
On Ramp Speed (mph)				45		25	45				45		
On Ramp Cap (pcph)				2,100		1,900	2,100				2,100		
On Ramp v/c ratio				0.37		0.21	0.40				0.18		
Calculate Off Ramp Flow Rate													
Off Volume (vph)	760	530		700					1,700		710		1,660
PHF	0.92	0.92		0.92					0.97		0.95		0.91
Total Lanes	1	1		1					1		1		1
Terrain	Level	Level		Level					Level		Level		Level
Grade %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%



Key
 ⇌ Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Grade Length (mi)	0.00	0.00		0.00					0.00		0.00		0.00
Truck & Bus %	2.0%	2.0%		3.0%					2.0%		3.0%		2.0%
RV %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%
E _T	1.5	1.5		1.5					1.5		1.5		1.5
E _R	1.2	1.2		1.2					1.2		1.2		1.2
f _{sv}	0.900	0.900		0.985					0.900		0.985		0.900
f _p	1.00	1.00		1.00					1.00		1.00		1.00
Off Flow (pcph)	834	582		772					1,770		759		1,842
Off Flow (pcphp)	834	582		772					1,770		759		1,842
Calculate Off Ramp Roadway Operations													
Off Ramp Type	Right	Right		Right					Right				Right
Off Ramp Speed	45	25		45					45				45
Off Ramp Cap (pcph)	2,100	1,900		2,100					2,100				2,100
Off Ramp v/c ratio	0.40	0.31		0.37					0.84				0.88
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps													
Calculate Merge Influence Area Operations													
Calculate Diverge Influence Area Operations													
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments													
On to Off Volume (vph)				419							162		551
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				2.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{sv}				0.900							0.900		0.900
f _p				1.00							1.00		1.00
On to Off Flow (pcph)				460							178		605
Calculate On Ramp to Mainline Flow Rate for Weave Segments													
On to ML Volume (vph)				281							98		579
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				2.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{sv}				0.900							0.900		0.900
f _p				1.00							1.00		1.00
On to ML Flow (pcph)				308							108		636
Calculate Mainline to Off Ramp Flow Rate for Weave Segments													
ML to Off Volume (vph)				281							548		1,109
PHF				0.97							0.97		0.97
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				1.0%							1.0%		1.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5



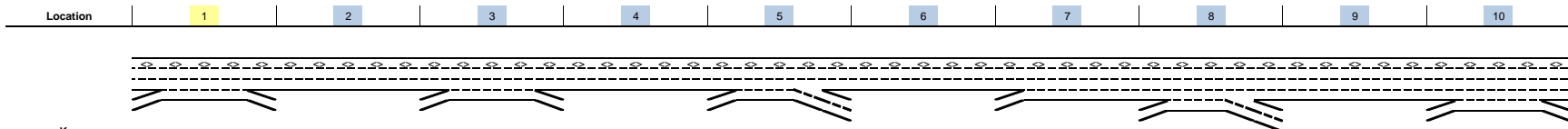
Key
 ⇔ Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
E_p				1.2							1.2		1.2
f_{hw}				0.995							0.995		0.995
f_p				1.00							1.00		1.00
ML to Off Flow (pcph)				291							568		1,149
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments													
GP to GP Volume (vph)				4,260							3,405		2,503
PHF				0.92							0.97		0.97
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				1.0%							1.0%		1.0%
RV %				0.0%							0.0%		0.0%
E_T				1.5							1.5		1.5
E_d				1.2							1.2		1.2
f_{hw}				0.995							0.995		0.995
f_p				1.00							1.00		1.00
GP to GP Flow (pcph)				4,654							3,527		2,593
Calculate Weave Segment Operations													
Weave Type				One-sided							One-sided		One-sided
Weave Length				2,000							5,625		7,250
Segment Lanes				3							2		2
Weave Lanes				3					3		2		2
Weave Flow (pcph)				600							675		1,785
Non-Weave Flow				5,114							3,705		3,198
Segment Flow				5,714							4,381		4,983
Max Weave Length				2,022							4,073		6,216
Length Check				OK							Not a Weave		Not a Weave
Ideal Weave Capacity				2,348							2,469		2,429
f_{hw}				0.994							0.995		0.994
f_p				0.999							1.000		0.999
Capacity Condition 1				7,002							4,910		4,822
Capacity Condition 2				33,144							15,481		6,651
Weave v/c ratio				0.81							0.89		1.03
Interchange Density				3							5		2
Lane Changes On to ML				1							1		1
Lane Changes ML to Off				1							1		1
Lane Changes On to Off				0							0		0
Min Lane Change Rate				600							675		1,785
Weave LC Rate				1,195							2,756		4,547
Non-Weave LC Rate 1				1,560							3,427		4,203
Non-Weave LC Rate 2				2,829							2,515		2,402
Non-Weave LC Rate 3				5,014							-9,364		-5,044
Segment LC Rate				4,025							5,271		6,949
Weave Intensity Factor				0.392							0.215		0.219
Weave Speed				50.9							56.2		56.0
Non-Weave Speed				51.5							49.6		40.2
Segment Speed				51.5							50.5		44.7
Weave Density				37.0							-		-
Weave LOS				E							Basic		Basic
Summarize Segment Operations													
Segment v/c ratio	0.84	0.75	0.65	0.81	0.67	0.69	0.82	0.83	0.87	0.58	0.62	0.79	0.70
Segment Density	34.6	31.3	23.7	37.0	24.3	26.6	31.5	32.1	35.8	21.0	22.4	29.8	25.5
Segment LOS	D	D	C	E	C	C	D	D	E	C	C	D	C

Project: Serrano/Pedregal
Freeway Corridor: Westbound US 50

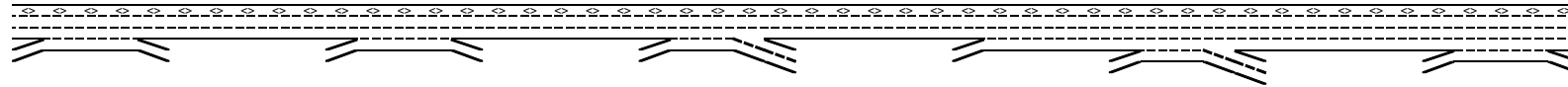
Alternative: Cumulative No Project
Time Period: AM Peak Hour

Data Entry Value
Calculated Value



Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Define Freeway Segment										
Type	Weave	Basic	Weave	Basic	Weave	Basic	Basic	Weave	Basic	Weave
Length (ft)	7,325	1,250	8,250	2,350	6,500	2,350	800	4,425	2,300	4,775
Accel Length										
Decel Length										
Mainline Volume	3,300	3,340	3,340	3,810	3,810	4,450	4,450	4,480	4,600	4,600
On Ramp Volume	950		640		1,880		30	1,010		1,620
Off Ramp Volume	910		170		1,240			890		1,890
Express Lane Volume	495	501	534	610	610	712	712	672	828	828
EL On Ramp Volume										
EL Off Ramp Volume										
Calculate Flow Rate in General Purpose Lanes (GP)										
GP Volume (vph)	3,755	2,839	3,446	3,200	5,080	3,738	3,768	4,818	3,772	5,392
PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
GP Lanes	3	2	3	2	3	2	4	4	3	4
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	4,015	3,035	3,684	3,422	5,432	3,996	4,029	5,151	4,033	5,765
GP Flow (pcphpl)	1,338	1,518	1,228	1,711	1,811	1,998	1,007	1,288	1,344	1,441
Calculate Speed in General Purpose Lanes										
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes										
v/c ratio	0.57	0.65	0.52	0.73	0.77	0.85	0.43	0.55	0.57	0.61
Speed (mph)	65.0	64.8	65.0	63.6	62.6	59.9	65.0	65.0	65.0	65.0

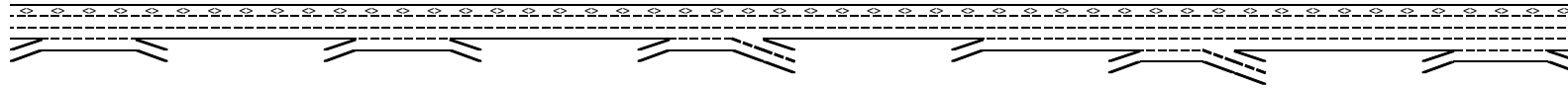
Location	1	2	3	4	5	6	7	8	9	10
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Key
 <-> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Density (pcphpl)	20.6	23.4	18.9	26.9	28.9	33.3	15.5	19.8	20.7	22.2
LOS	C	C	C	D	D	D	B	C	C	C
Calculate Operations for Entering GP Lanes										
GP _N Vol (pcph)			3,011		3,423		3,995	4,005		3,926
GP _N Cap (pcph)	4,700		4,700		4,700		4,700	7,050		7,050
GP _N v/c ratio	0.63		0.64		0.73		0.85	0.57		0.56
Calculate Operations for Exiting GP Lanes										
GP _{OUT} Vol (pcph)			2,622		3,379			4,200		3,746
GP _{OUT} Cap (pcph)	4,700		4,700		4,700			7,050		7,050
GP _{OUT} v/c ratio	0.56		0.75		0.72			0.60		0.53
Calculate Flow Rate in Express Lanes (EL)										
EL Volume (vph)	495	501	534	610	610	712	712	672	828	828
PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Express Lanes	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HW}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	562	569	606	692	692	808	808	763	940	940
EL Flow (pcphpl)	562	569	606	692	692	808	808	763	940	940
Calculate Speed in Express Lanes										
Lane Width (ft)										
Shoulder Width										
TRD										
f _{LW}										
f _{LC}										
Calc'd FFS										
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes										
EL _N v/c ratio	0.32	0.32	0.35	0.40	0.40	0.46	0.46	0.44	0.54	0.54
Calculate On Ramp Flow Rate										
On Volume (vph)	950		640		1,880		30	1,010		1,620
PHF	0.92		0.96		0.95		0.89	0.89		0.89
Total Lanes	1		1		1		1	1		1

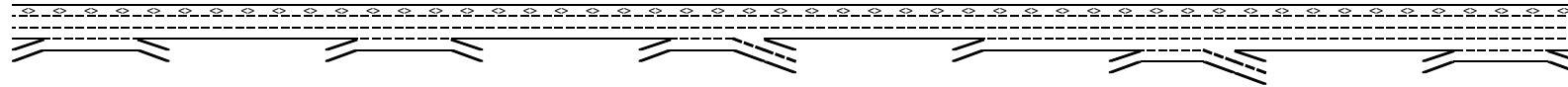
Location	1	2	3	4	5	6	7	8	9	10
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Key
 <-> Express Lane (HOV)
 - - - No Trucks

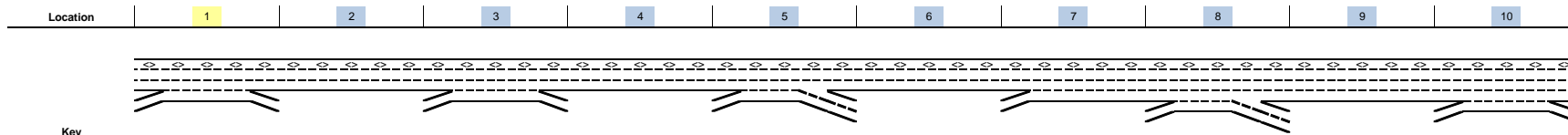
Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Terrain	Level		Level		Level		Level	Level		Level
Grade %	0.0%		0.0%		0.0%		0.0%	0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00		0.00	0.00		0.00
Truck & Bus %	2.0%		2.0%		3.0%		2.0%	2.0%		2.0%
RV %	0.0%		0.0%		0.0%		0.0%	0.0%		0.0%
E _T	1.5		1.5		1.5		1.5	1.5		1.5
E _R	1.2		1.2		1.2		1.2	1.2		1.2
f _{IV}	0.990		0.990		0.985		0.990	0.990		0.990
f _P	1.00		1.00		1.00		1.00	1.00		1.00
On Flow (pcph)	1,043		673		2,009		34	1,146		1,838
On Flow (pcphpl)	1,043		673		2,009		34	1,146		1,838
Calculate On Ramp Roadway Operations										
On Ramp Type	Right		Right				Right	Right		Right
On Ramp Speed (mph)	45		25				45	45		45
On Ramp Cap (pcph)	2,100		1,900				2,100	2,100		2,100
On Ramp v/c ratio	0.50		0.35				0.02	0.55		0.88
Calculate Off Ramp Flow Rate										
Off Volume (vph)	910		170		1,240			890		1,890
PHF	0.66		0.95		0.61			0.95		0.95
Total Lanes	1		1		2			2		1
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	2.0%		3.0%		2.0%			3.0%		3.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{IV}	0.990		0.985		0.990			0.985		0.985
f _P	1.00		1.00		1.00			1.00		1.00
Off Flow (pcph)	1,393		182		2,053			951		2,019
Off Flow (pcphpl)	1,393		182		1,027			475		2,019
Calculate Off Ramp Roadway Operations										
Off Ramp Type	Right		Right		Right			Right		Right
Off Ramp Speed	45		45		45			25		45
Off Ramp Cap (pcph)	2,100		2,100		4,200			3,800		2,100
Off Ramp v/c ratio	0.66		0.09		0.49			0.25		0.96
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps										
Up Type			Off		Off					
Up Distance			1,250		2,350					
Up Flow (pcph)			1,393		182					

Location	1	2	3	4	5	6	7	8	9	10
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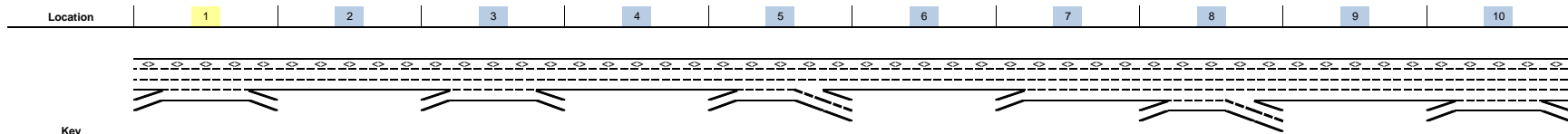
Key
 <-> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Down Type	On		No		On					
Down Distance	1,250				8,850					
Down Flow (pcph)	673				34					
Calculate Merge Influence Area Operations										
Calculate Diverge Influence Area Operations										
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments										
On to Off Volume (vph)	228		112		785			164		830
PHF	0.92		0.92		0.92			0.92		0.92
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	2.0%		2.0%		2.0%			2.0%		2.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{HV}	0.990		0.990		0.990			0.990		0.990
f _P	1.00		1.00		1.00			1.00		1.00
On to Off Flow (pcph)	250		123		862			180		911
Calculate On Ramp to Mainline Flow Rate for Weave Segments										
On to ML Volume (vph)	722		528		1,095			846		790
PHF	0.92		0.92		0.92			0.92		0.92
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		2.0%		2.0%			2.0%		2.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{HV}	0.995		0.990		0.990			0.990		0.990
f _P	1.00		1.00		1.00			1.00		1.00
On to ML Flow (pcph)	789		579		1,202			928		867
Calculate Mainline to Off Ramp Flow Rate for Weave Segments										
ML to Off Volume (vph)	682		58		455			726		1,060
PHF	0.94		0.94		0.94			0.94		0.94
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2



Key
 <> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
f_{HV}	0.995		0.995		0.995			0.995		0.995
f_p	1.00		1.00		1.00			1.00		1.00
ML to Off Flow (pcph)	729		62		486			776		1,133
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments										
GP to GP Volume (vph)	2,123		2,748		2,745			3,082		2,712
PHF	0.94		0.94		0.94			0.94		0.94
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E_T	1.5		1.5		1.5			1.5		1.5
E_R	1.2		1.2		1.2			1.2		1.2
f_{HV}	0.995		0.995		0.995			0.995		0.995
f_p	1.00		1.00		1.00			1.00		1.00
GP to GP Flow (pcph)	2,270		2,938		2,935			3,296		2,900
Calculate Weave Segment Operations										
Weave Type	One-sided		One-sided		One-sided			One-sided		One-sided
Weave Length	6,325		7,250		5,500			3,425		3,775
Segment Lanes	2		2		2			3		3
Weave Lanes	2		2		3			3		3
Weave Flow (pcph)	1,518		641		1,689			1,704		2,001
Non-Weave Flow	2,520		3,061		3,797			3,476		3,811
Segment Flow	4,038		3,702		5,486			5,180		5,811
Max Weave Length	6,412		4,264		4,102			4,331		4,497
Length Check	OK		Not a Weave		Not a Weave			OK		OK
Ideal Weave Capacity	2,343		2,578		2,457			2,281		2,295
f_{HV}	0.995		0.994		0.993			0.994		0.994
f_p	0.999		0.998		0.998			0.998		0.999
Capacity Condition 1	4,657		5,118		4,870			6,789		6,829
Capacity Condition 2	6,345		13,753		11,268			10,556		10,086
Weave v/c ratio	0.86		0.72		1.12			0.76		0.84
Interchange Density	3		5		5			4		3
Lane Changes On to ML	1		1		1			1		1
Lane Changes ML to Off	1		1		1			1		1
Lane Changes On to Off	0		0		0			0		0
Min Lane Change Rate	1,518		641		1,689			1,704		2,001
Weave LC Rate	3,903		3,355		3,720			2,820		3,289
Non-Weave LC Rate 1	3,562		4,175		3,378			1,995		2,253
Non-Weave LC Rate 2	2,251		2,372		2,536			2,464		2,539
Non-Weave LC Rate 3	-3,461		-23,002		-8,468			4,496		3,578
Segment LC Rate	6,154		5,727		6,256			5,284		5,827



Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Weave Intensity Factor	0.221		0.188		0.250			0.318		0.318
Weave Speed	55.9		57.1		55.0			52.9		52.9
Non-Weave Speed	44.4		51.5		39.7			44.4		41.3
Segment Speed	48.1		52.4		43.4			46.9		44.7
Weave Density	42.0		-		-			36.8		43.4
Weave LOS	E		Basic		Basic			E		E
Summarize Segment Operations										
Segment v/c ratio	0.86	0.65	0.52	0.73	0.77	0.85	0.43	0.76	0.57	0.84
Segment Density	42.0	23.4	18.9	26.9	28.9	33.3	15.5	36.8	20.7	43.4
Segment LOS	E	C	C	D	D	D	B	E	C	E
Over Capacity										

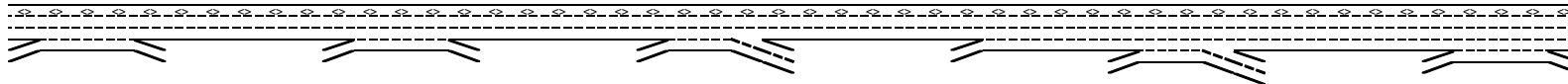
Project: Serrano/Pedregal
Freeway Corridor: Westbound US 50

Alternative: Cumulative No Project
Time Period: PM Peak Hour

Data Entry Value

Calculated Value

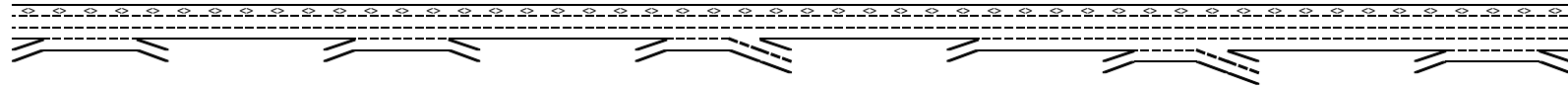
Location	1	2	3	4	5	6	7	8	9	10
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Key
 <> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Define Freeway Segment										
Type	Weave	Basic	Weave	Basic	Weave	Basic	Basic	Weave	Basic	Weave
Length (ft)	7,325	1,250	8,250	2,350	6,500	2,350	800	4,425	2,300	4,775
Accel Length										
Decel Length										
Mainline Volume	3,880	3,810	3,810	3,690	3,690	3,940	3,940	3,980	3,550	3,550
On Ramp Volume	1,010		470		1,230		40	390		1,480
Off Ramp Volume	1,080		590		980			820		1,725
Express Lane Volume		572	648	627	554	591	552	557	497	497
EL On Ramp Volume										
EL Off Ramp Volume										
Calculate Flow Rate in General Purpose Lanes (GP)										
GP Volume (vph)	4,308	3,239	3,632	3,063	4,367	3,349	3,428	3,813	3,053	4,533
PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
GP Lanes	3	2	3	2	3	2	4	4	3	4
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	4,510	3,390	3,803	3,206	4,571	3,506	3,589	3,992	3,196	4,745
GP Flow (pcphpl)	1,503	1,695	1,268	1,603	1,524	1,753	897	998	1,065	1,186
Calculate Speed in General Purpose Lanes										
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes										
v/c ratio	0.64	0.72	0.54	0.68	0.65	0.75	0.38	0.42	0.45	0.50
Speed (mph)	64.8	63.8	65.0	64.4	64.8	63.2	65.0	65.0	65.0	65.0

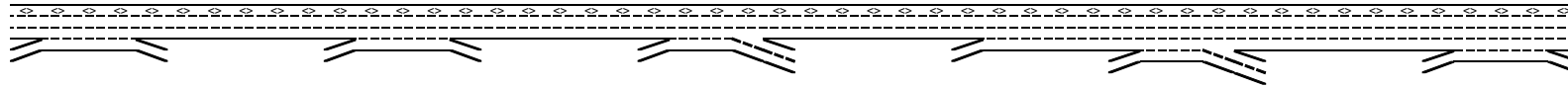
Location	1	2	3	4	5	6	7	8	9	10
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Key
 <-> Express Lane (HOV)
 - - - - - No Trucks

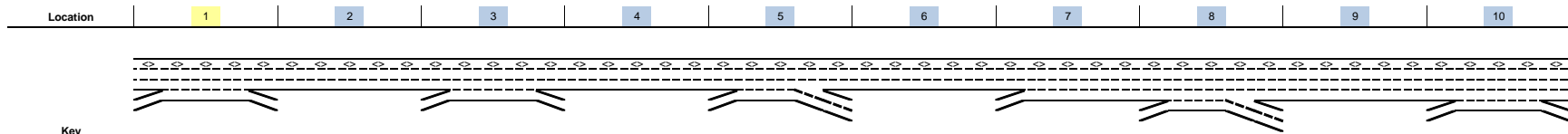
Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Density (pcphpl)	23.2	26.6	19.5	24.9	23.5	27.7	13.8	15.4	16.4	18.3
LOS	C	D	C	C	C	D	B	B	B	C
Calculate Operations for Entering GP Lanes										
GP _N Vol (pcph)			3,364		3,257		3,545	3,549		3,066
GP _N Cap (pcph)	4,700		4,700		4,700		4,700	7,050		7,050
GP _N v/c ratio	0.72		0.70		0.69		0.75	0.50		0.43
Calculate Operations for Exiting GP Lanes										
GP _{OUT} Vol (pcph)			2,857		2,949			3,115		2,902
GP _{OUT} Cap (pcph)	4,700		4,700		4,700			7,050		7,050
GP _{OUT} v/c ratio	0.61		0.67		0.63			0.44		0.41
Calculate Flow Rate in Express Lanes (EL)										
EL Volume (vph)	582	572	648	627	554	591	552	557	497	497
PHF	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Express Lanes	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HW}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	653	641	727	704	621	663	619	625	558	558
EL Flow (pcphpl)	653	641	727	704	621	663	619	625	558	558
Calculate Speed in Express Lanes										
Lane Width (ft)										
Shoulder Width										
TRD										
f _{LW}										
f _{LC}										
Calcd FFS										
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes										
EL _N v/c ratio	0.37	0.37	0.42	0.40	0.35	0.38	0.35	0.36	0.32	0.32
Calculate On Ramp Flow Rate										
On Volume (vph)	1,010		470		1,230		40	390		1,480
PHF	0.89		0.96		0.95		0.92	0.89		0.89
Total Lanes	1		1		1		1	1		1

Location	1	2	3	4	5	6	7	8	9	10
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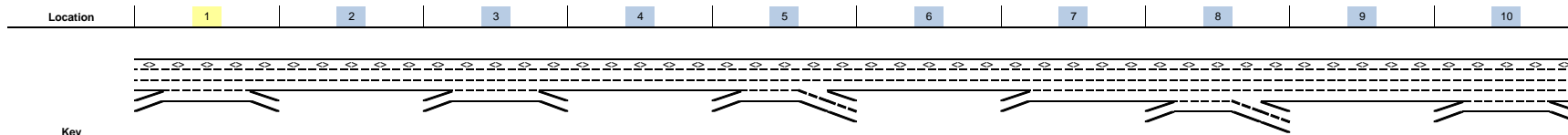


Key
 <> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Terrain	Level		Level		Level		Level	Level		Level
Grade %	0.0%		0.0%		0.0%		0.0%	0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00		0.00	0.00		0.00
Truck & Bus %	2.0%		2.0%		3.0%		2.0%	2.0%		2.0%
RV %	0.0%		0.0%		0.0%		0.0%	0.0%		0.0%
E _T	1.5		1.5		1.5		1.5	1.5		1.5
E _R	1.2		1.2		1.2		1.2	1.2		1.2
f _{IV}	0.990		0.990		0.985		0.990	0.990		0.990
f _P	1.00		1.00		1.00		1.00	1.00		1.00
On Flow (pcph)	1,146		494		1,314		44	443		1,680
On Flow (pcphpl)	1,146		494		1,314		44	443		1,680
Calculate On Ramp Roadway Operations										
On Ramp Type			Right				Right	Right		Right
On Ramp Speed (mph)	45		25				45	45		45
On Ramp Cap (pcph)			1,900				2,100	2,100		2,100
On Ramp v/c ratio			0.26				0.02	0.21		0.80
Calculate Off Ramp Flow Rate										
Off Volume (vph)	1,080		590		980			820		1,725
PHF	0.66		0.95		0.61			0.95		0.95
Total Lanes	1		1		2			2		1
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	2.0%		3.0%		2.0%			3.0%		3.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{IV}	0.990		0.985		0.990			0.985		0.985
f _P	1.00		1.00		1.00			1.00		1.00
Off Flow (pcph)	1,653		630		1,623			876		1,843
Off Flow (pcphpl)	1,653		630		811			438		1,843
Calculate Off Ramp Roadway Operations										
Off Ramp Type	Right		Right		Right			Right		Right
Off Ramp Speed	45		45		45			25		45
Off Ramp Cap (pcph)	2,100		2,100		4,200			3,800		2,100
Off Ramp v/c ratio	0.79		0.30		0.39			0.23		0.88
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps										
Up Type			Off		Off					
Up Distance			1,250		2,350					
Up Flow (pcph)			1,653		630					

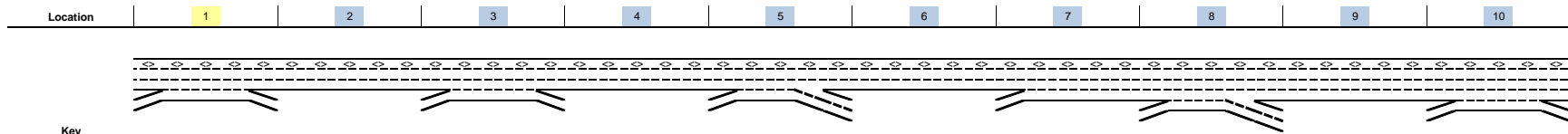


Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Down Type	On		No		On					
Down Distance	1,250				8,850					
Down Flow (pcph)	494				44					
Calculate Merge Influence Area Operations										
Calculate Diverge Influence Area Operations										
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments										
On to Off Volume (vph)	434		150		400			83		686
PHF	0.92		0.92		0.92			0.92		0.92
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	2.0%		2.0%		2.0%			2.0%		2.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{HV}	0.990		0.990		0.990			0.990		0.990
f _P	1.00		1.00		1.00			1.00		1.00
On to Off Flow (pcph)	477		165		439			91		753
Calculate On Ramp to Mainline Flow Rate for Weave Segments										
On to ML Volume (vph)	576		320		830			307		794
PHF	0.96		0.96		0.96			0.96		0.96
Terrain	Level		Level		Grade			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{HV}	0.995		0.995		0.995			0.995		0.995
f _P	1.00		1.00		1.00			1.00		1.00
On to ML Flow (pcph)	603		335		869			321		831
Calculate Mainline to Off Ramp Flow Rate for Weave Segments										
ML to Off Volume (vph)	646		440		580			737		1,039
PHF	0.96		0.96		0.95			0.96		0.96
Terrain	Level		Level		Grade			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2



Key
 <> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
f_{HV}	0.995		0.995		0.995			0.995		0.995
f_p	1.00		1.00		1.00			1.00		1.00
ML to Off Flow (pcph)	676		461		614			771		1,087
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments										
GP to GP Volume (vph)	2,652		2,722		2,556			2,686		2,014
PHF	0.96		0.96		0.96			0.96		0.96
Terrain	Level		Level		Grade			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E_T	1.5		1.5		1.5			1.5		1.5
E_R	1.2		1.2		1.2			1.2		1.2
f_{HV}	0.995		0.995		0.995			0.995		0.995
f_p	1.00		1.00		1.00			1.00		1.00
GP to GP Flow (pcph)	2,777		2,850		2,676			2,812		2,109
Calculate Weave Segment Operations										
Weave Type	One-sided		One-sided		One-sided			One-sided		One-sided
Weave Length	6,325		7,250		5,500			3,425		3,775
Segment Lanes	2		2		2			3		3
Weave Lanes	2		2		3			3		3
Weave Flow (pcph)	1,279		796		1,483			1,092		1,919
Non-Weave Flow	3,253		3,015		3,115			2,903		2,862
Segment Flow	4,532		3,810		4,598			3,996		4,780
Max Weave Length	5,393		4,627		4,262			3,734		5,130
Length Check	Not a Weave		Not a Weave		Not a Weave			OK		OK
Ideal Weave Capacity	2,421		2,551		2,445			2,326		2,246
f_{HV}	0.995		0.995		0.995			0.995		0.994
f_p	0.999		1.000		0.999			1.000		0.999
Capacity Condition 1	4,813		5,073		4,858			6,941		6,694
Capacity Condition 2	8,454		11,429		10,780			12,733		8,663
Weave v/c ratio	0.94		0.75		0.94			0.57		0.71
Interchange Density	3		5		5			4		3
Lane Changes On to ML	1		1		1			1		1
Lane Changes ML to Off	1		1		1			1		1
Lane Changes On to Off	0		0		0			0		0
Min Lane Change Rate	1,279		796		1,483			1,092		1,919
Weave LC Rate	3,663		3,510		3,515			2,208		3,206
Non-Weave LC Rate 1	3,713		4,165		3,237			1,877		2,058
Non-Weave LC Rate 2	2,415		2,361		2,384			2,336		2,327
Non-Weave LC Rate 3	-6.023		-22.556		-6.306			3,771		2,862
Segment LC Rate	6,078		5,871		5,899			4,544		5,534



Key
 <> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Weave Intensity Factor	0.219		0.191		0.239			0.282		0.306
Weave Speed	56.0		57.0		55.4			54.0		53.3
Non-Weave Speed	44.9		50.1		43.3			50.7		43.5
Segment Speed	47.6		51.4		46.6			51.6		47.0
Weave Density	-		-		-			25.8		33.9
Weave LOS	Basic		Basic		Basic			C		D
Summarize Segment Operations										
Segment v/c ratio	0.64	0.72	0.54	0.68	0.65	0.75	0.38	0.57	0.45	0.71
Segment Density	23.2	26.6	19.5	24.9	23.5	27.7	13.8	25.8	16.4	33.9
Segment LOS	C	D	C	C	C	D	B	C	B	D
Over Capacity										

Leisch Method for Weaving Analysis

Data Input

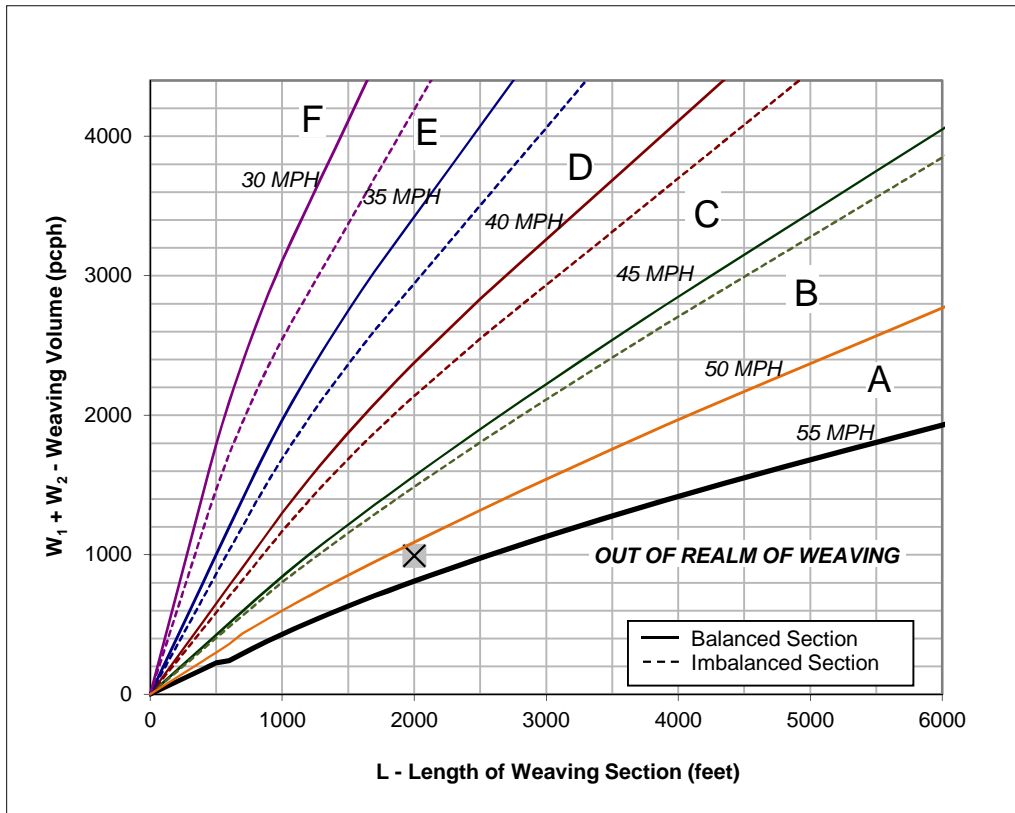
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,000

Project Information

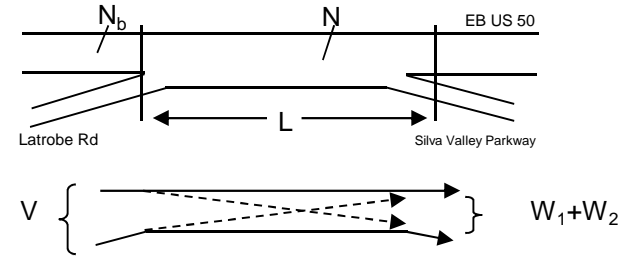
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - AM Pk Hr
Freeway	EB US 50
On-ramp	Latrobe Rd
Off-ramp	Silva Valley Parkway

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,209	Volume (vph)*	732	Volume (vph)*	252
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,273	Volume (pcph)	739	Volume (pcph)	255

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **51.8**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **818**
- Level of Service (LOS) **B**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

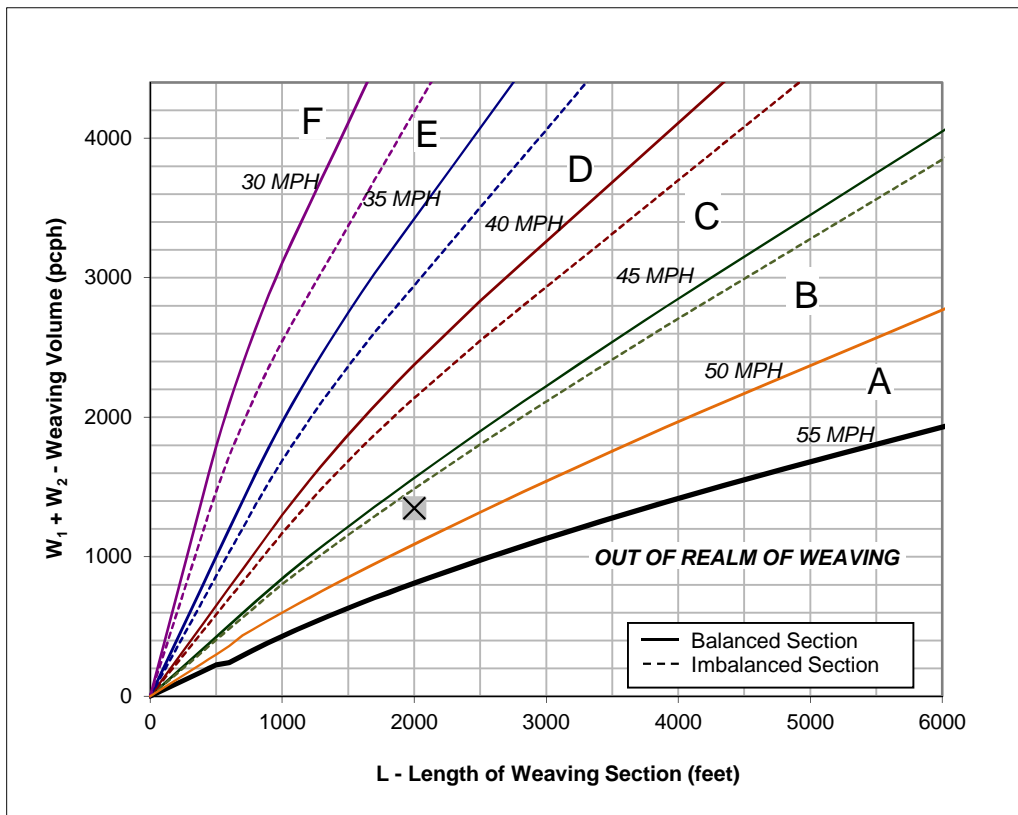
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,000

Project Information

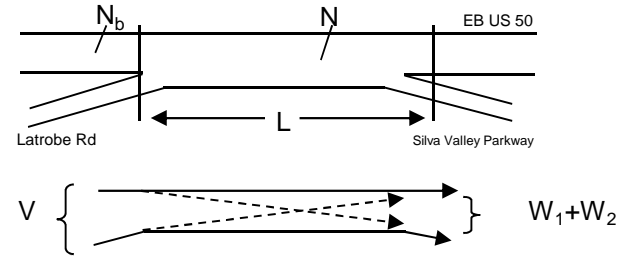
Project	Serrano Westside Pedregal
Scenario	Cumulative No Project - PM Pk Hr
Freeway	EB US 50
On-ramp	Latrobe Rd
Off-ramp	Silva Valley Parkway

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	5,241	Volume (vph)*	623	Volume (vph)*	713
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	5,267	Volume (pcph)	629	Volume (pcph)	720

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? Y
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
45 MPH and 50 MPH
- If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) 47.3
- Weaving Intensity Factor (k) 1.63
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ 1,416
- Level of Service (LOS) D

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

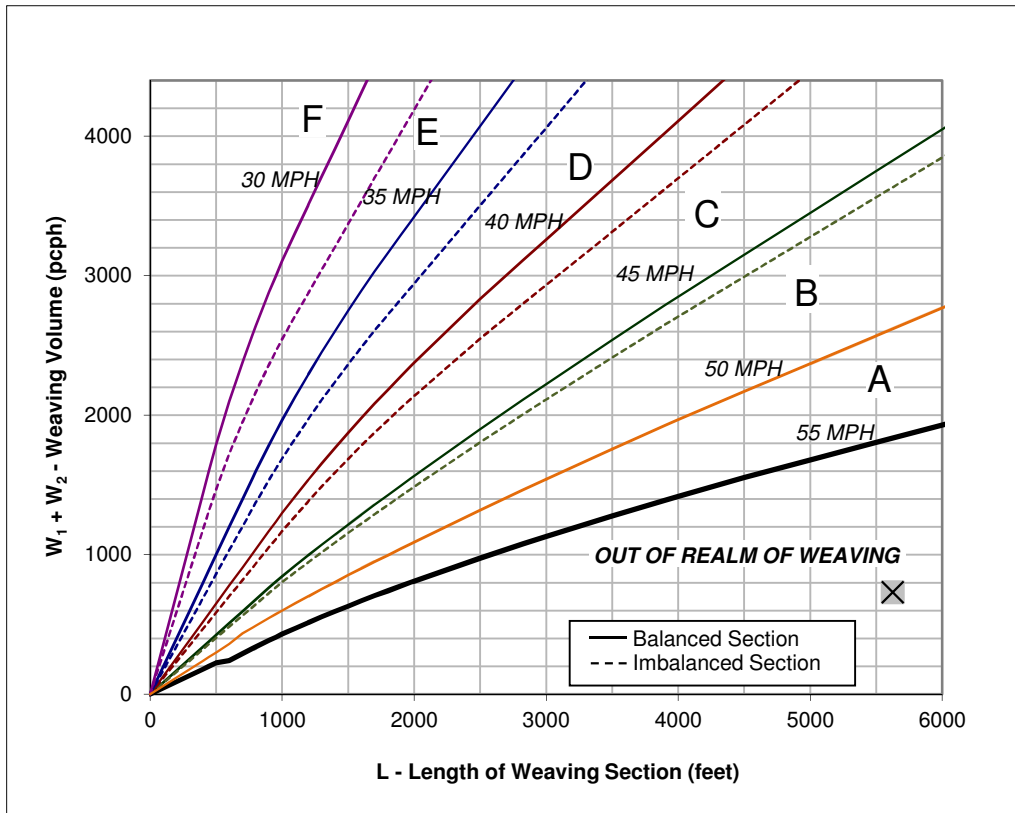
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	5,625

Project Information

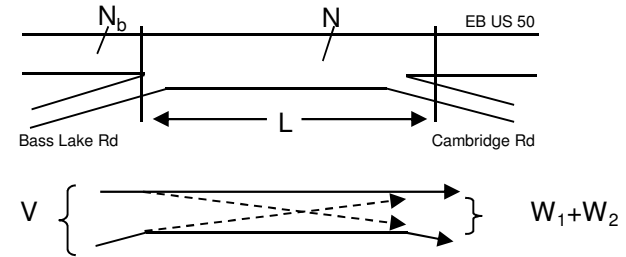
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - AM Pk Hr
Freeway	EB US 50
On-ramp	Bass Lake Rd
Off-ramp	Cambridge Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	2,882	Volume (vph)*	412	Volume (vph)*	312
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	2,940	Volume (pcph)	416	Volume (pcph)	315

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **62.1**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **980**
- Level of Service (LOS) **B**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

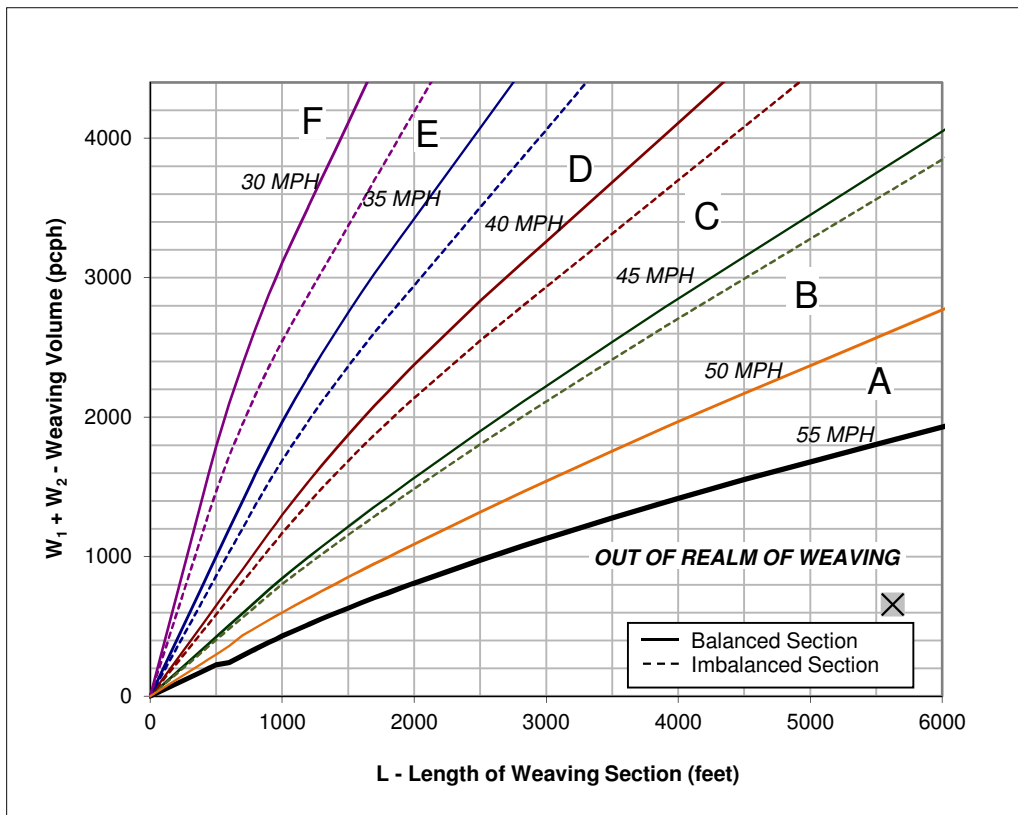
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	5,625

Project Information

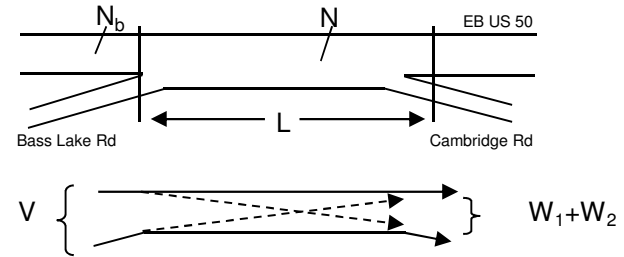
Project	Serrano Westside Pedregal
Scenario	Cumulative No Project - PM Pk Hr
Freeway	EB US 50
On-ramp	Bass Lake Rd
Off-ramp	Cambridge Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,080	Volume (vph)*	155	Volume (vph)*	495
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,100	Volume (pcph)	157	Volume (pcph)	500

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? N
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and 55 MPH
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) 62.5
- Weaving Intensity Factor (k) 1.00
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ 1,025
- Level of Service (LOS) B

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

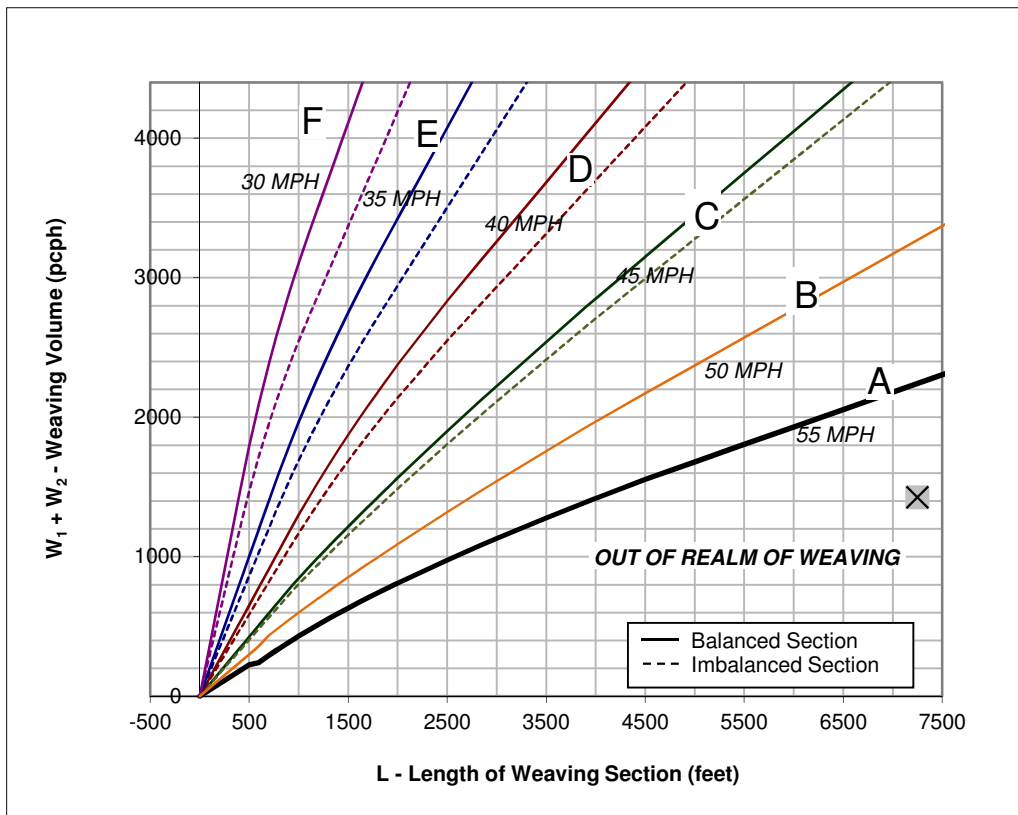
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	7,250

Project Information

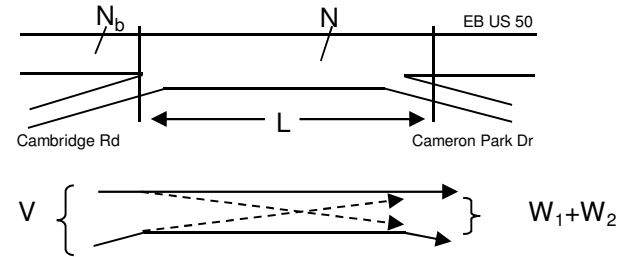
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - AM Pk Hr
Freeway	EB US 50
On-ramp	Cambridge Rd
Off-ramp	Cameron Park Dr

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,709	Volume (vph)*	719	Volume (vph)*	689
Truck Percentage	4%	Truck Percentage	3%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,783	Volume (pcph)	730	Volume (pcph)	696

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? N
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and 55 MPH
- If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) 59.0
- Weaving Intensity Factor (k) 1.00
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ 1,261
- Level of Service (LOS) D

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

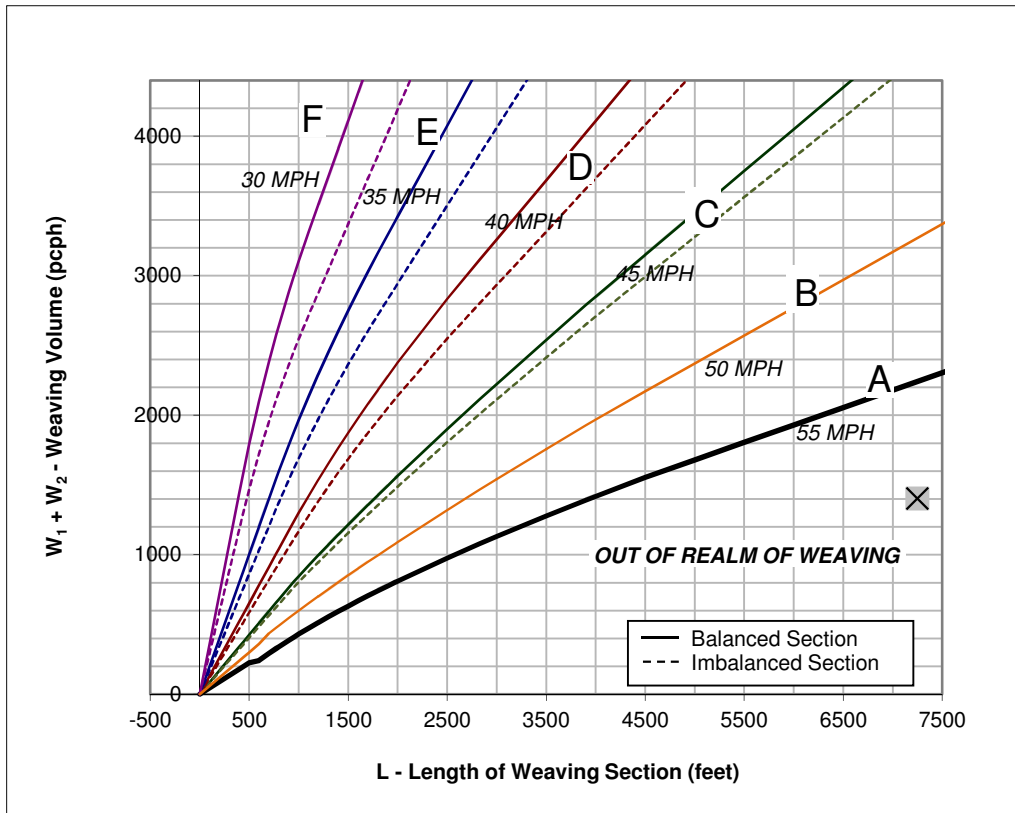
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	7,250

Project Information

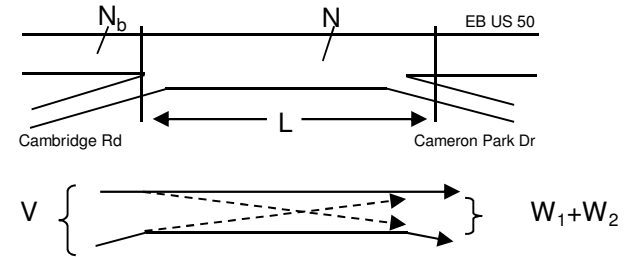
Project	Serrano Westside Pedregal
Scenario	Cumulative No Project - PM Pk Hr
Freeway	EB US 50
On-ramp	Cambridge Rd
Off-ramp	Cameron Park Dr

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,639	Volume (vph)*	429	Volume (vph)*	959
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,662	Volume (pcph)	434	Volume (pcph)	969

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **59.1**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,166**
- Level of Service (LOS) **C**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

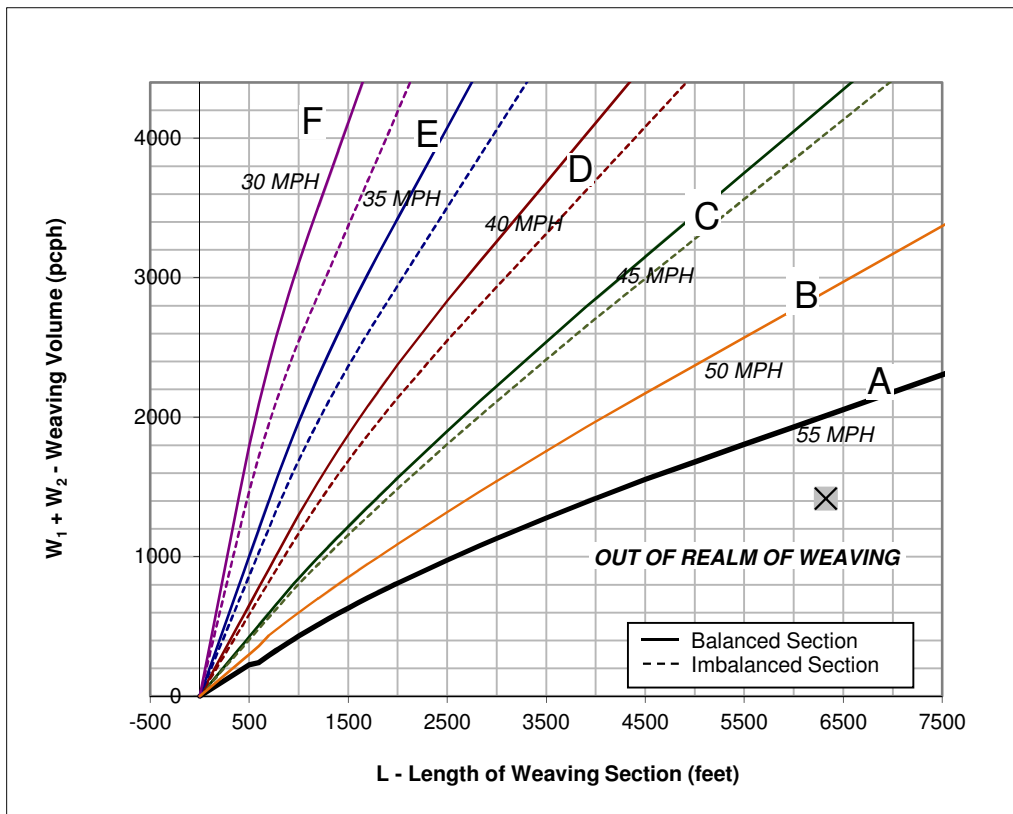
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	6,325

Project Information

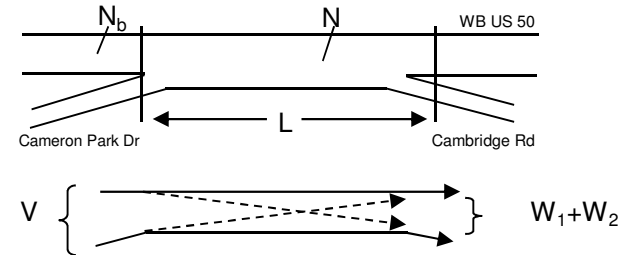
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - AM Pk Hr
Freeway	WB US 50
On-ramp	Cameron Park Dr
Off-ramp	Cambridge Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,738	Volume (vph)*	722	Volume (vph)*	682
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,757	Volume (pcph)	729	Volume (pcph)	689

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **58.3**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,252**
- Level of Service (LOS) **D**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

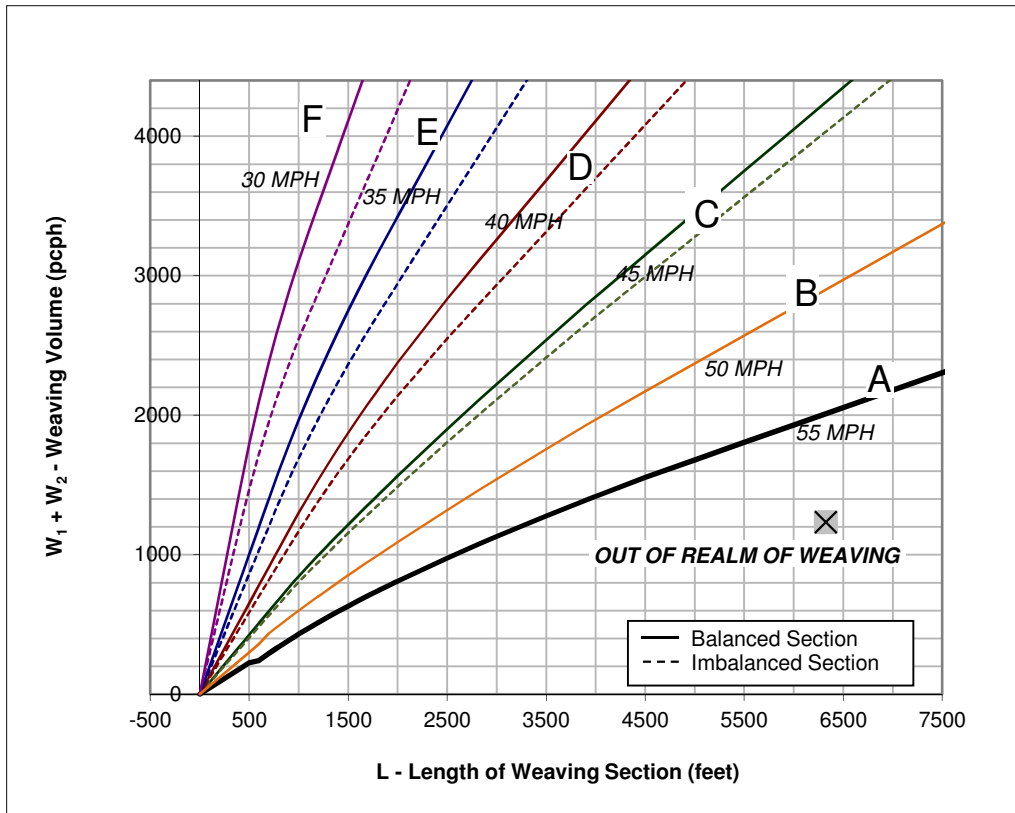
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	6,325

Project Information

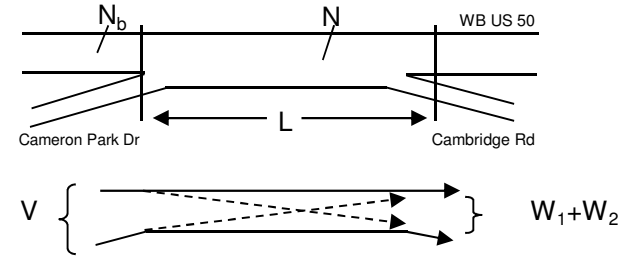
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - PM Pk Hr
Freeway	WB US 50
On-ramp	Cameron Park Dr
Off-ramp	Cambridge Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,367	Volume (vph)*	576	Volume (vph)*	646
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,389	Volume (pcph)	581	Volume (pcph)	652

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **59.4**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,463**
- Level of Service (LOS) **D**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

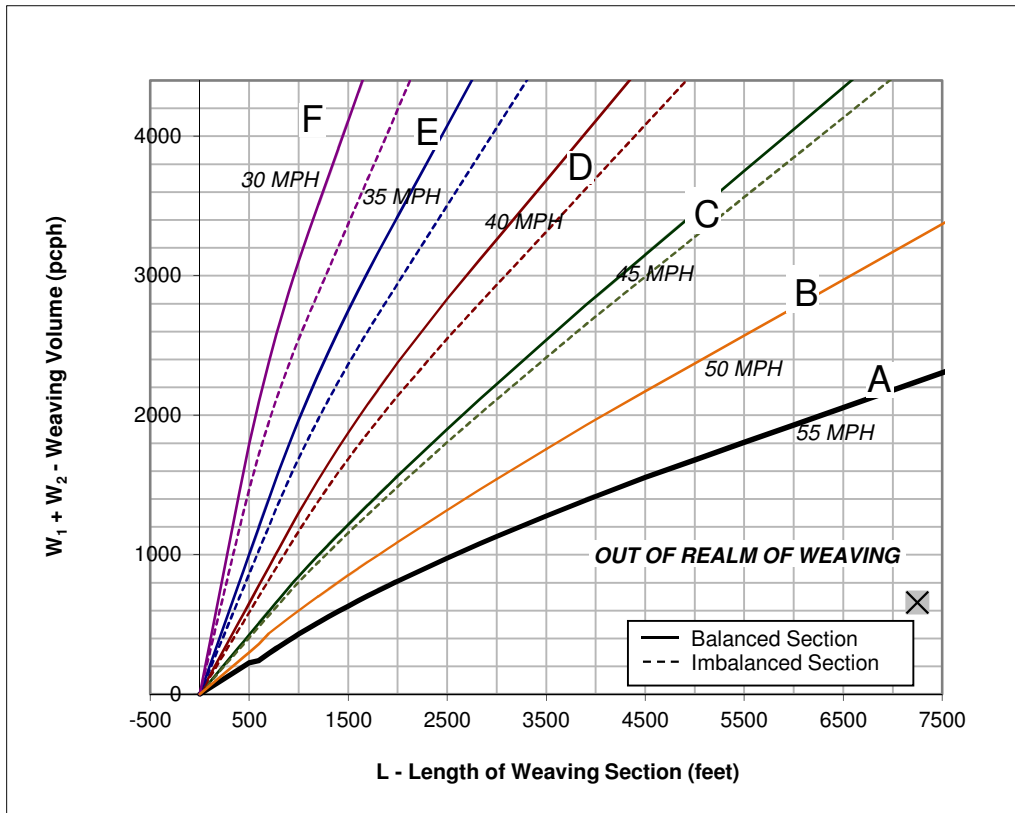
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	7,250

Project Information

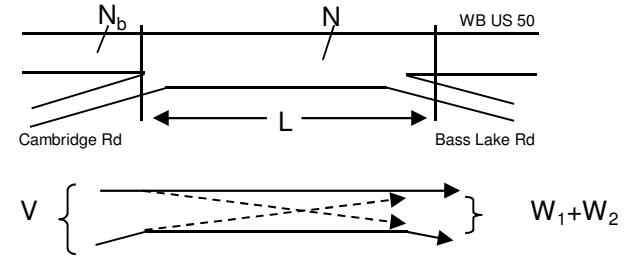
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - AM Pk Hr
Freeway	WB US 50
On-ramp	Cambridge Rd
Off-ramp	Bass Lake Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,429	Volume (vph)*	531	Volume (vph)*	121
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,446	Volume (pcph)	537	Volume (pcph)	122

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **62.7**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,149**
- Level of Service (LOS) **C**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

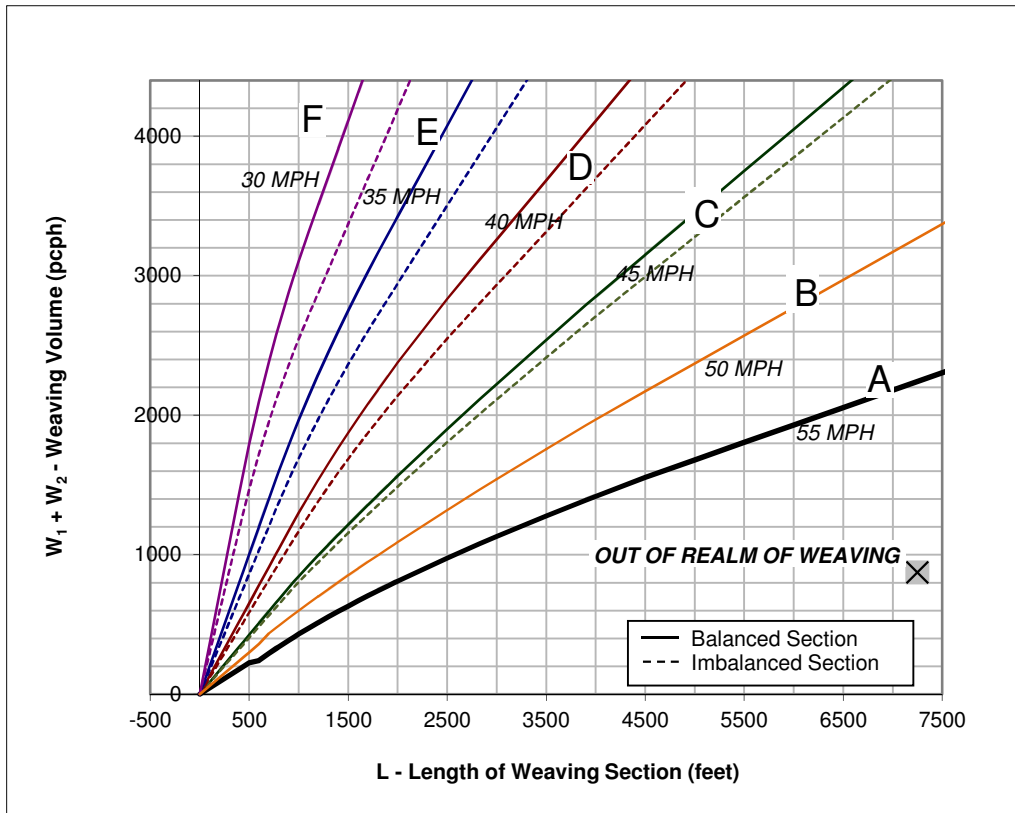
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	7,250

Project Information

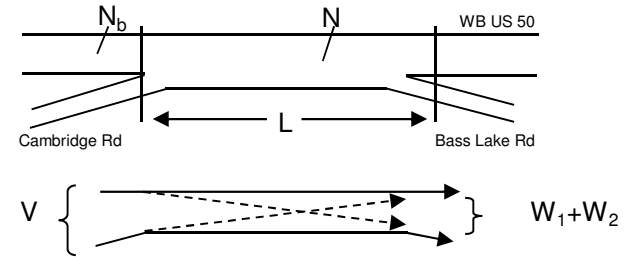
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - PM Pk Hr
Freeway	WB US 50
On-ramp	Cambridge Rd
Off-ramp	Bass Lake Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,690	Volume (vph)*	353	Volume (vph)*	513
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,708	Volume (pcph)	356	Volume (pcph)	518

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **61.7**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,236**
- Level of Service (LOS) **C**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

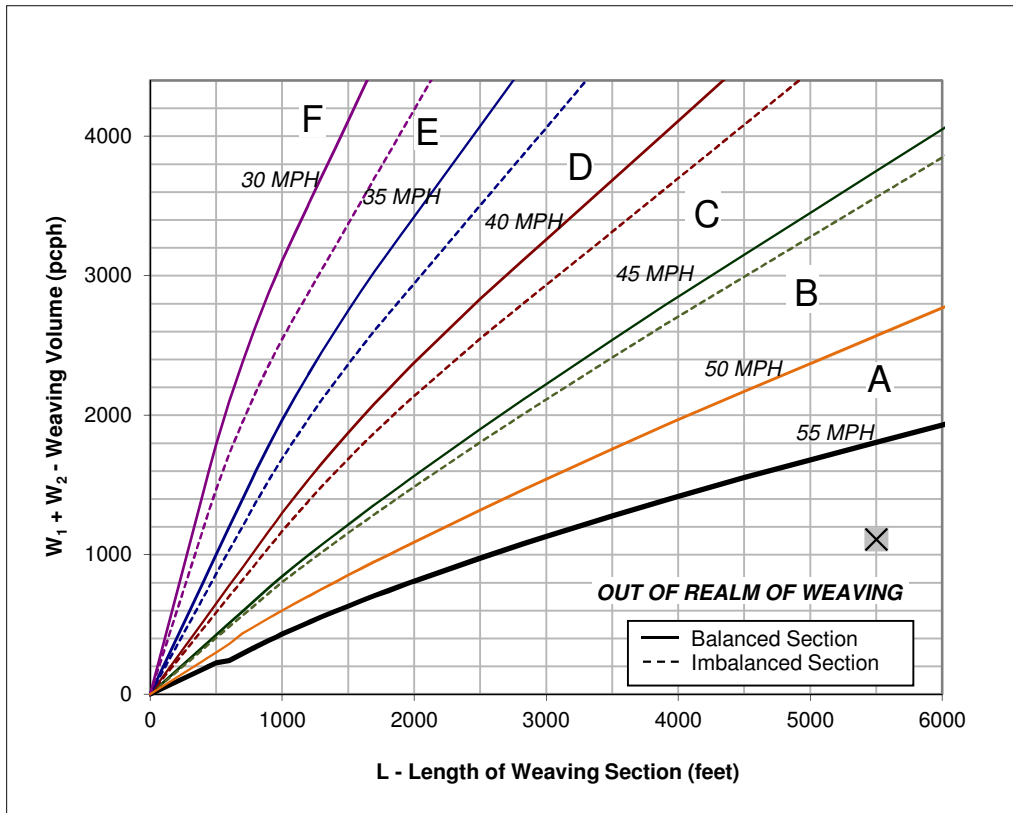
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	5,500

Project Information

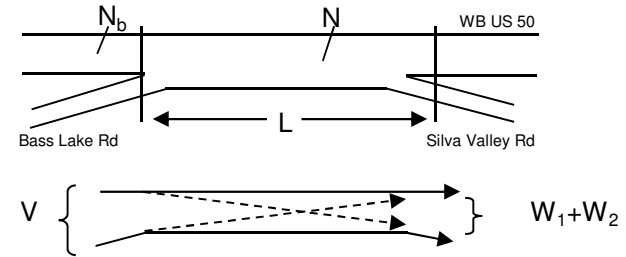
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - AM Pk Hr
Freeway	WB US 50
On-ramp	Bass Lake Rd
Off-ramp	Silva Valley Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,663	Volume (vph)*	765	Volume (vph)*	335
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,686	Volume (pcph)	773	Volume (pcph)	338

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **59.5**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,562**
- Level of Service (LOS) **E**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

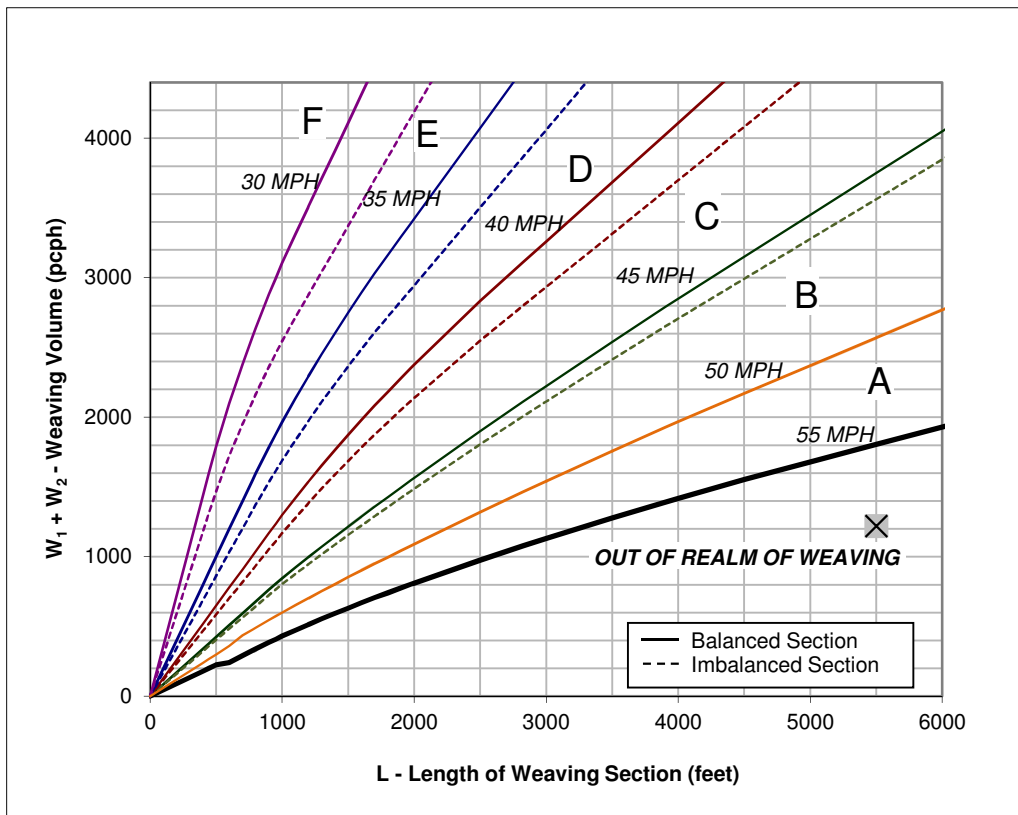
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	5,500

Project Information

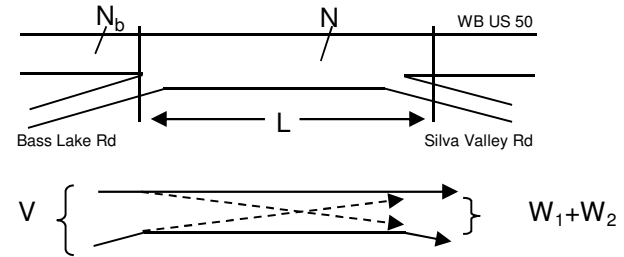
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - PM Pk Hr
Freeway	WB US 50
On-ramp	Bass Lake Rd
Off-ramp	Silva Valley Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,262	Volume (vph)*	704	Volume (vph)*	504
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,283	Volume (pcph)	711	Volume (pcph)	509

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? Y
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and 55 MPH
- If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) 58.8
- Weaving Intensity Factor (k) 1.00
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ 1,428
- Level of Service (LOS) D

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

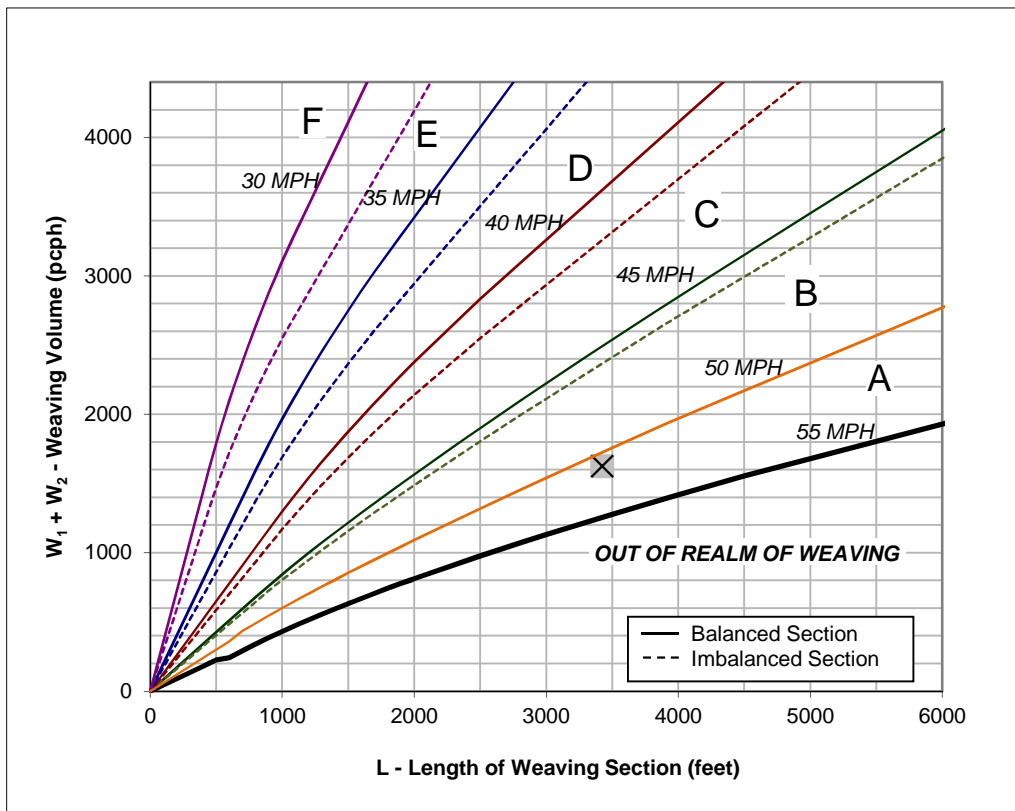
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,425

Project Information

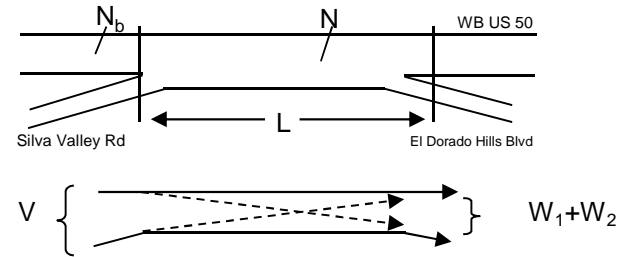
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - AM PK Hr
Freeway	WB US 50
On-ramp	Silva Valley Rd
Off-ramp	El Dorado Hills Blvd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,818	Volume (vph)*	889	Volume (vph)*	721
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,842	Volume (pcph)	898	Volume (pcph)	728

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **51.1**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,211**
- Level of Service (LOS) **C**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

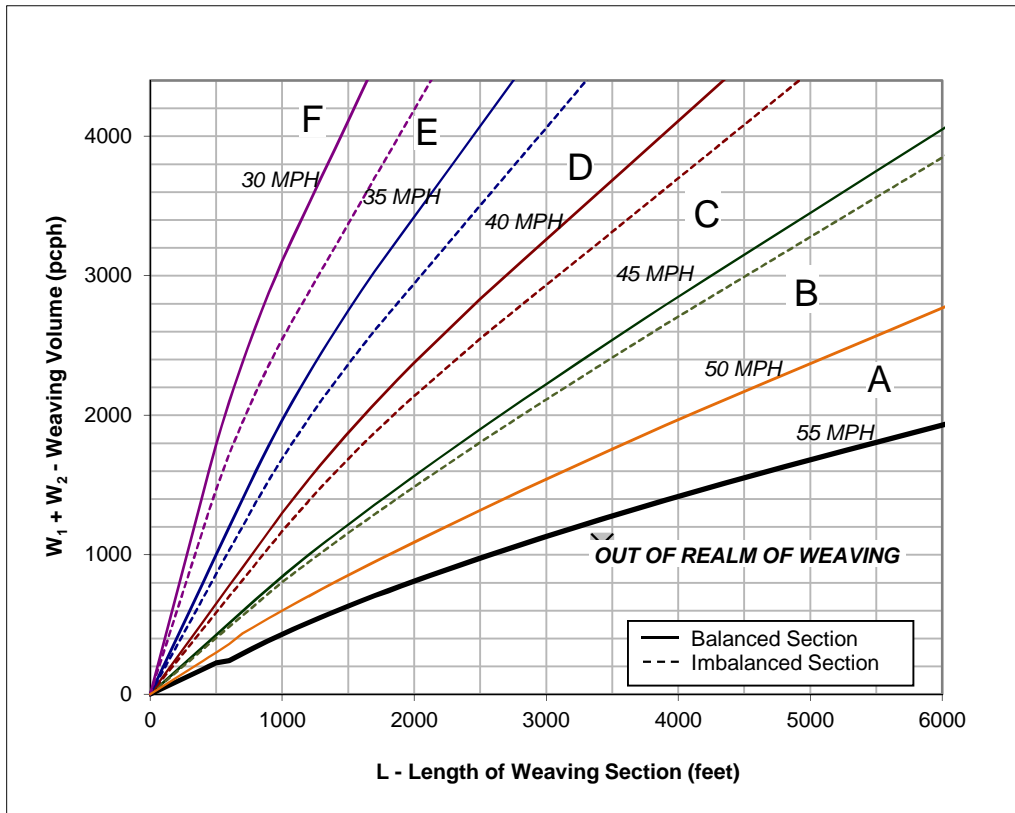
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,425

Project Information

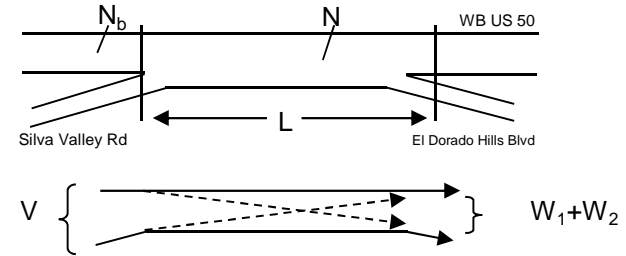
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - PM Pk Hr
Freeway	WB US 50
On-ramp	Silva Valley Rd
Off-ramp	El Dorado Hills Blvd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,813	Volume (vph)*	324	Volume (vph)*	738
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,832	Volume (pcph)	327	Volume (pcph)	746

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **#N/A**
- Weaving Intensity Factor (k) **#N/A**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **#N/A**
- Level of Service (LOS) **#N/A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

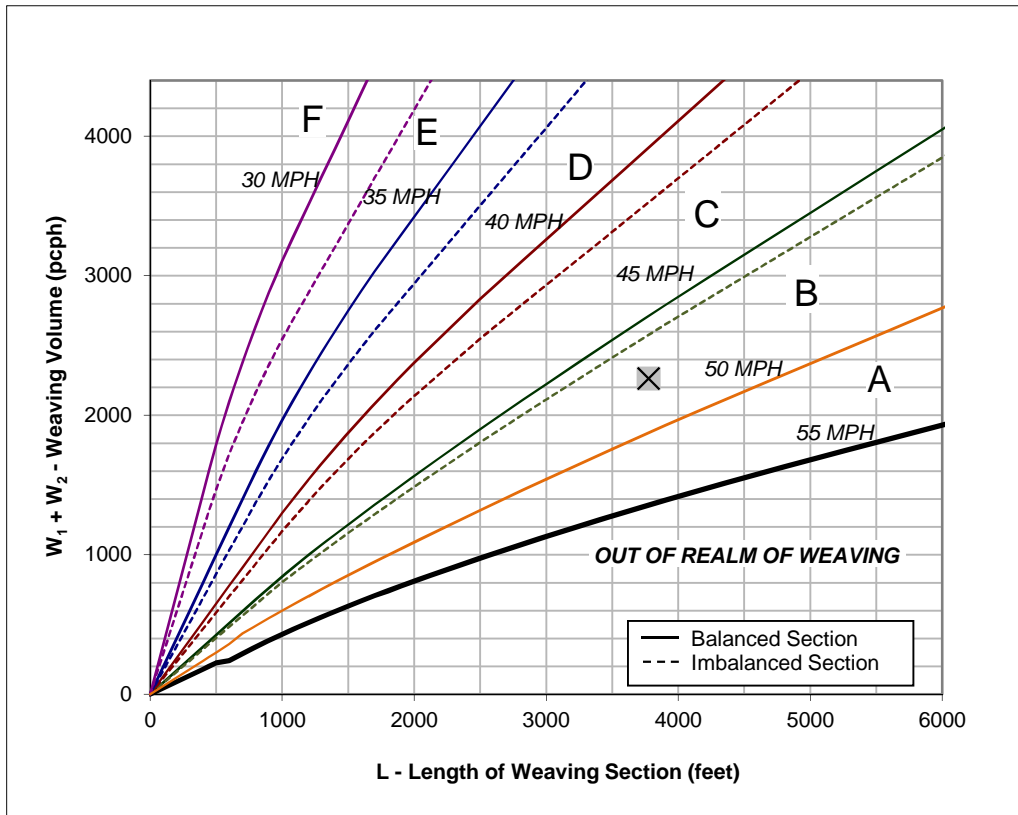
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,775

Project Information

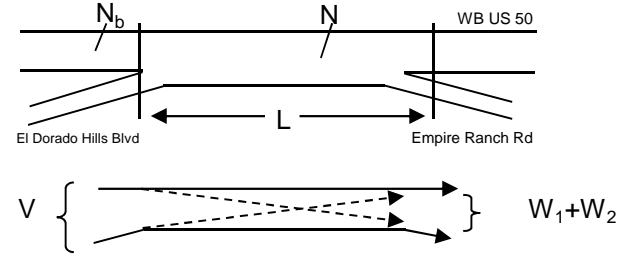
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - AM Pk Hr
Freeway	WB US 50
On-ramp	El Dorado Hills Blvd
Off-ramp	Empire Ranch Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	5,392	Volume (vph)*	956	Volume (vph)*	1,286
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	5,419	Volume (pcph)	965	Volume (pcph)	1,299

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? Y
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
45 MPH and 50 MPH
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) 47.7
- Weaving Intensity Factor (k) 1.57
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ 1,492
- Level of Service (LOS) D

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

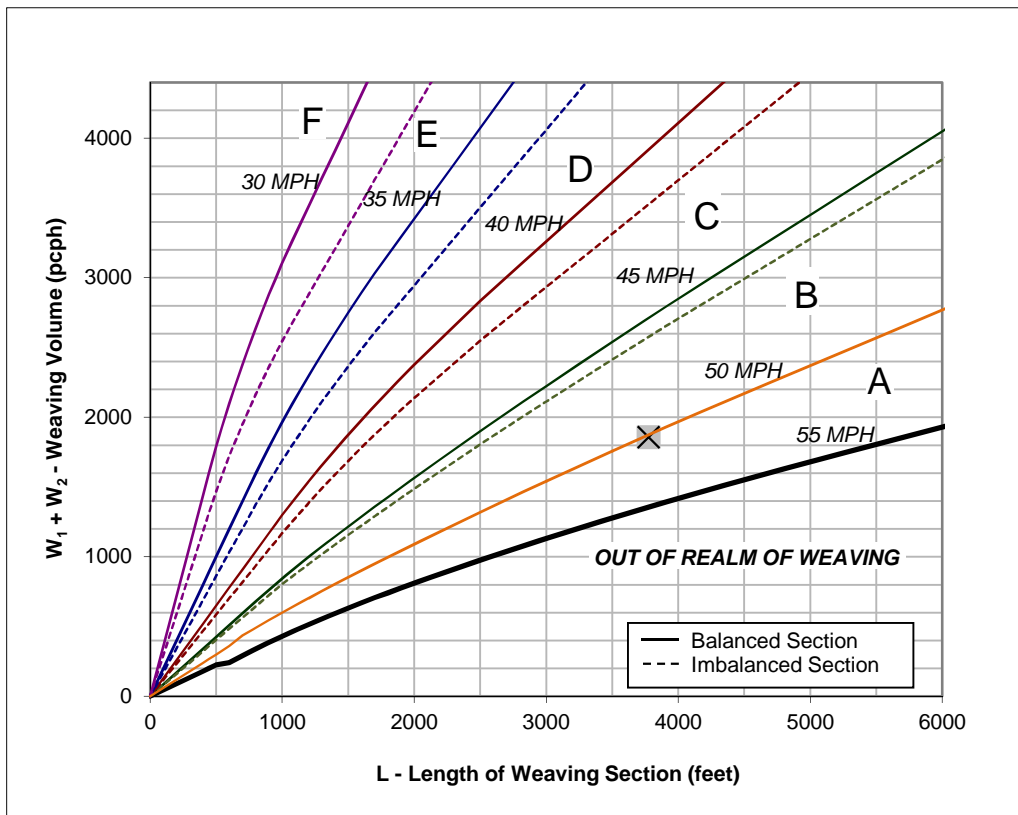
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,775

Project Information

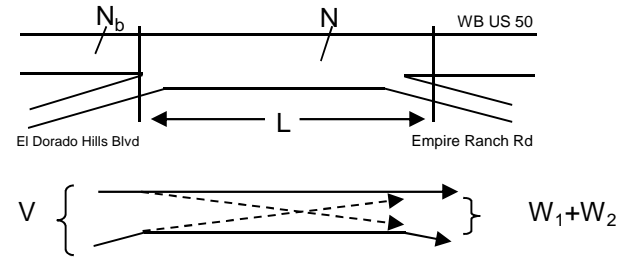
Project	Serrano Westside/Pedregal
Scenario	Cumulative No Project - PM Pk Hr
Freeway	WB US 50
On-ramp	El Dorado Hills Blvd
Off-ramp	Empire Ranch Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,533	Volume (vph)*	784	Volume (vph)*	1,054
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,556	Volume (pcph)	792	Volume (pcph)	1,065

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? Y
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and 55 MPH
- If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) 50.2
- Weaving Intensity Factor (k) 1.00
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ 1,139
- Level of Service (LOS) C

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

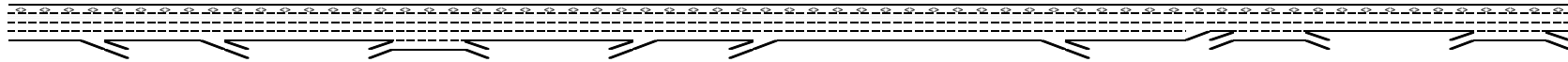
Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Project: Serrano/Pedregal/Marble Valley/Lime Rock
Freeway Corridor: Eastbound US 50
Alternative: Cumulative Plus Project
Time Period: AM Peak Hour

Data Entry Value

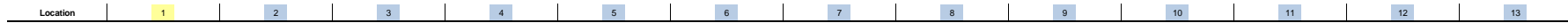
Calculated Value

Location	1	2	3	4	5	6	7	8	9	10	11	12	13
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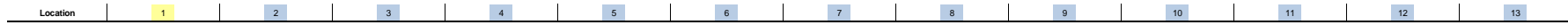
Key
 <-> Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Define Freeway Segment													
Type	Diverge	Diverge	Basic	Weave	Basic	Merge	Merge	Basic	Diverge	Basic	Weave	Basic	Weave
Length (ft)	1,500	850	1,975	3,000	1,575	800	3,400	3,400	1,500	2,100	5,725	1,350	8,250
Accel Length						550		500					
Decel Length	150	150							150				
Mainline Volume	4,030	2,950	2,740	2,740	3,260	3,260	3,540	3,750	3,750	2,810	2,810	2,900	2,900
On Ramp Volume				810		280	210				450		1,220
Off Ramp Volume	1,080	210		290					940		360		1,140
Express Lane Volume	443	325	301	301	456	456	496	525	525	393	365	377	377
EL On Ramp Volume													
EL Off Ramp Volume													
Calculate Flow Rate in General Purpose Lanes (GP)													
GP Volume (vph)	3,587	2,626	2,439	3,249	2,804	3,084	3,254	3,225	3,225	2,417	2,895	2,523	3,743
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
GP Lanes	3	3	3	4	3	3	3	3	3	3	3	2	3
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	5.0	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{av}	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.862	0.980	0.980	0.980	0.980	0.980
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	3,977	2,911	2,704	3,602	3,108	3,419	3,608	4,066	3,576	2,679	3,209	2,797	4,150
GP Flow (pcphp)	1,326	970	901	900	1,036	1,140	1,203	1,355	1,192	893	1,070	1,399	1,383
Calculate Speed in General Purpose Lanes													
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
f _{lv}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{lc}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes													
v/c ratio	0.56	0.41	0.38	0.38	0.44	0.48	0.51	0.58	0.51	0.38	0.46	0.60	0.59
Speed (mph)	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Density (pcphp)	20.4	14.9	13.9	13.9	15.9	17.5	18.5	20.9	18.3	13.7	16.5	21.5	21.3
LOS	C	B	B	B	B	B	C	C	C	B	B	C	C
Calculate Operations for Entering GP Lanes													
GP _{IN} Vol (pcph)				2,712		3,111	3,378				2,569		2,804
GP _{IN} Cap (pcph)				7,050		7,050	7,050				4,700		4,700
GP _{IN} v/c ratio				0.38		0.44	0.48				0.55		0.60
Calculate Operations for Exiting GP Lanes													
GP _{OUT} Vol (pcph)	2,791	2,680		3,292					2,293	2,679	2,825		2,885
GP _{OUT} Cap (pcph)	7,050	7,050		7,050					7,050	4,700	4,700		4,700
GP _{OUT} v/c ratio	0.40	0.38		0.47					0.33	0.57	0.60		0.61
Calculate Flow Rate in Express Lanes (EL)													



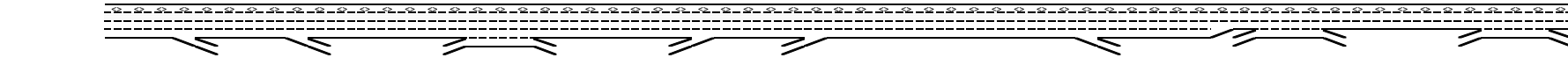
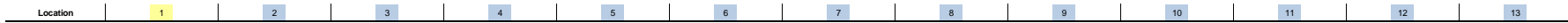
Key
 ⇌ Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
EL Volume (vph)	443	325	301	301	456	456	496	525	525	393	365	377	377
PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{sv}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	527	386	358	358	542	542	589	673	624	467	434	448	448
EL Flow (pcphp)	527	386	358	358	542	542	589	673	624	467	434	448	448
Calculate Speed in Express Lanes													
Lane Width (ft)													
Shoulder Width													
TRD													
f _{lv}													
f _{lc}													
Calc'd FFS													
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes													
EL _{lv} v/c ratio	0.30	0.22	0.20	0.20	0.31	0.31	0.34	0.38	0.36	0.27	0.25	0.26	0.26
Calculate On Ramp Flow Rate													
On Volume (vph)				810		280	210				450		1,220
PHF				0.92		0.92	0.92				0.71		0.92
Total Lanes				1		1	1				1		1
Terrain				Level		Level	Level				Level		Level
Grade %				0.0%		0.0%	0.0%				0.0%		0.0%
Grade Length (mi)				0.00		0.00	0.00				0.00		0.00
Truck & Bus %				2.0%		2.0%	2.0%				2.0%		3.0%
RV %				0.0%		0.0%	0.0%				0.0%		0.0%
E _T				1.5		1.5	1.5				1.5		1.5
E _R				1.2		1.2	1.2				1.2		1.2
f _{sv}				0.990		0.990	0.990				0.990		0.985
f _p				1.00		1.00	1.00				1.00		1.00
On Flow (pcph)				889		307	231				640		1,346
On Flow (pcphp)				889		307	231				640		1,346
Calculate On Ramp Roadway Operations													
On Ramp Type				Right		Right	Right				Right		Right
On Ramp Speed (mph)				45		25	45				45		45
On Ramp Cap (pcph)				2,100		1,900	2,100				2,100		2,100
On Ramp v/c ratio				0.42		0.16	0.11				0.30		0.64
Calculate Off Ramp Flow Rate													
Off Volume (vph)	1,080	210		290					940		360		1,140
PHF	0.92	0.92		0.95					0.74		0.95		0.91
Total Lanes	1	1		1					1		1		1
Terrain	Level	Level		Level					Level		Level		Level
Grade %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%



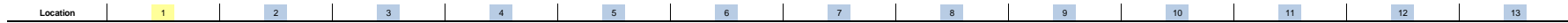
Key
 ⇌ Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Grade Length (mi)	0.00	0.00		0.00					0.00		0.00		0.00
Truck & Bus %	2.0%	2.0%		3.0%					2.0%		3.0%		2.0%
RV %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%
E _T	1.5	1.5		1.5					1.5		1.5		1.5
E _B	1.2	1.2		1.2					1.2		1.2		1.2
f _W	0.990	0.990		0.985					0.990		0.985		0.990
f _p	1.00	1.00		1.00					1.00		1.00		1.00
Off Flow (pcph)	1,186	231		310					1,283		385		1,265
Off Flow (pcpp)	1,186	231		310					1,283		385		1,265
Calculate Off Ramp Roadway Operations													
Off Ramp Type	Right	Right		Right					Right		Right		Right
Off Ramp Speed	45	25		45					45		45		45
Off Ramp Cap (pcph)	2,100	1,900		2,100					2,100		2,100		2,100
Off Ramp v/c ratio	0.56	0.12		0.15					0.61		0.18		0.60
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps													
Up Type		Off				Off	On		Off		Off		Off
Up Distance		2,350				1,575	800		4,900		2,100		1,350
Up Flow (pcph)		1,186				310	307		310		1,283		385
Down Type	Off	On			On	On		On	On		On		No
Down Distance	850	1,975			2,900	3,400		2,100	2,100		1,350		
Down Flow (pcph)	231	889			640	640		640	640		1,346		
Calculate Merge Influence Area Operations													
Effective v _h (pcph)						3,111	3,378						
Up Ramp L ₁₀						-119	946						
Down Ramp L ₁₀						3,800	3,925						
P _{FM} (Eqn 13-3)						0.593	0.592						
P _{FM} (Eqn 13-4)		#VALUE!				0.700			#VALUE!		#VALUE!		#VALUE!
P _{FM} (Eqn 13-5)	0.620												
P _{FM}						0.593	0.592						
v ₁₂ (pcph)						1,845	1,998						
v ₃ (pcph)						1,267	1,380						
v ₃₄ (pcph)													
v ₁₂₄ (pcph)						1,845	1,998						
v ₁₂₄₃ (pcph)						2,152	2,228						
Merge Speed Index						0.33	0.31						
Merge Area Speed						57.5	57.8						
Outer Lanes Volume						1,267	1,380						
Outer Lanes Speed						62.2	61.8						
Segment Speed						59.2	59.3						
Merge v/c ratio						0.47	0.48						
Merge Density						18.7	19.6						
Merge LOS						B	B						
Calculate Diverge Influence Area Operations													
Effective v _h (pcph)	3,977	2,911							3,576				
Up Ramp L ₁₀		9,845							5,560				
Down Ramp L ₁₀	394	915							1,139				
P _{FD} (Eqn 13-9)	0.606	0.677							0.612				
P _{FD} (Eqn 13-10)													
P _{FD} (Eqn 13-11)	0.566												
P _{FD}	0.606	0.677							0.612				
v ₁₂ (pcph)	2,877	2,044							2,685				
v ₃ (pcph)	1,099	867							890				



Key
 ⇌ Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
V ₅₄ (pcph)													
V ₁₂₄ (pcph)	2,877	2,044							2,685				
Diverge Speed Index	0.40	0.58							0.41				
Diverge Area Speed	55.7	51.7							55.5				
Outer Lanes Volume	1,099	867							890				
Outer Lanes Speed	70.9	71.3							71.3				
Segment Speed	59.2	56.3							58.7				
Diverge v/c ratio	0.65	0.46							0.61				
Diverge Density	27.6	20.5							26.0				
Diverge LOS	C	C							C				
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments													
On to Off Volume (vph)				50							10		460
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				3.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{av}				0.985							0.990		0.990
f _p				1.00							1.00		1.00
On to Off Flow (pcph)				55							11		505
Calculate On Ramp to Mainline Flow Rate for Weave Segments													
On to ML Volume (vph)				760							440		760
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				3.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{av}				0.985							0.990		0.990
f _p				1.00							1.00		1.00
On to ML Flow (pcph)				838							483		834
Calculate Mainline to Off Ramp Flow Rate for Weave Segments													
ML to Off Volume (vph)				240							350		680
PHF				0.95							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				6.0%							4.0%		4.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{av}				0.971							0.980		0.980
f _p				1.00							1.00		1.00
ML to Off Flow (pcph)				260							388		754
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments													
GP to GP Volume (vph)				2,199							2,095		1,843
PHF				0.95							0.92		0.92

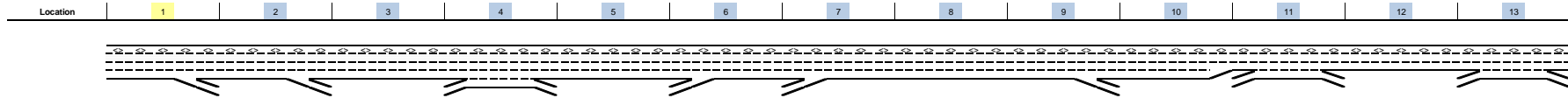


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 No Trucks

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Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				6.0%							4.0%		4.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{RV}				0.971							0.980		0.980
f _p				1.00							1.00		1.00
GP to GP Flow (pcph)				2,384							2,322		2,043
Calculate Weave Segment Operations													
Weave Type				One-sided							One-sided		One-sided
Weave Length				2,000							4,725		7,250
Segment Lanes				3							2		2
Weave Lanes				3					3		2		2
Weave Flow (pcph)				1,099							871		1,588
Non-Weave Flow				2,439							2,333		2,548
Segment Flow				3,538							3,204		4,137
Max Weave Length				4,132							5,284		6,502
Length Check				OK							OK		Not a Weave
Ideal Weave Capacity				2,187							2,307		2,407
f _{sv}				0.974							0.982		0.984
f _p				0.996							0.999		0.998
Capacity Condition 1				6,371							4,524		4,726
Capacity Condition 2				10,944							8,656		6,136
Weave v/c ratio				0.54							0.69		0.86
Interchange Density				3							5		2
Lane Changes On to ML				1							1		1
Lane Changes ML to Off				1							1		1
Lane Changes On to Off				0							0		0
Min Lane Change Rate				1,099							871		1,588
Weave LC Rate				1,694							2,601		4,351
Non-Weave LC Rate 1				1,009							2,656		4,069
Non-Weave LC Rate 2				2,233							2,209		2,257
Non-Weave LC Rate 3				1,316							-241		-2,607
Segment LC Rate				3,011							4,810		6,608
Weave Intensity Factor				0.312							0.229		0.210
Weave Speed				53.1							55.7		56.3
Non-Weave Speed				51.4							51.0		43.6
Segment Speed				51.9							52.2		47.8
Weave Density				22.7							30.7		-
Weave LOS				C							D		Basic
Summarize Segment Operations													
Segment v/c ratio	0.65	0.46	0.38	0.54	0.44	0.47	0.48	0.58	0.61	0.38	0.69	0.60	0.59
Segment Density	27.6	20.5	13.9	22.7	15.9	18.7	19.6	20.9	26.0	13.7	30.7	21.5	21.3
Segment LOS	C	C	B	C	B	B	B	C	C	B	D	C	C
Over Capacity													

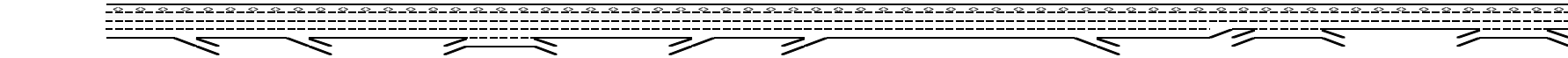
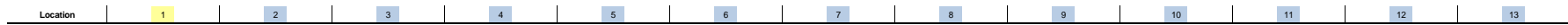
Project: Serrano/Pedregal/Marble Valley/Lime Rock
Freeway Corridor: Eastbound US 50
Alternative: Cumulative Plus Project
Time Period: PM Peak Hour

Data Entry Value
Calculated Value



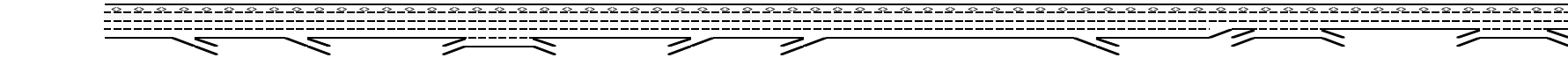
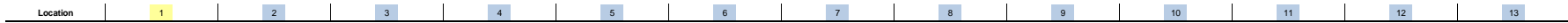
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Define Freeway Segment													
Type	Diverge	Diverge	Basic	Weave	Basic	Merge	Merge	Basic	Diverge	Basic	Weave	Basic	Weave
Length (ft)	1,500	850	1,975	3,000	1,575	800	3,400	3,400	1,500	2,100	6,625	1,350	8,250
Accel Length						550		500					
Decel Length	150	150							150				
Mainline Volume	6,570	5,800	5,270	5,270	5,490	5,490	5,810	6,540	6,540	4,810	4,810	4,370	4,370
On Ramp Volume				800		320	730				280		1,120
Off Ramp Volume	770	530		580					1,730		720		1,690
Express Lane Volume	986	870	791	685	714	714	755	981	981	722	722	656	612
EL On Ramp Volume													
EL Off Ramp Volume													
Calculate Flow Rate in General Purpose Lanes (GP)													
GP Volume (vph)	5,585	4,930	4,480	5,385	4,776	5,096	5,785	5,559	5,559	4,089	4,369	3,715	4,878
PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
GP Lanes	3	3	3	4	3	3	3	3	3	3	3	2	3
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	6.0	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{av}	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.952	0.995	0.995	0.995	0.995	0.995
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	5,786	5,108	4,641	5,579	4,949	5,280	5,993	6,017	5,760	4,236	4,526	3,849	5,054
GP Flow (pcphp)	1,929	1,703	1,547	1,395	1,650	1,760	1,998	2,006	1,920	1,412	1,509	1,924	1,685
Calculate Speed in General Purpose Lanes													
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
f _{lv}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{lc}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes													
v/c ratio	0.82	0.72	0.66	0.59	0.70	0.75	0.85	0.85	0.82	0.60	0.64	0.82	0.72
Speed (mph)	61.0	63.7	64.7	65.0	64.1	63.2	59.9	59.8	61.2	65.0	64.8	61.1	63.9
Density (pcphp)	31.6	26.7	23.9	21.5	25.7	27.9	33.3	33.5	31.4	21.7	23.3	31.5	26.4
LOS	D	D	C	C	C	D	D	D	D	C	C	D	D
Calculate Operations for Entering GP Lanes													
GP _{IN} Vol (pcph)				4,701		4,929	5,192				4,128		3,858
GP _{IN} Cap (pcph)				7,050		7,050	7,050				4,700		4,700
GP _{IN} v/c ratio				0.67		0.70	0.74				0.88		0.82
Calculate Operations for Exiting GP Lanes													
GP _{OUT} Vol (pcph)	4,941	4,526		4,939					3,958	4,236	3,757		3,179
GP _{OUT} Cap (pcph)	7,050	7,050		7,050					7,050	4,700	4,700		4,700
GP _{OUT} v/c ratio	0.70	0.64		0.70					0.56	0.90	0.80		0.68
Calculate Flow Rate in Express Lanes (EL)													



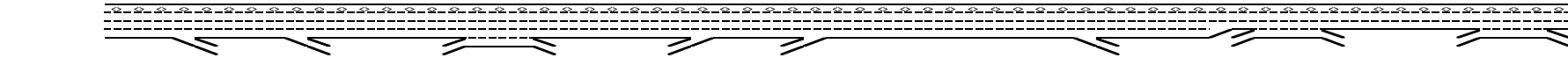
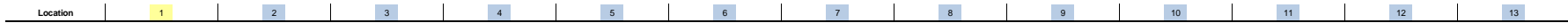
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EL Volume (vph)	986	870	791	685	714	714	755	981	981	722	722	656	612
PHF	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{sv}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	1,106	976	887	769	801	801	848	1,188	1,101	810	810	736	687
EL Flow (pcphp)	1,106	976	887	769	801	801	848	1,188	1,101	810	810	736	687
Calculate Speed in Express Lanes													
Lane Width (ft)													
Shoulder Width													
TRD													
f _{lv}													
f _{lc}													
Calcd FFS													
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes													
EL _{ex} v/c ratio	0.63	0.56	0.51	0.44	0.46	0.46	0.48	0.68	0.63	0.46	0.46	0.42	0.39
Calculate On Ramp Flow Rate													
On Volume (vph)				800		320	730					280	1,120
PHF				0.92		0.92	0.92					0.71	0.95
Total Lanes				1		1	1					1	1
Terrain				Level		Level	Level					Level	Level
Grade %				0.0%		0.0%	0.0%					0.0%	0.0%
Grade Length (mi)				0.00		0.00	0.00					0.00	0.00
Truck & Bus %				2.0%		2.0%	2.0%					2.0%	3.0%
RV %				0.0%		0.0%	0.0%					0.0%	0.0%
E _T				1.5		1.5	1.5					1.5	1.5
E _R				1.2		1.2	1.2					1.2	1.2
f _{sv}				0.990		0.990	0.990					0.990	0.985
f _p				1.00		1.00	1.00					1.00	1.00
On Flow (pcph)				878		351	801					398	1,197
On Flow (pcphp)				878		351	801					398	1,197
Calculate On Ramp Roadway Operations													
On Ramp Type				Right		Right	Right					Right	
On Ramp Speed (mph)				45		25	45					45	
On Ramp Cap (pcph)				2,100		1,900	2,100					2,100	
On Ramp v/c ratio				0.42		0.18	0.38					0.19	
Calculate Off Ramp Flow Rate													
Off Volume (vph)	770	530		580					1,730		720		1,690
PHF	0.92	0.92		0.92					0.97		0.95		0.91
Total Lanes	1	1		1					1		1		1
Terrain	Level	Level		Level					Level		Level		Level
Grade %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%



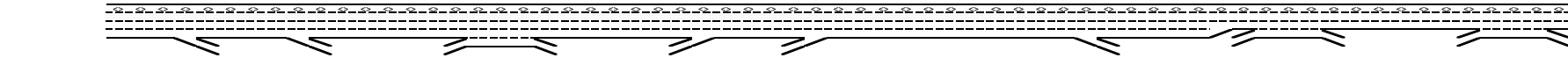
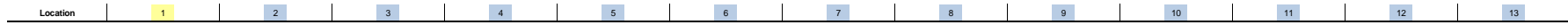
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Grade Length (mi)	0.00	0.00		0.00					0.00		0.00		0.00
Truck & Bus %	2.0%	2.0%		3.0%					2.0%		3.0%		2.0%
RV %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%
E _T	1.5	1.5		1.5					1.5		1.5		1.5
E _B	1.2	1.2		1.2					1.2		1.2		1.2
f _W	0.990	0.990		0.985					0.990		0.985		0.990
f _p	1.00	1.00		1.00					1.00		1.00		1.00
Off Flow (pcph)	845	582		640					1,801		769		1,876
Off Flow (pcpp)	845	582		640					1,801		769		1,876
Calculate Off Ramp Roadway Operations													
Off Ramp Type	Right	Right		Right					Right				Right
Off Ramp Speed	45	25		45					45				45
Off Ramp Cap (pcph)	2,100	1,900		2,100					2,100				2,100
Off Ramp v/c ratio	0.40	0.31		0.30					0.86				0.89
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps													
Up Type	Off	Off			Off	On			Off		Off		No
Up Distance		2,350			1,575	800			4,900		2,100		
Up Flow (pcph)		845			640	351			640		1,801		
Down Type	Off	On			On	On			On		No		#REF!
Down Distance	850	1,975			2,900	3,400			2,100				#REF!
Down Flow (pcph)	582	878			398	398			398				#REF!
Calculate Merge Influence Area Operations													
Effective v _h (pcph)					4,929	5,192							
Up Ramp L ₁₀					279	1,456							
Down Ramp L ₁₀					2,365	2,442							
P _{FM} (Eqn 13-3)					0.593	0.592							
P _{FM} (Eqn 13-4)		#VALUE!			0.674				#VALUE!		#VALUE!		#REF!
P _{FM} (Eqn 13-5)	0.729												
P _{FM}					0.593	0.592							
v ₁₂ (pcph)					2,922	3,071							
v ₃ (pcph)					2,007	2,121							
v ₃₄ (pcph)													
v ₁₂₄ (pcph)					2,922	3,071							
v ₁₂₄₃ (pcph)					3,274	3,872							
Merge Speed Index					0.40	0.46							
Merge Area Speed					55.9	54.3							
Outer Lanes Volume					2,007	2,121							
Outer Lanes Speed					59.6	59.2							
Segment Speed					57.2	56.0							
Merge v/c ratio					0.71	0.84							
Merge Density					27.4	32.2							
Merge LOS					C	D							
Calculate Diverge Influence Area Operations													
Effective v _h (pcph)	5,786	5,108							5,760				
Up Ramp L ₁₀		5,860							9,613				
Down Ramp L ₁₀	891	1,138							1,323				
P _{FD} (Eqn 13-9)	0.576	0.606							0.533				
P _{FD} (Eqn 13-10)													
P _{FD} (Eqn 13-11)	0.580												#REF!
P _{FD}	0.580	0.606							0.533				
v ₁₂ (pcph)	3,711	3,323							3,912				
v ₃ (pcph)	2,075	1,785							1,848				



Key
 ⇔ Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
V ₅₄ (pcph)									3,912				
V ₁₂₄ (pcph)	3,711	3,323											
Diverge Speed Index	0.37	0.61							0.46				
Diverge Area Speed	56.4	51.0							54.4				
Outer Lanes Volume	2,075	1,785							1,848				
Outer Lanes Speed	67.1	68.2							68.0				
Segment Speed	59.8	55.9							58.1				
Diverge v/c ratio	0.84	0.76							0.89				
Diverge Density	34.8	31.5							36.5				
Diverge LOS	D	D							E				
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments													
On to Off Volume (vph)				419							162		551
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				2.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{av}				0.990							0.990		0.990
f _p				1.00							1.00		1.00
On to Off Flow (pcph)				460							178		605
Calculate On Ramp to Mainline Flow Rate for Weave Segments													
On to ML Volume (vph)				381							118		569
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				2.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{av}				0.990							0.990		0.990
f _p				1.00							1.00		1.00
On to ML Flow (pcph)				418							130		625
Calculate Mainline to Off Ramp Flow Rate for Weave Segments													
ML to Off Volume (vph)				161							558		1,139
PHF				0.97							0.97		0.97
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				1.0%							1.0%		1.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{av}				0.995							0.995		0.995
f _p				1.00							1.00		1.00
ML to Off Flow (pcph)				167							578		1,180
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments													
GP to GP Volume (vph)				4,424							3,531		2,619
PHF				0.92							0.97		0.97



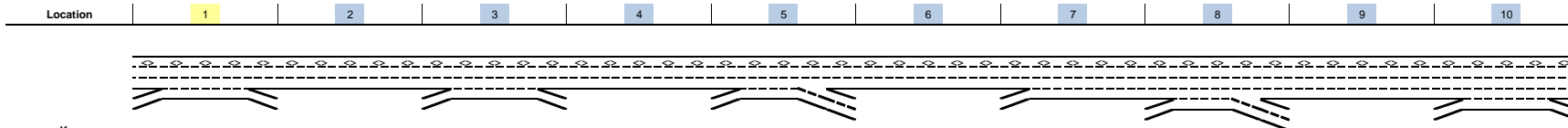
Key
 ⇌ Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				1.0%							1.0%		1.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{RV}				0.995							0.995		0.995
f _p				1.00							1.00		1.00
GP to GP Flow (pcph)				4,833							3,658		2,714
Calculate Weave Segment Operations													
Weave Type				One-sided							One-sided		One-sided
Weave Length				2,000							5,625		7,250
Segment Lanes				3							2		2
Weave Lanes				3					3		2		2
Weave Flow (pcph)				585							708		1,805
Non-Weave Flow				5,293							3,836		3,319
Segment Flow				5,878							4,543		5,123
Max Weave Length				1,969							4,089		6,151
Length Check				Not a Weave							Not a Weave		Not a Weave
Ideal Weave Capacity				2,352							2,468		2,434
f _{RV}				0.994							0.995		0.994
f _p				0.999							1.000		0.999
Capacity Condition 1				7,012							4,907		4,832
Capacity Condition 2				34,935							15,322		6,763
Weave v/c ratio				0.83							0.92		1.05
Interchange Density				3							5		2
Lane Changes On to ML				1							1		1
Lane Changes ML to Off				1							1		1
Lane Changes On to Off				0							0		0
Min Lane Change Rate				585							708		1,805
Weave LC Rate				1,181							2,788		4,567
Non-Weave LC Rate 1				1,596							3,454		4,228
Non-Weave LC Rate 2				2,869							2,544		2,429
Non-Weave LC Rate 3				5,289							-9,820		-5,492
Segment LC Rate				4,050							5,333		6,996
Weave Intensity Factor				0.394							0.217		0.220
Weave Speed				50.9							56.1		56.0
Non-Weave Speed				51.4							49.0		39.7
Segment Speed				51.3							50.0		44.2
Weave Density				-							-		-
Weave LOS				Basic							Basic		Basic
Summarize Segment Operations													
Segment v/c ratio	0.84	0.76	0.66	0.59	0.70	0.71	0.84	0.85	0.89	0.60	0.64	0.82	0.72
Segment Density	34.8	31.5	23.9	21.5	25.7	27.4	32.2	33.5	36.5	21.7	23.3	31.5	26.4
Segment LOS	D	D	C	C	C	C	D	D	E	C	C	D	D
Over Capacity													Weave

Project: Serrano Pedregal/Marble Valley/Lime Rock/SW/Ped
Freeway Corridor: Westbound US 50
Alternative: Cumulative Plus Project
Time Period: AM Peak Hour

Data Entry Value

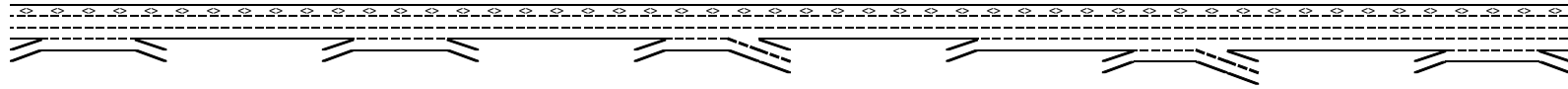
Calculated Value



Key
 <> Express Lane (HOV)
 No Trucks

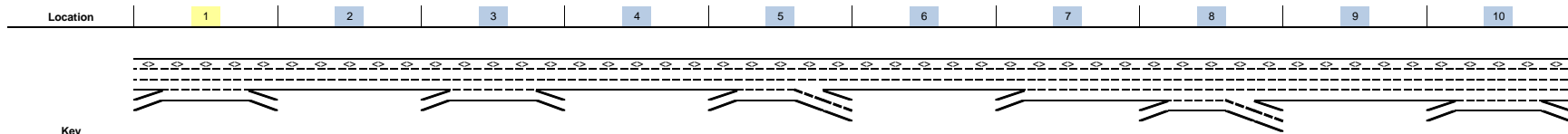
Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Define Freeway Segment										
Type	Weave	Basic	Weave	Basic	Weave	Basic	Basic	Weave	Basic	Weave
Length (ft)	7,325	1,250	8,250	2,350	6,500	2,350	800	4,425	2,300	4,775
Accel Length										
Decel Length										
Mainline Volume	3,350	3,360	3,360	3,820	3,820	4,440	4,440	4,470	4,650	4,650
On Ramp Volume	950		660		1,900		30	1,040		1,660
Off Ramp Volume	940		200		1,280			860		1,890
Express Lane Volume	503	504	538	611		710	710	671	837	
EL On Ramp Volume										
EL Off Ramp Volume										
Calculate Flow Rate in General Purpose Lanes (GP)										
GP Volume (vph)	3,798	2,856	3,482	3,209	5,109	3,730	3,760	4,840	3,813	5,473
PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
GP Lanes	3	2	3	2	3	2	4	4	3	4
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	4,060	3,053	3,723	3,431	5,462	3,987	4,020	5,174	4,077	5,851
GP Flow (pcphpl)	1,353	1,527	1,241	1,715	1,821	1,994	1,005	1,294	1,359	1,463
Calculate Speed in General Purpose Lanes										
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes										
v/c ratio	0.58	0.65	0.53	0.73	0.77	0.85	0.43	0.55	0.58	0.62
Speed (mph)	65.0	64.8	65.0	63.6	62.5	60.0	65.0	65.0	65.0	64.9

Location	1	2	3	4	5	6	7	8	9	10
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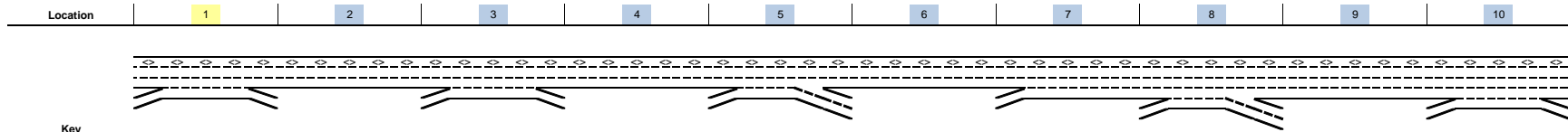
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 - - - - - No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Density (pcphpl)	20.8	23.6	19.1	27.0	29.1	33.2	15.5	19.9	20.9	22.5
LOS	C	C	C	D	D	D	B	C	C	C
Calculate Operations for Entering GP Lanes										
GP _N Vol (pcph)			3,017		3,432		3,986	3,994		3,968
GP _N Cap (pcph)	4,700		4,700		4,700		4,700	7,050		7,050
GP _N v/c ratio	0.64		0.64		0.73		0.85	0.57		0.56
Calculate Operations for Exiting GP Lanes										
GP _{OUT} Vol (pcph)			2,622		3,343			4,255		3,832
GP _{OUT} Cap (pcph)	4,700		4,700		4,700			7,050		7,050
GP _{OUT} v/c ratio	0.56		0.75		0.71			0.60		0.54
Calculate Flow Rate in Express Lanes (EL)										
EL Volume (vph)	503	504	538	611	611	710	710	671	837	837
PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Express Lanes	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HW}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	570	572	610	694	694	806	806	761	950	950
EL Flow (pcphpl)	570	572	610	694	694	806	806	761	950	950
Calculate Speed in Express Lanes										
Lane Width (ft)										
Shoulder Width										
TRD										
f _{LW}										
f _{LC}										
Calcd FFS										
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes										
EL _N v/c ratio	0.33	0.33	0.35	0.40	0.40	0.46	0.46	0.43	0.54	0.54
Calculate On Ramp Flow Rate										
On Volume (vph)	950		660		1,900		30	1,040		1,660
PHF	0.92		0.96		0.95		0.89	0.89		0.89
Total Lanes	1		1		1		1	1		1



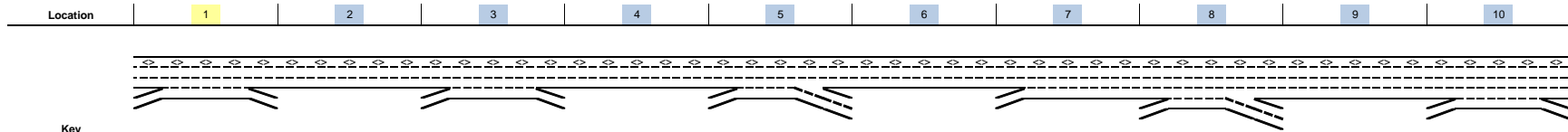
Key
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 - - - No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Terrain	Level		Level		Level		Level	Level		Level
Grade %	0.0%		0.0%		0.0%		0.0%	0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00		0.00	0.00		0.00
Truck & Bus %	2.0%		2.0%		3.0%		2.0%	2.0%		2.0%
RV %	0.0%		0.0%		0.0%		0.0%	0.0%		0.0%
E_T	1.5		1.5		1.5		1.5	1.5		1.5
E_R	1.2		1.2		1.2		1.2	1.2		1.2
f_{HV}	0.990		0.990		0.985		0.990	0.990		0.990
f_P	1.00		1.00		1.00		1.00	1.00		1.00
On Flow (pcph)	1,043		694		2,030		34	1,180		1,884
On Flow (pcphpl)	1,043		694		2,030		34	1,180		1,884
Calculate On Ramp Roadway Operations										
On Ramp Type	Right		Right				Right	Right		Right
On Ramp Speed (mph)	45		25				45	45		45
On Ramp Cap (pcph)	2,100		1,900				2,100	2,100		2,100
On Ramp v/c ratio	0.50		0.37				0.02	0.56		0.90
Calculate Off Ramp Flow Rate										
Off Volume (vph)	940		200		1,280			860		1,890
PHF	0.66		0.95		0.61			0.95		0.95
Total Lanes	1		1		2			2		1
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	2.0%		3.0%		2.0%			3.0%		3.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E_T	1.5		1.5		1.5			1.5		1.5
E_R	1.2		1.2		1.2			1.2		1.2
f_{HV}	0.990		0.985		0.990			0.985		0.985
f_P	1.00		1.00		1.00			1.00		1.00
Off Flow (pcph)	1,438		214		2,119			919		2,019
Off Flow (pcphpl)	1,438		214		1,060			459		2,019
Calculate Off Ramp Roadway Operations										
Off Ramp Type	Right		Right		Right			Right		Right
Off Ramp Speed	45		45		45			25		45
Off Ramp Cap (pcph)	2,100		2,100		4,200			3,800		2,100
Off Ramp v/c ratio	0.68		0.10		0.50			0.24		0.96
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps										
Up Type			Off		Off					
Up Distance			1,250		2,350					
Up Flow (pcph)			1,438		214					



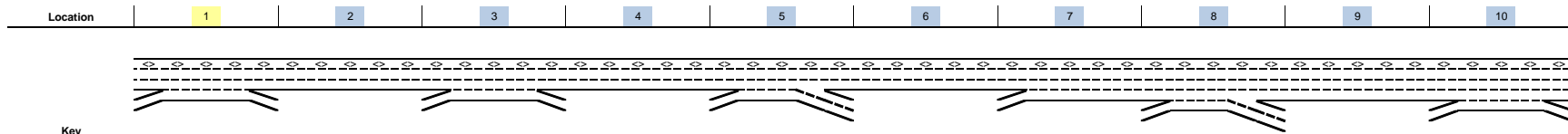
Key
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 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Down Type	On		No		On					
Down Distance	1,250				8,850					
Down Flow (pcph)	694				34					
Calculate Merge Influence Area Operations										
Calculate Diverge Influence Area Operations										
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments										
On to Off Volume (vph)	228		112		785			164		830
PHF	0.92		0.92		0.92			0.92		0.92
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	2.0%		2.0%		2.0%			2.0%		2.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{HV}	0.990		0.990		0.990			0.990		0.990
f _P	1.00		1.00		1.00			1.00		1.00
On to Off Flow (pcph)	250		123		862			180		911
Calculate On Ramp to Mainline Flow Rate for Weave Segments										
On to ML Volume (vph)	722		548		1,115			876		830
PHF	0.92		0.92		0.92			0.92		0.92
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		2.0%		2.0%			2.0%		2.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{HV}	0.995		0.990		0.990			0.990		0.990
f _P	1.00		1.00		1.00			1.00		1.00
On to ML Flow (pcph)	789		601		1,224			961		911
Calculate Mainline to Off Ramp Flow Rate for Weave Segments										
ML to Off Volume (vph)	712		88		495			696		1,060
PHF	0.94		0.94		0.94			0.94		0.94
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2



Key
 <-> Express Lane (HOV)
 - - - - - No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
f_{HV}	0.995		0.995		0.995			0.995		0.995
f_p	1.00		1.00		1.00			1.00		1.00
ML to Off Flow (pcph)	761		94		529			744		1,133
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments										
GP to GP Volume (vph)	2,136		2,735		2,714			3,104		2,753
PHF	0.94		0.94		0.94			0.94		0.94
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E_T	1.5		1.5		1.5			1.5		1.5
E_R	1.2		1.2		1.2			1.2		1.2
f_{HV}	0.995		0.995		0.995			0.995		0.995
f_p	1.00		1.00		1.00			1.00		1.00
GP to GP Flow (pcph)	2,283		2,924		2,901			3,319		2,943
Calculate Weave Segment Operations										
Weave Type	One-sided		One-sided		One-sided			One-sided		One-sided
Weave Length	6,325		7,250		5,500			3,425		3,775
Segment Lanes	2		2		2			3		3
Weave Lanes	2		2		3			3		3
Weave Flow (pcph)	1,550		695		1,753			1,705		2,044
Non-Weave Flow	2,533		3,047		3,763			3,499		3,855
Segment Flow	4,083		3,742		5,517			5,204		5,899
Max Weave Length	6,453		4,391		4,210			4,316		4,523
Length Check	OK		Not a Weave		Not a Weave			OK		OK
Ideal Weave Capacity	2,340		2,569		2,449			2,282		2,293
f_{HV}	0.995		0.994		0.993			0.994		0.994
f_p	0.999		0.998		0.998			0.998		0.998
Capacity Condition 1	4,651		5,099		4,853			6,792		6,823
Capacity Condition 2	6,284		12,821		10,913			10,599		10,018
Weave v/c ratio	0.87		0.73		1.13			0.76		0.86
Interchange Density	3		5		5			4		3
Lane Changes On to ML	1		1		1			1		1
Lane Changes ML to Off	1		1		1			1		1
Lane Changes On to Off	0		0		0			0		0
Min Lane Change Rate	1,550		695		1,753			1,705		2,044
Weave LC Rate	3,935		3,409		3,785			2,820		3,332
Non-Weave LC Rate 1	3,565		4,172		3,371			1,999		2,262
Non-Weave LC Rate 2	2,254		2,368		2,528			2,469		2,549
Non-Weave LC Rate 3	-3,508		-22,866		-8,362			4,525		3,612
Segment LC Rate	6,189		5,778		6,313			5,290		5,881



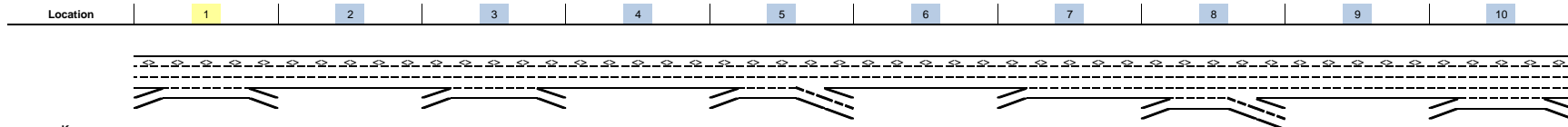
Key
 <> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Weave Intensity Factor	0.222		0.189		0.252			0.318		0.321
Weave Speed	55.9		57.1		54.9			52.9		52.9
Non-Weave Speed	44.0		51.0		39.1			44.4		40.8
Segment Speed	47.9		52.0		43.1			46.9		44.3
Weave Density	42.6		-		-			37.0		44.4
Weave LOS	E		Basic		Basic			E		E
Summarize Segment Operations										
Segment v/c ratio	0.87	0.65	0.53	0.73	0.77	0.85	0.43	0.76	0.58	0.86
Segment Density	42.6	23.6	19.1	27.0	29.1	33.2	15.5	37.0	20.9	44.4
Segment LOS	E	C	C	D	D	D	B	E	C	E
Over Capacity										

Project: Serrano Pedregal/Marble Valley/Lime Rock/SW/Ped
Freeway Corridor: Westbound US 50
Alternative: Cumulative Plus Project
Time Period: PM Peak Hour

Data Entry Value

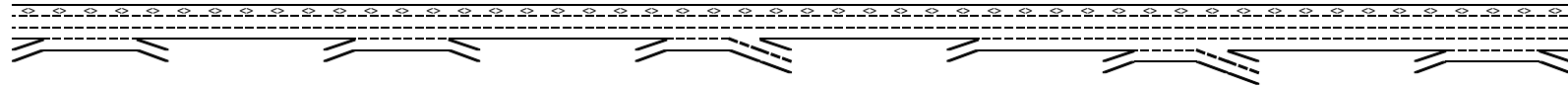
Calculated Value



Key
 <-> Express Lane (HOV)
 - - - No Trucks

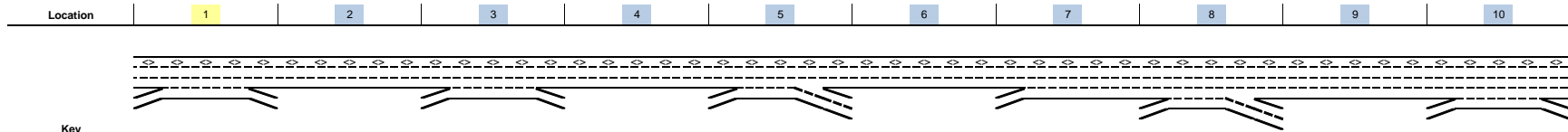
Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Define Freeway Segment										
Type	Weave	Basic	Weave	Basic	Weave	Basic	Basic	Weave	Basic	Weave
Length (ft)	7,325	1,250	8,250	2,350	6,500	2,350	800	4,425	2,300	4,775
Accel Length										
Decel Length										
Mainline Volume	4,200	3,780	3,780	3,770	3,770	4,020	4,020	4,060	3,570	3,570
On Ramp Volume	1,010		600		1,260		40	380		1,460
Off Ramp Volume	1,430		610		1,010			870		1,720
Express Lane Volume	630	567	643	641	566	603	563	568	500	500
EL On Ramp Volume										
EL Off Ramp Volume										
Calculate Flow Rate in General Purpose Lanes (GP)										
GP Volume (vph)	4,580	3,213	3,737	3,129	4,465	3,417	3,497	3,872	3,070	4,530
PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
GP Lanes	3	2	3	2	3	2	4	4	3	4
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	4,795	3,364	3,913	3,276	4,674	3,577	3,661	4,053	3,214	4,743
GP Flow (pcphpl)	1,598	1,682	1,304	1,638	1,558	1,789	915	1,013	1,071	1,186
Calculate Speed in General Purpose Lanes										
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes										
v/c ratio	0.68	0.72	0.55	0.70	0.66	0.76	0.39	0.43	0.46	0.50
Speed (mph)	64.4	63.9	65.0	64.2	64.6	62.9	65.0	65.0	65.0	65.0

Location	1	2	3	4	5	6	7	8	9	10
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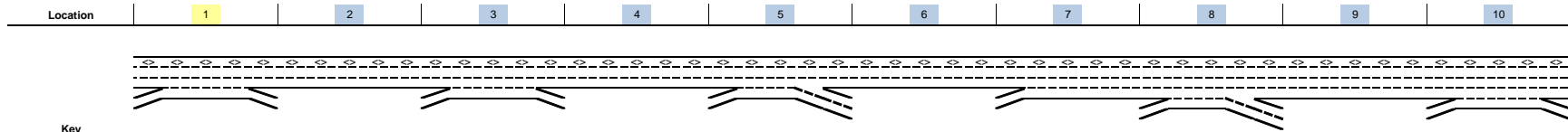
Key
 <-> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Density (pcphpl)	24.8	26.3	20.1	25.5	24.1	28.5	14.1	15.6	16.5	18.2
LOS	C	D	C	C	C	D	B	B	B	C
Calculate Operations for Entering GP Lanes										
GP _N Vol (pcph)			3,281		3,328		3,617	3,622		3,086
GP _N Cap (pcph)	4,700		4,700		4,700		4,700	7,050		7,050
GP _N v/c ratio	0.78		0.70		0.71		0.77	0.51		0.44
Calculate Operations for Exiting GP Lanes										
GP _{OUT} Vol (pcph)			3,261		3,001			3,124		2,905
GP _{OUT} Cap (pcph)	4,700		4,700		4,700			7,050		7,050
GP _{OUT} v/c ratio	0.55		0.69		0.64			0.44		0.41
Calculate Flow Rate in Express Lanes (EL)										
EL Volume (vph)	630	567	643	641	566	603	563	568	500	500
PHF	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Express Lanes	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	-7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
f _{HW}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.990
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	707	636	721	719	635	677	632	638	561	561
EL Flow (pcphpl)	707	636	721	719	635	677	632	638	561	561
Calculate Speed in Express Lanes										
Lane Width (ft)										
Shoulder Width										
TRD										
f _{LW}										
f _{LC}										
Calc'd FFS										
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes										
EL _N v/c ratio	0.40	0.36	0.41	0.41	0.36	0.39	0.36	0.36	0.32	0.32
Calculate On Ramp Flow Rate										
On Volume (vph)	1,010		600		1,260		40	380		1,460
PHF	0.89		0.96		0.95		0.92	0.89		0.89
Total Lanes	1		1		1		1	1		1



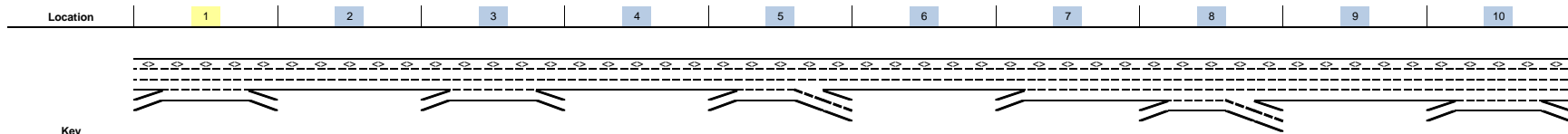
Key
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 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Terrain	Level		Level		Level		Level	Level		Level
Grade %	0.0%		0.0%		0.0%		0.0%	0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00		0.00	0.00		0.00
Truck & Bus %	2.0%		2.0%		3.0%		2.0%	2.0%		2.0%
RV %	0.0%		0.0%		0.0%		0.0%	0.0%		0.0%
E _T	1.5		1.5		1.5		1.5	1.5		1.5
E _R	1.2		1.2		1.2		1.2	1.2		1.2
f _{IV}	0.990		0.990		0.985		0.990	0.990		0.990
f _P	1.00		1.00		1.00		1.00	1.00		1.00
On Flow (pcph)	1,146		631		1,346		44	431		1,657
On Flow (pcphpl)	1,146		631		1,346		44	431		1,657
Calculate On Ramp Roadway Operations										
On Ramp Type			Right				Right	Right		Right
On Ramp Speed (mph)	45		25				45	45		45
On Ramp Cap (pcph)			1,900				2,100	2,100		2,100
On Ramp v/c ratio			0.33				0.02	0.21		0.79
Calculate Off Ramp Flow Rate										
Off Volume (vph)	1,430		610		1,010			870		1,720
PHF	0.66		0.95		0.61			0.95		0.95
Total Lanes	1		1		2			2		1
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	2.0%		3.0%		2.0%			3.0%		3.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{IV}	0.990		0.985		0.990			0.985		0.985
f _P	1.00		1.00		1.00			1.00		1.00
Off Flow (pcph)	2,188		652		1,672			930		1,838
Off Flow (pcphpl)	2,188		652		836			465		1,838
Calculate Off Ramp Roadway Operations										
Off Ramp Type	Right		Right		Right			Right		Right
Off Ramp Speed	45		45		45			25		45
Off Ramp Cap (pcph)	2,100		2,100		4,200			3,800		2,100
Off Ramp v/c ratio	1.04		0.31		0.40			0.24		0.88
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps										
Up Type			Off		Off					
Up Distance			1,250		2,350					
Up Flow (pcph)			2,188		652					

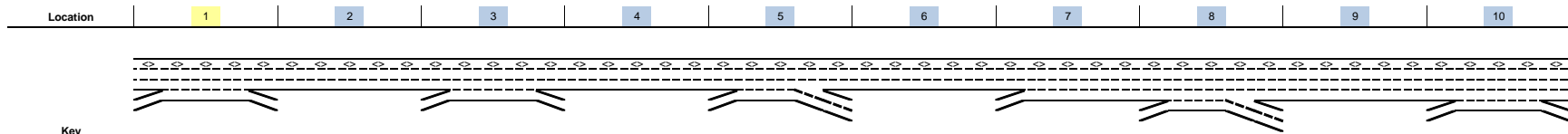


Key
 <> Express Lane (HOV)
 No Trucks

Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Down Type	On		No		On					
Down Distance	1,250				8,850					
Down Flow (pcph)	631				44					
Calculate Merge Influence Area Operations										
Calculate Diverge Influence Area Operations										
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments										
On to Off Volume (vph)	434		150		400			83		686
PHF	0.92		0.92		0.92			0.92		0.92
Terrain	Level		Level		Level			Level		Level
Grade %	0.0%		0.0%		0.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	2.0%		2.0%		2.0%			2.0%		2.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{HV}	0.990		0.990		0.990			0.990		0.990
f _P	1.00		1.00		1.00			1.00		1.00
On to Off Flow (pcph)	477		165		439			91		753
Calculate On Ramp to Mainline Flow Rate for Weave Segments										
On to ML Volume (vph)	576		450		860			297		774
PHF	0.96		0.96		0.96			0.96		0.96
Terrain	Level		Level		Grade			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2
f _{HV}	0.995		0.995		0.995			0.995		0.995
f _P	1.00		1.00		1.00			1.00		1.00
On to ML Flow (pcph)	603		471		901			311		810
Calculate Mainline to Off Ramp Flow Rate for Weave Segments										
ML to Off Volume (vph)	996		460		610			787		1,034
PHF	0.96		0.96		0.95			0.96		0.96
Terrain	Level		Level		Grade			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E _T	1.5		1.5		1.5			1.5		1.5
E _R	1.2		1.2		1.2			1.2		1.2



Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
f_{HV}	0.995		0.995		0.995			0.995		0.995
f_p	1.00		1.00		1.00			1.00		1.00
ML to Off Flow (pcph)	1,042		482		646			824		1,082
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments										
GP to GP Volume (vph)	2,574		2,677		2,594			2,705		2,036
PHF	0.96		0.96		0.96			0.96		0.96
Terrain	Level		Level		Grade			Level		Level
Grade %	0.0%		0.0%		-7.0%			0.0%		0.0%
Grade Length (mi)	0.00		0.00		0.00			0.00		0.00
Truck & Bus %	1.0%		1.0%		1.0%			1.0%		1.0%
RV %	0.0%		0.0%		0.0%			0.0%		0.0%
E_T	1.5		1.5		1.5			1.5		1.5
E_R	1.2		1.2		1.2			1.2		1.2
f_{HV}	0.995		0.995		0.995			0.995		0.995
f_p	1.00		1.00		1.00			1.00		1.00
GP to GP Flow (pcph)	2,695		2,803		2,716			2,832		2,132
Calculate Weave Segment Operations										
Weave Type	One-sided		One-sided		One-sided			One-sided		One-sided
Weave Length	6,325		7,250		5,500			3,425		3,775
Segment Lanes	2		2		2			3		3
Weave Lanes	2		2		3			3		3
Weave Flow (pcph)	1,645		953		1,546			1,134		1,892
Non-Weave Flow	3,172		2,968		3,154			2,923		2,885
Segment Flow	4,817		3,920		4,701			4,057		4,778
Max Weave Length	6,034		4,981		4,331			3,799		5,071
Length Check	Not a Weave		Not a Weave		Not a Weave			OK		OK
Ideal Weave Capacity	2,372		2,524		2,439			2,321		2,251
f_{HV}	0.995		0.995		0.995			0.995		0.994
f_p	0.999		0.999		0.999			1.000		0.999
Capacity Condition 1	4,716		5,018		4,848			6,926		6,708
Capacity Condition 2	6,985		9,819		10,571			12,452		8,778
Weave v/c ratio	1.02		0.78		0.96			0.58		0.71
Interchange Density	3		5		5			4		3
Lane Changes On to ML	1		1		1			1		1
Lane Changes ML to Off	1		1		1			1		1
Lane Changes On to Off	0		0		0			0		0
Min Lane Change Rate	1,645		953		1,546			1,134		1,892
Weave LC Rate	4,030		3,667		3,578			2,250		3,180
Non-Weave LC Rate 1	3,696		4,156		3,246			1,881		2,063
Non-Weave LC Rate 2	2,396		2,351		2,392			2,341		2,332
Non-Weave LC Rate 3	-5,741		-22,105		-6,434			3,795		2,879
Segment LC Rate	6,426		6,018		5,971			4,590		5,513



Name	Cameron Park to Cambridge	Cambridge Rd off to on-ramp	Cambridge Rd to Bass Lake Rd	Bass Lake Rd off to on-ramp	Bass Lake Rd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley on-ramp	Silva Valley to El Dorado Hills	El Dorado Hills off to on-ramp	El Dorado Hills to Empire Ranch
Weave Intensity Factor	0.229		0.195		0.241			0.285		0.305
Weave Speed	55.7		56.8		55.3			53.9		53.3
Non-Weave Speed	41.6		48.7		42.6			50.3		43.7
Segment Speed	45.5		50.5		46.1			51.3		47.1
Weave Density	-		-		-			26.4		33.8
Weave LOS	Basic		Basic		Basic			C		D
Summarize Segment Operations										
Segment v/c ratio	0.68	0.72	0.55	0.70	0.66	0.76	0.39	0.58	0.46	0.71
Segment Density	24.8	26.3	20.1	25.5	24.1	28.5	14.1	26.4	16.5	33.8
Segment LOS	C	D	C	C	C	D	B	C	B	D
Over Capacity	Off Ramp Roadway Weave									

Leisch Method for Weaving Analysis

Data Input

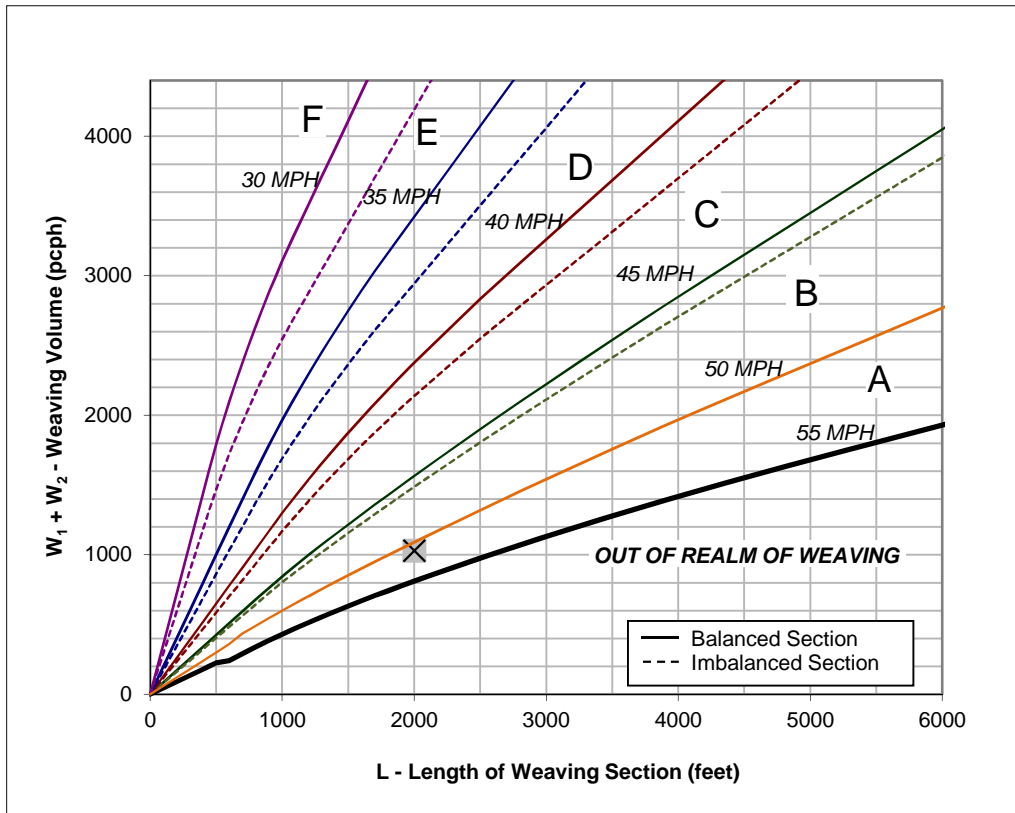
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,000

Project Information

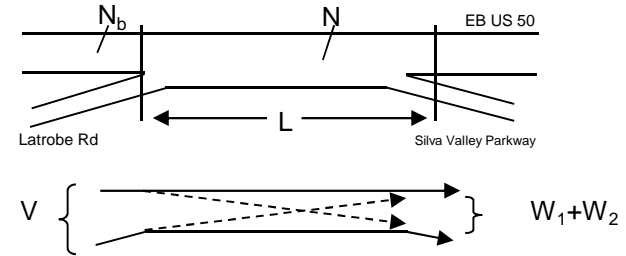
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - AM Pk Hr
Freeway	EB US 50
On-ramp	Latrobe Rd
Off-ramp	Silva Valley Parkway

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,249	Volume (vph)*	770	Volume (vph)*	250
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,314	Volume (pcph)	777	Volume (pcph)	253

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **51.1**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **828**
- Level of Service (LOS) **B**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

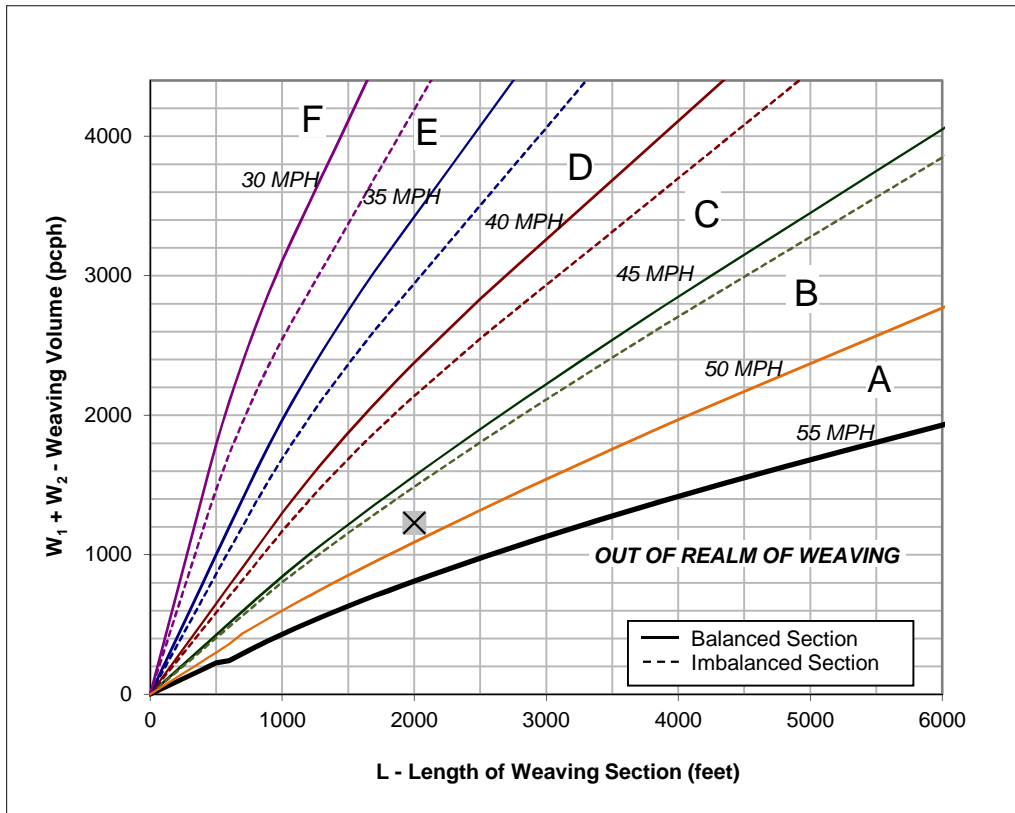
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	2,000

Project Information

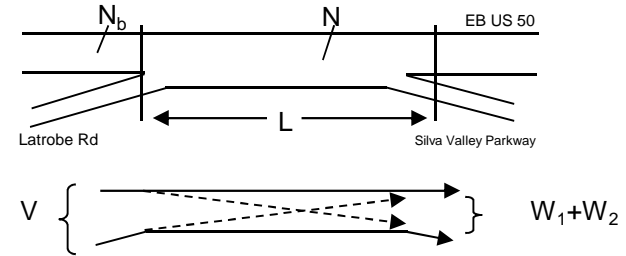
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - PM Pk Hr
Freeway	EB US 50
On-ramp	Latrobe Rd
Off-ramp	Silva Valley Parkway

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	5,385	Volume (vph)*	712	Volume (vph)*	506
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	5,412	Volume (pcph)	719	Volume (pcph)	511

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
45 MPH and **50 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **48.5**
- Weaving Intensity Factor (k) **1.44**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,409**
- Level of Service (LOS) **D**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

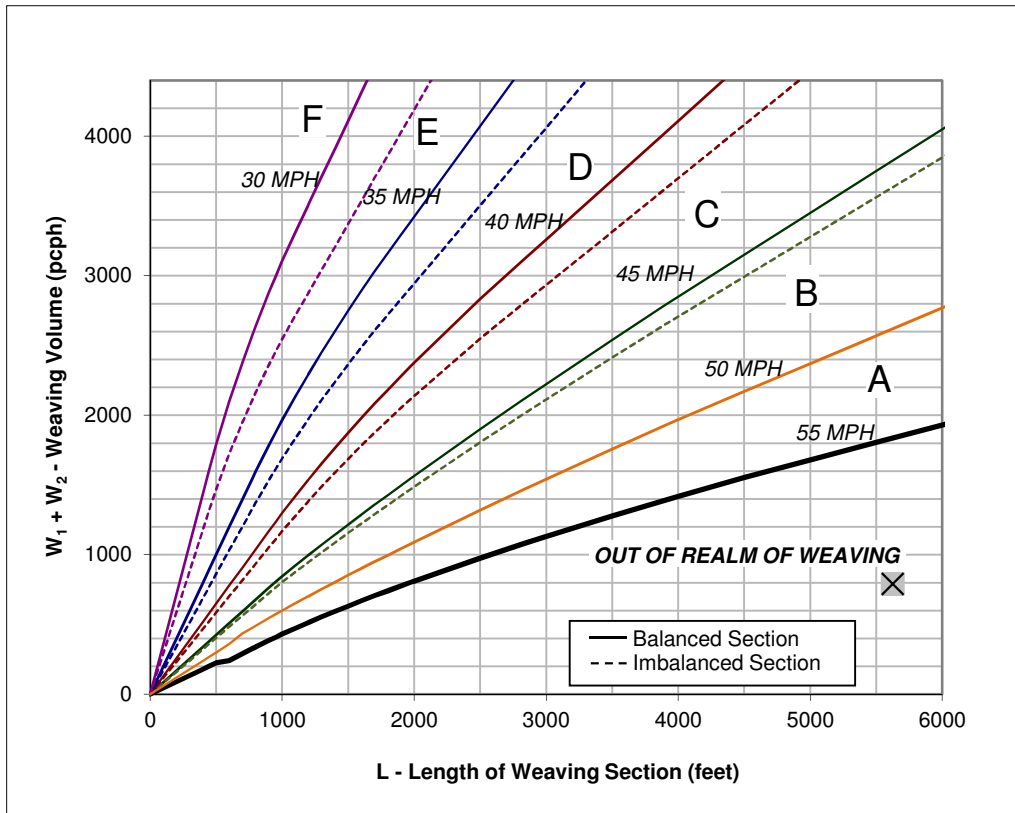
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	5,625

Project Information

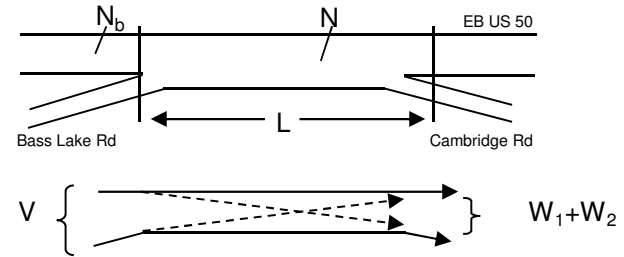
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - AM Pk Hr
Freeway	EB US 50
On-ramp	Bass Lake Rd
Off-ramp	Cambridge Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,165	Volume (vph)*	431	Volume (vph)*	351
Truck Percentage	4%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,228	Volume (pcph)	436	Volume (pcph)	355

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **61.7**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,076**
- Level of Service (LOS) **C**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

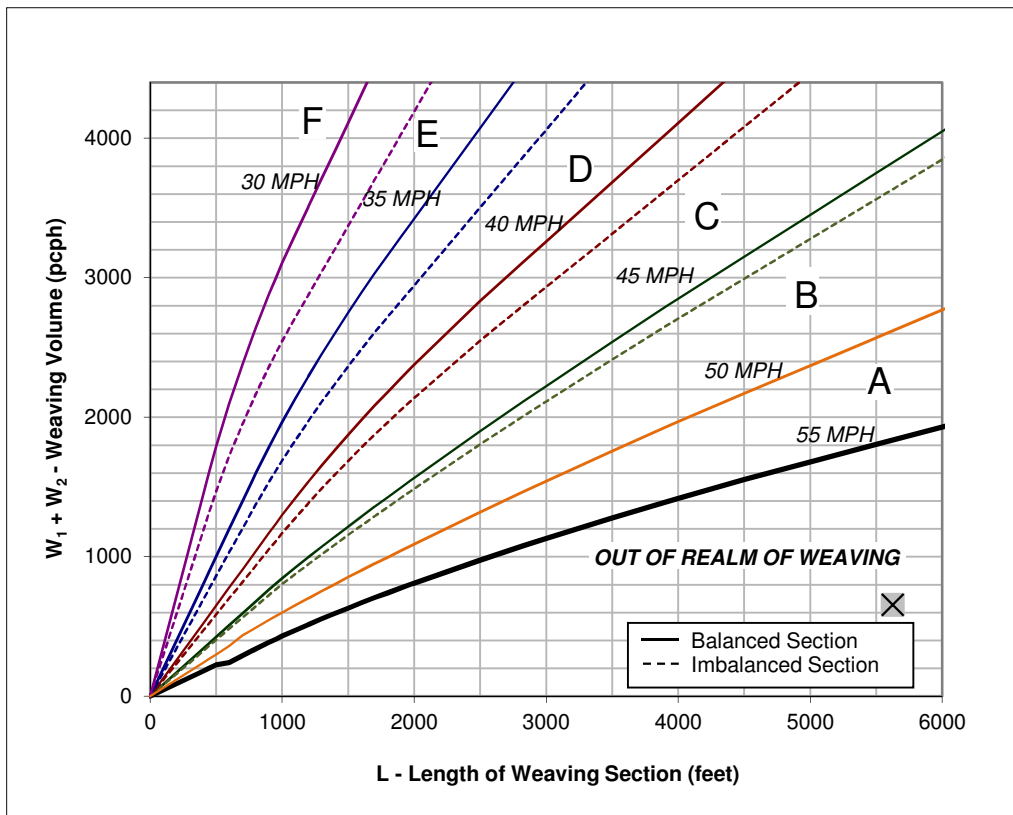
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	5,625

Project Information

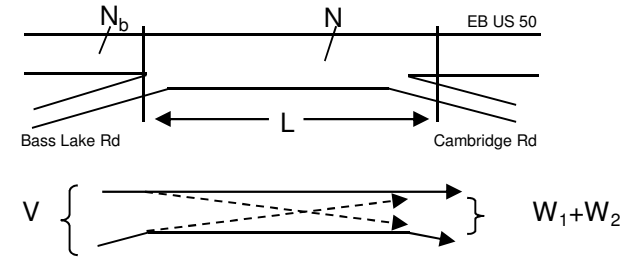
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - PM Pk Hr
Freeway	EB US 50
On-ramp	Bass Lake Rd
Off-ramp	Cambridge Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,239	Volume (vph)*	185	Volume (vph)*	465
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,260	Volume (pcph)	187	Volume (pcph)	469

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **62.5**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,065**
- Level of Service (LOS) **B**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

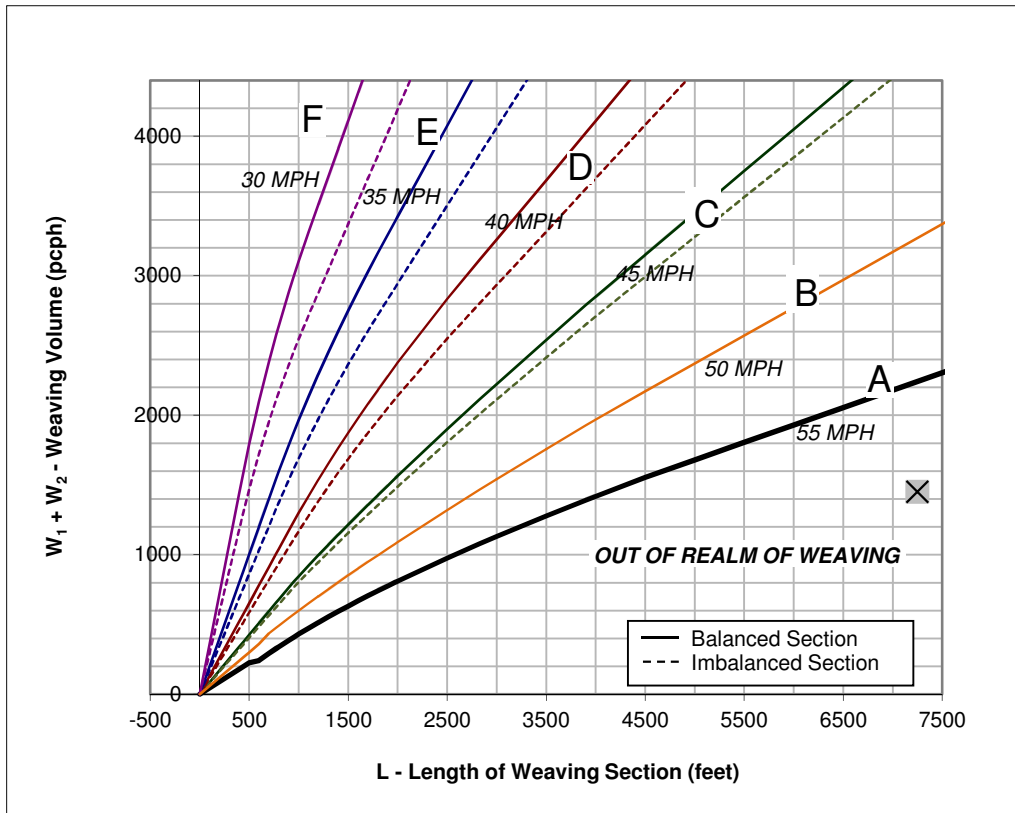
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	7,250

Project Information

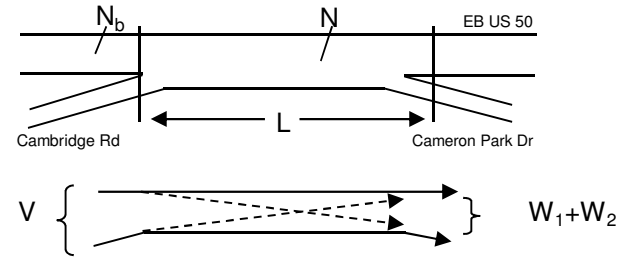
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - AM Pk Hr
Freeway	EB US 50
On-ramp	Cambridge Rd
Off-ramp	Cameron Park Dr

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,752	Volume (vph)*	756	Volume (vph)*	676
Truck Percentage	4%	Truck Percentage	3%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,827	Volume (pcph)	768	Volume (pcph)	683

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **58.9**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,276**
- Level of Service (LOS) **D**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

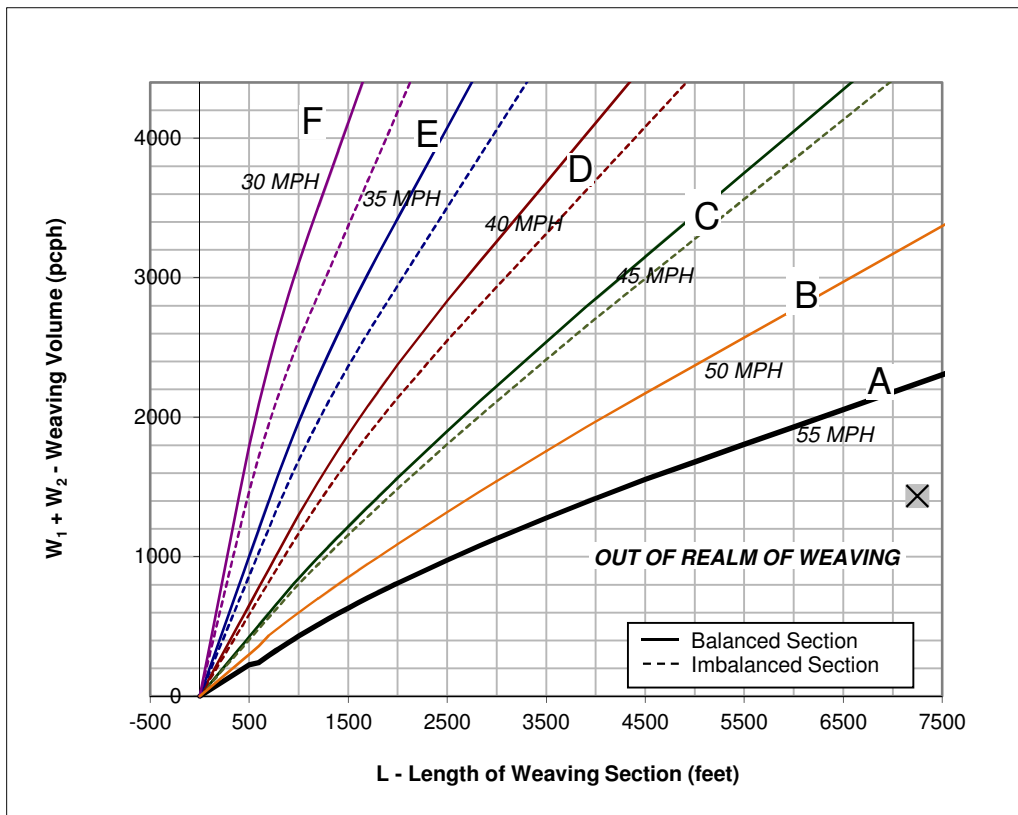
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	7,250

Project Information

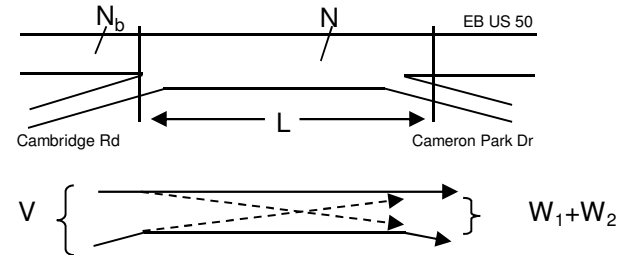
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - PM Pk Hr
Freeway	EB US 50
On-ramp	Cambridge Rd
Off-ramp	Cameron Park Dr

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,723	Volume (vph)*	426	Volume (vph)*	996
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,747	Volume (pcph)	430	Volume (pcph)	1,006

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? N
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and 55 MPH
- If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) 58.9
- Weaving Intensity Factor (k) 1.00
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ 1,187
- Level of Service (LOS) C

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

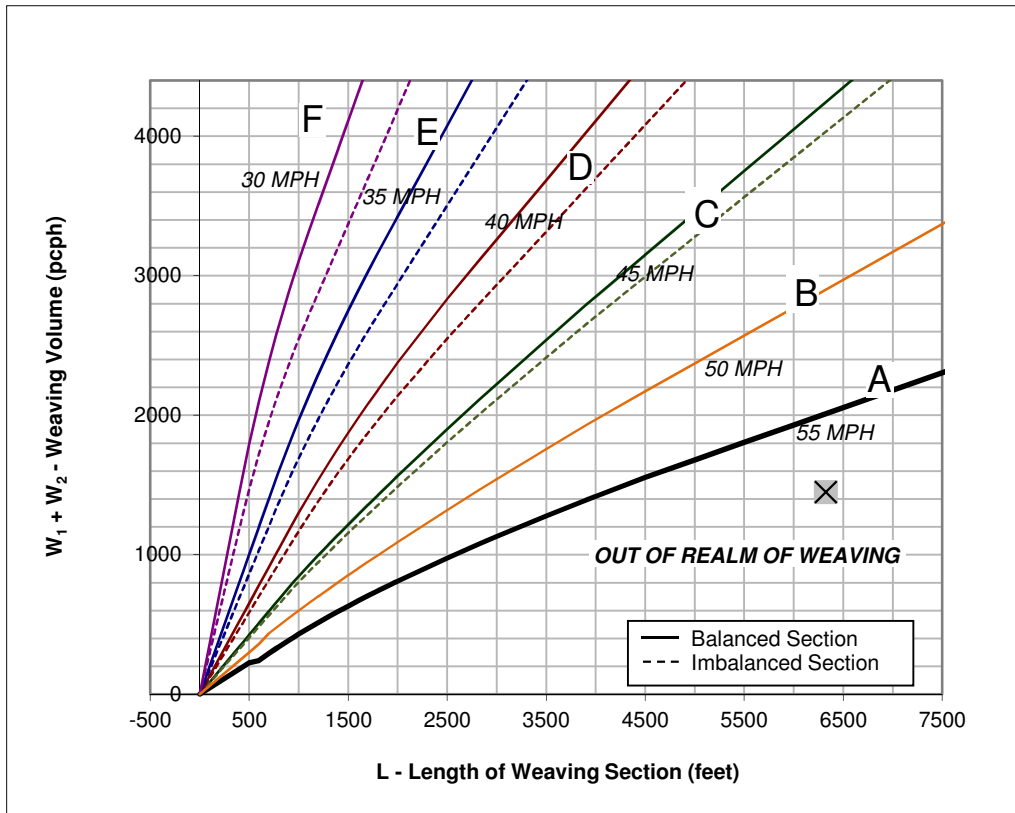
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	6,325

Project Information

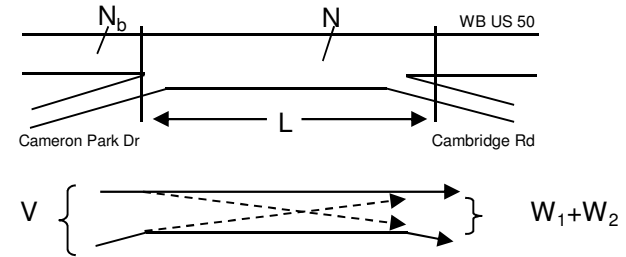
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - AM Pk Hr
Freeway	WB US 50
On-ramp	Cameron Park Dr
Off-ramp	Cambridge Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,746	Volume (vph)*	722	Volume (vph)*	712
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,765	Volume (pcph)	729	Volume (pcph)	719

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **58.2**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,255**
- Level of Service (LOS) **D**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

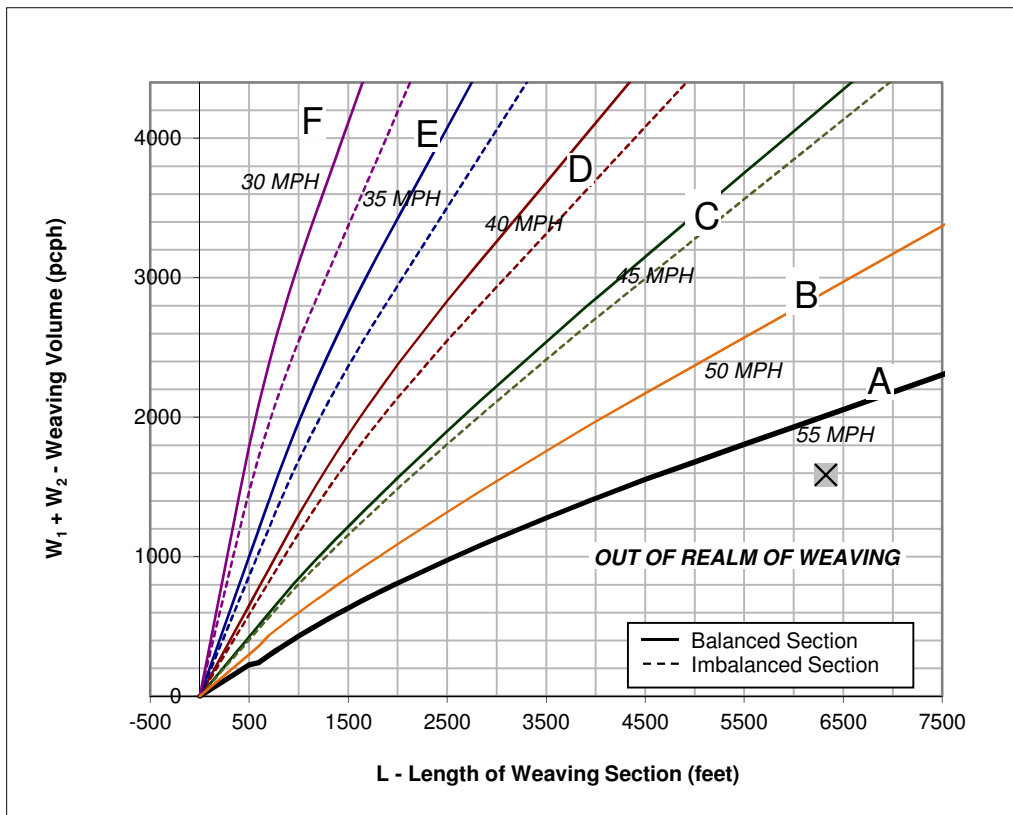
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	6,325

Project Information

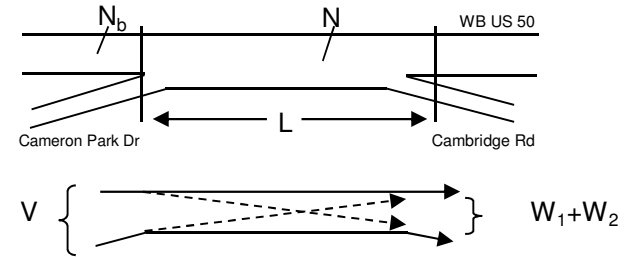
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - PM Pk Hr
Freeway	WB US 50
On-ramp	Cameron Park Dr
Off-ramp	Cambridge Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,563	Volume (vph)*	576	Volume (vph)*	996
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,586	Volume (pcph)	581	Volume (pcph)	1,006

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **N**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **57.4**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,529**
- Level of Service (LOS) **D**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

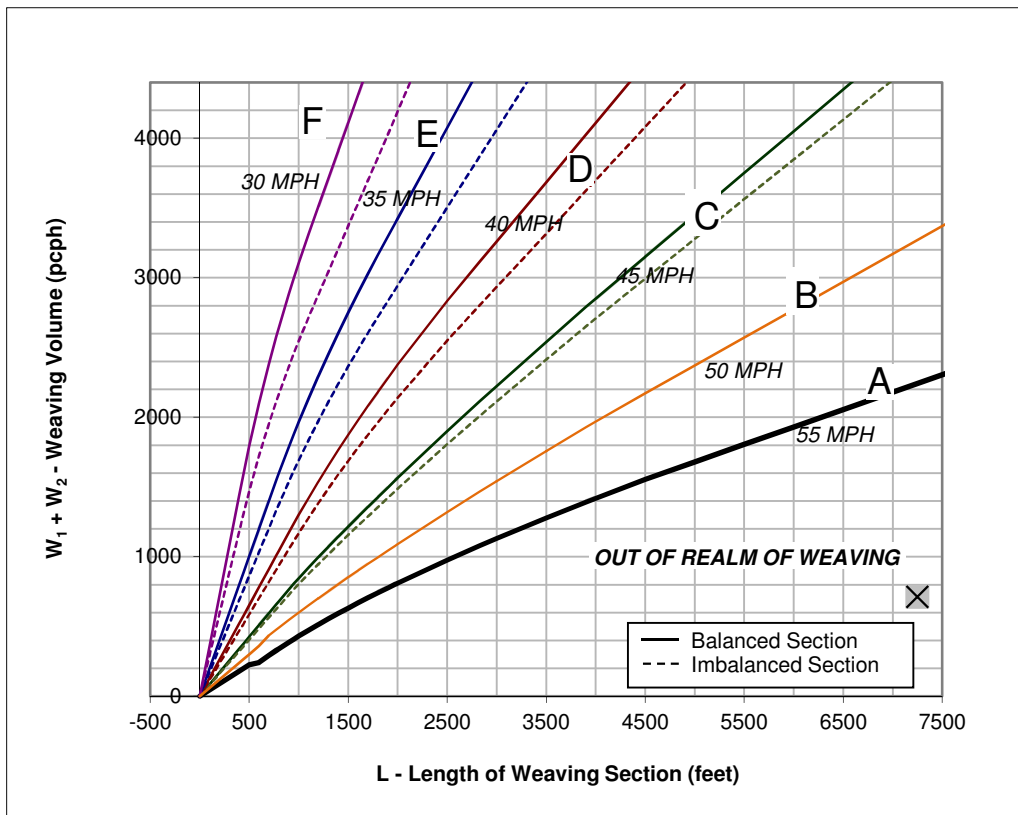
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	7,250

Project Information

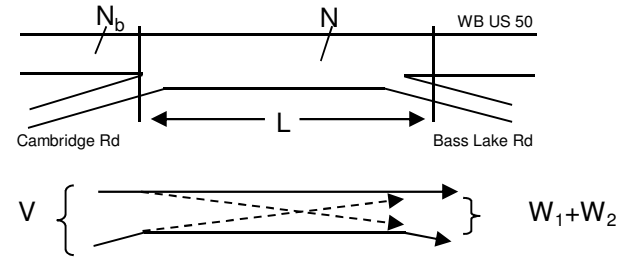
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - AM Pk Hr
Freeway	WB US 50
On-ramp	Cambridge Rd
Off-ramp	Bass Lake Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,432	Volume (vph)*	548	Volume (vph)*	158
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,449	Volume (pcph)	553	Volume (pcph)	159

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? N
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and 55 MPH
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) 62.4
- Weaving Intensity Factor (k) 1.00
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ 1,150
- Level of Service (LOS) C

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

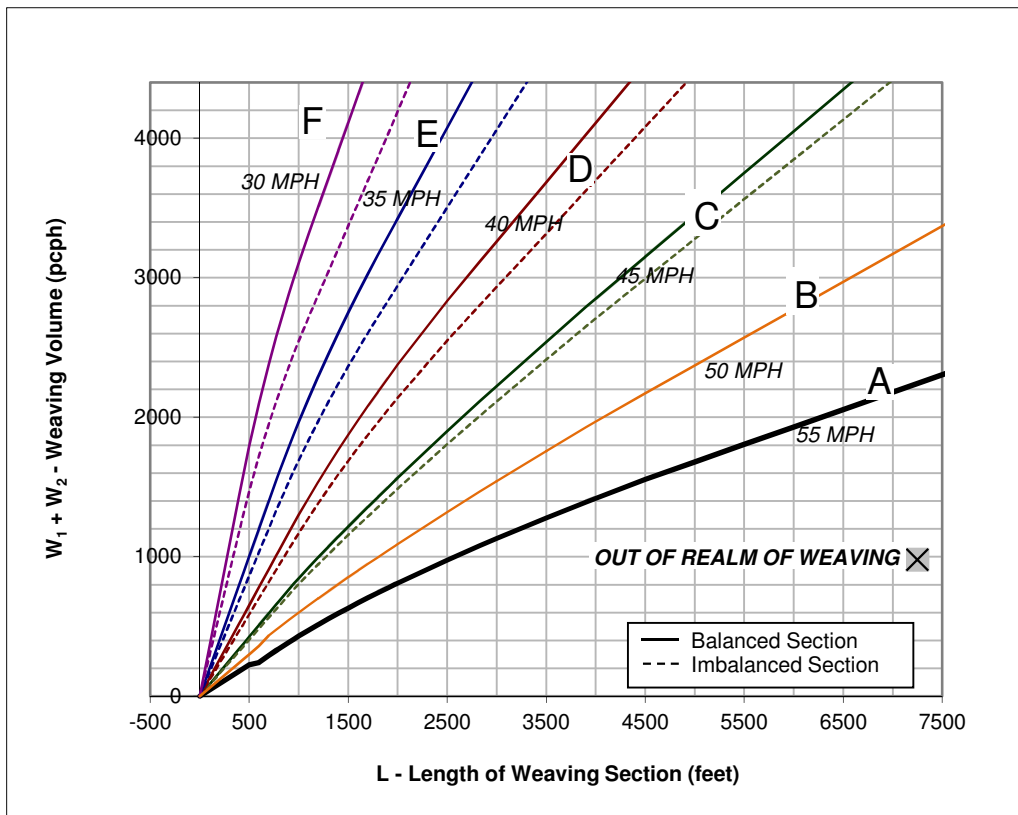
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	7,250

Project Information

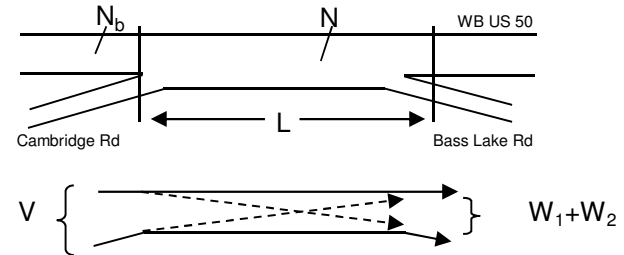
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - PM Pk Hr
Freeway	WB US 50
On-ramp	Cambridge Rd
Off-ramp	Bass Lake Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,991	Volume (vph)*	450	Volume (vph)*	520
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,011	Volume (pcph)	455	Volume (pcph)	525

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? N
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and 55 MPH
- If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) 61.1
- Weaving Intensity Factor (k) 1.00
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ 1,337
- Level of Service (LOS) D

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

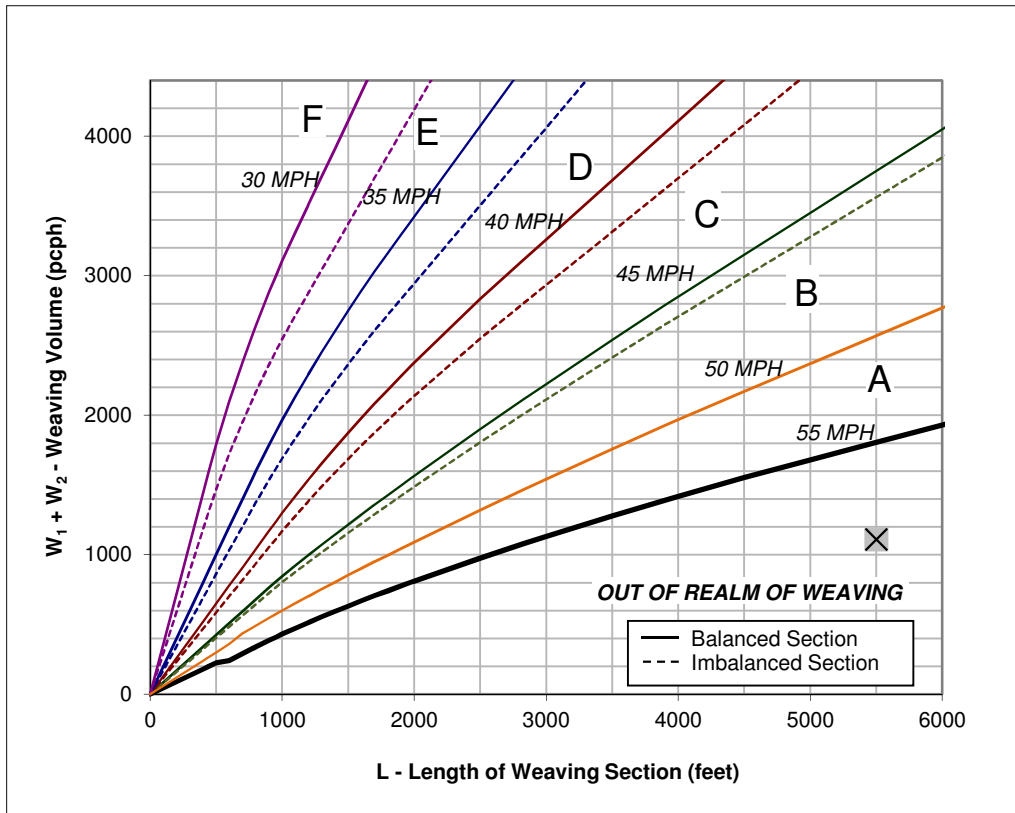
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	5,500

Project Information

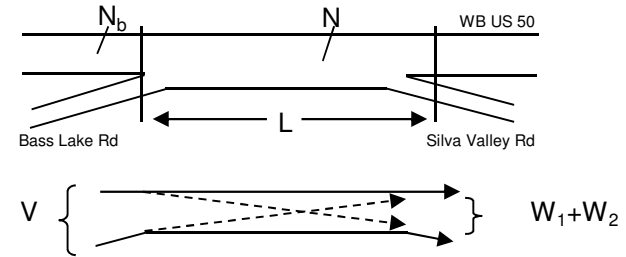
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - AM Pk Hr
Freeway	WB US 50
On-ramp	Bass Lake Rd
Off-ramp	Silva Valley Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,670	Volume (vph)*	785	Volume (vph)*	315
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,693	Volume (pcph)	793	Volume (pcph)	318

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **59.5**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,564**
- Level of Service (LOS) **E**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

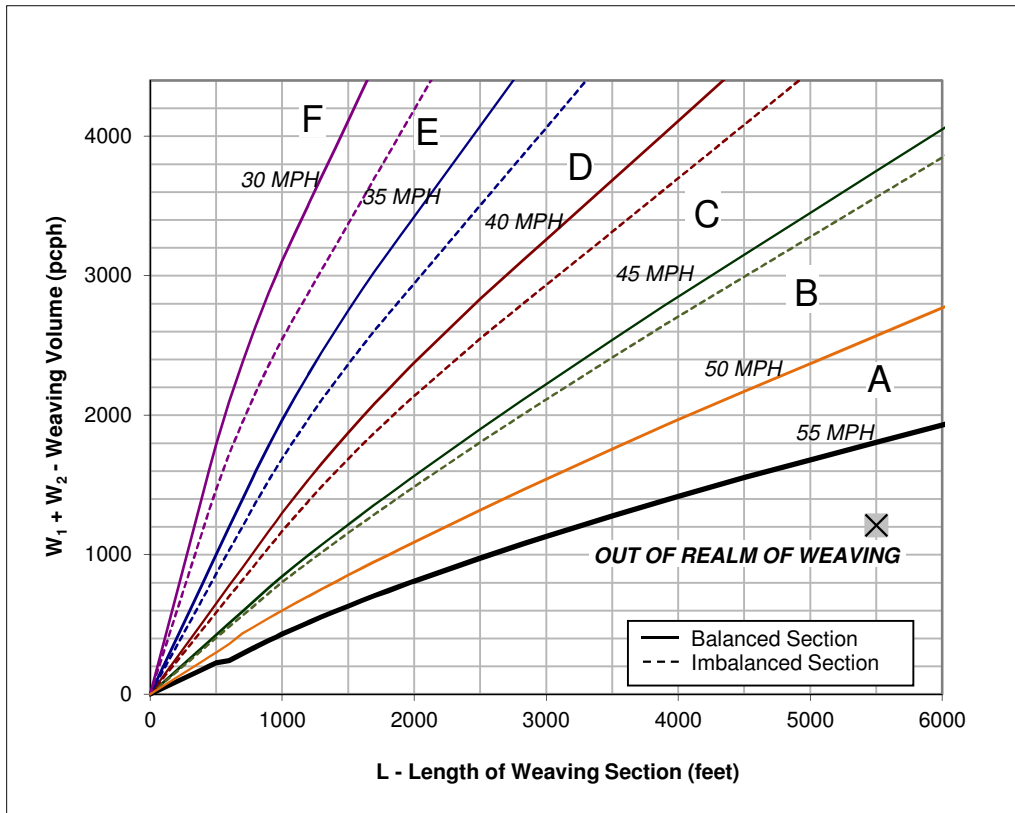
Number of Entering Mainline Lanes	N_b	2
Number of Lanes in Weaving Section	N	3
Length of Weaving Section (feet)	L	5,500

Project Information

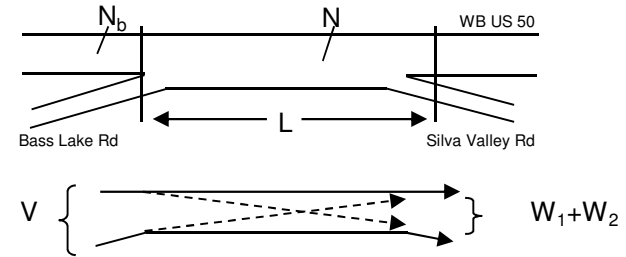
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - PM Pk Hr
Freeway	WB US 50
On-ramp	Bass Lake Rd
Off-ramp	Silva Valley Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,246	Volume (vph)*	704	Volume (vph)*	494
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,267	Volume (pcph)	711	Volume (pcph)	499

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **58.9**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,422**
- Level of Service (LOS) **D**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

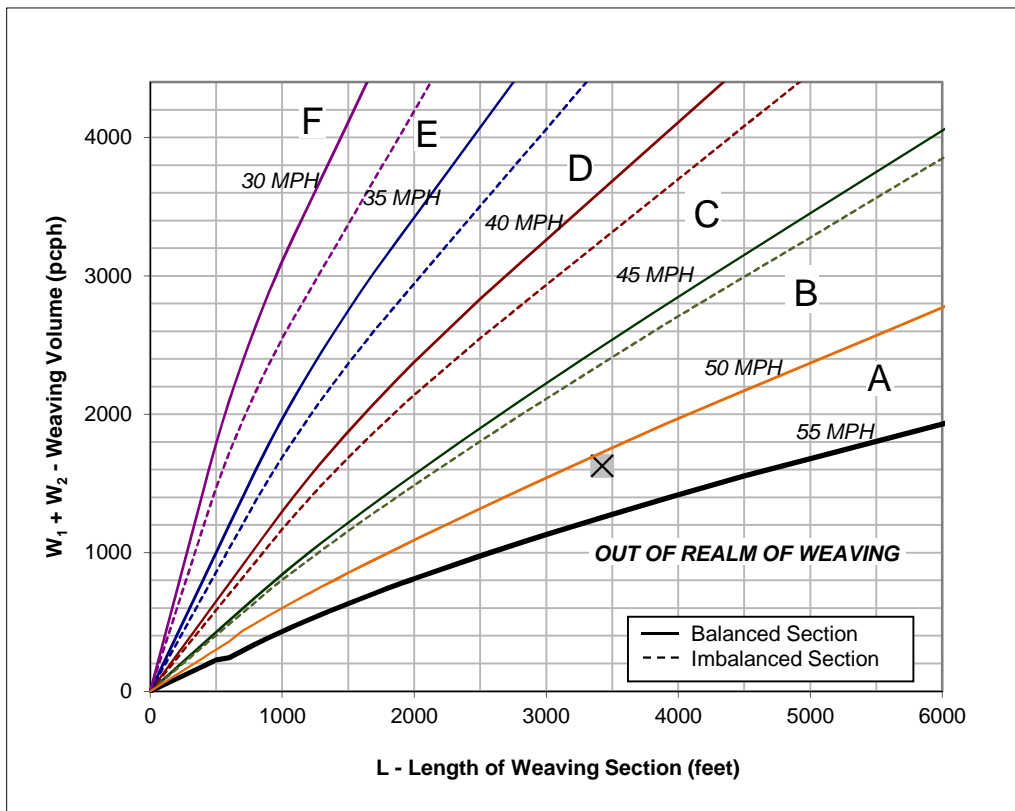
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,425

Project Information

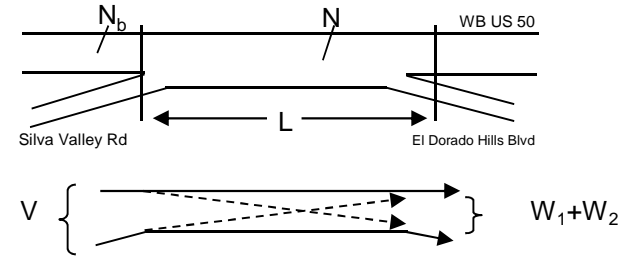
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - AM Pk Hr
Freeway	WB US 50
On-ramp	Silva Valley Rd
Off-ramp	El Dorado Hills Blvd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,839	Volume (vph)*	916	Volume (vph)*	696
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,863	Volume (pcph)	925	Volume (pcph)	703

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **51.1**
- Weaving Intensity Factor (k) **1.00**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,216**
- Level of Service (LOS) **C**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

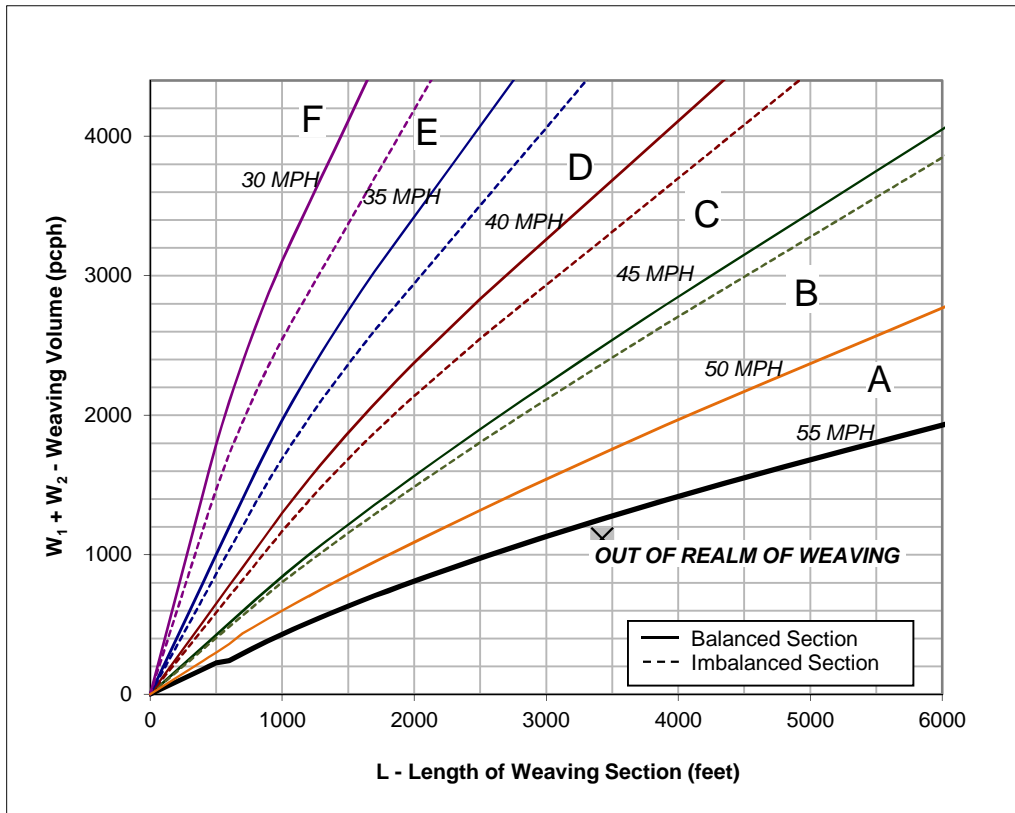
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,425

Project Information

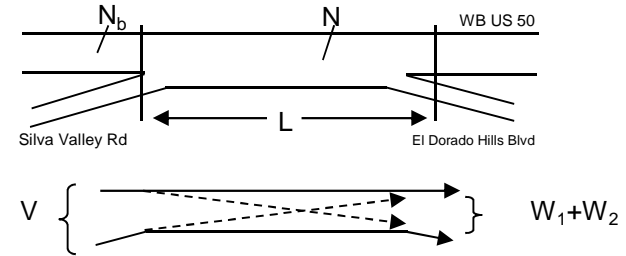
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - PM Pk Hr
Freeway	WB US 50
On-ramp	Silva Valley Rd
Off-ramp	El Dorado Hills Blvd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	3,872	Volume (vph)*	320	Volume (vph)*	787
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	3,891	Volume (pcph)	323	Volume (pcph)	795

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
50 MPH and **55 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **#N/A**
- Weaving Intensity Factor (k) **#N/A**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **#N/A**
- Level of Service (LOS) **#N/A**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

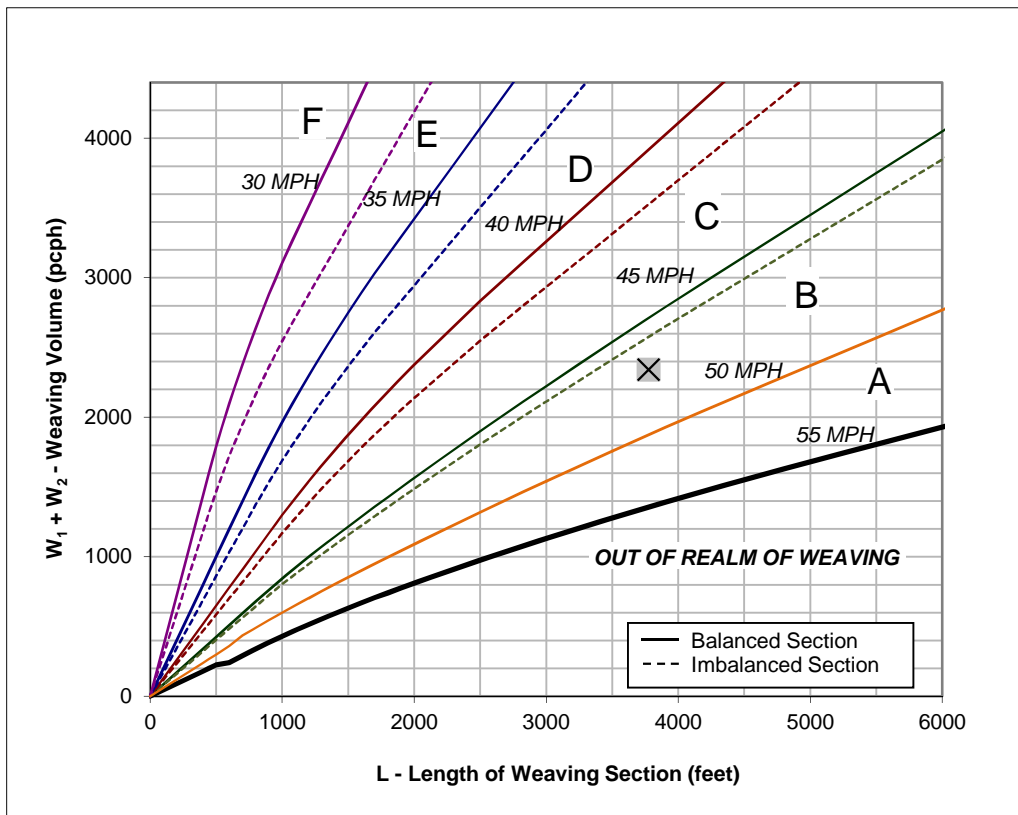
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,775

Project Information

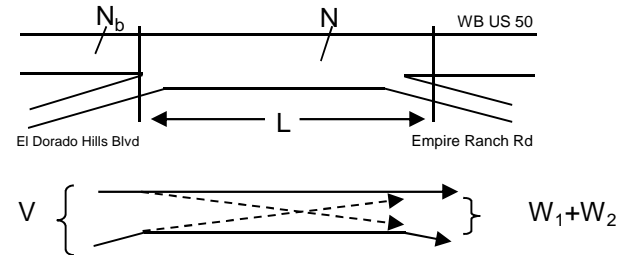
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - AM Pk Hr
Freeway	WB US 50
On-ramp	El Dorado Hills Blvd
Off-ramp	Empire Ranch Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	5,473	Volume (vph)*	979	Volume (vph)*	1,339
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	5,500	Volume (pcph)	989	Volume (pcph)	1,353

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
45 MPH and **50 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **47.2**
- Weaving Intensity Factor (k) **1.65**
- Service Volume (SV, pcph)
 $SV = (1/N) * [V + (k - 1) * \min(W_1, W_2)]$ **1,535**
- Level of Service (LOS) **D**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.

Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

Leisch Method for Weaving Analysis

Data Input

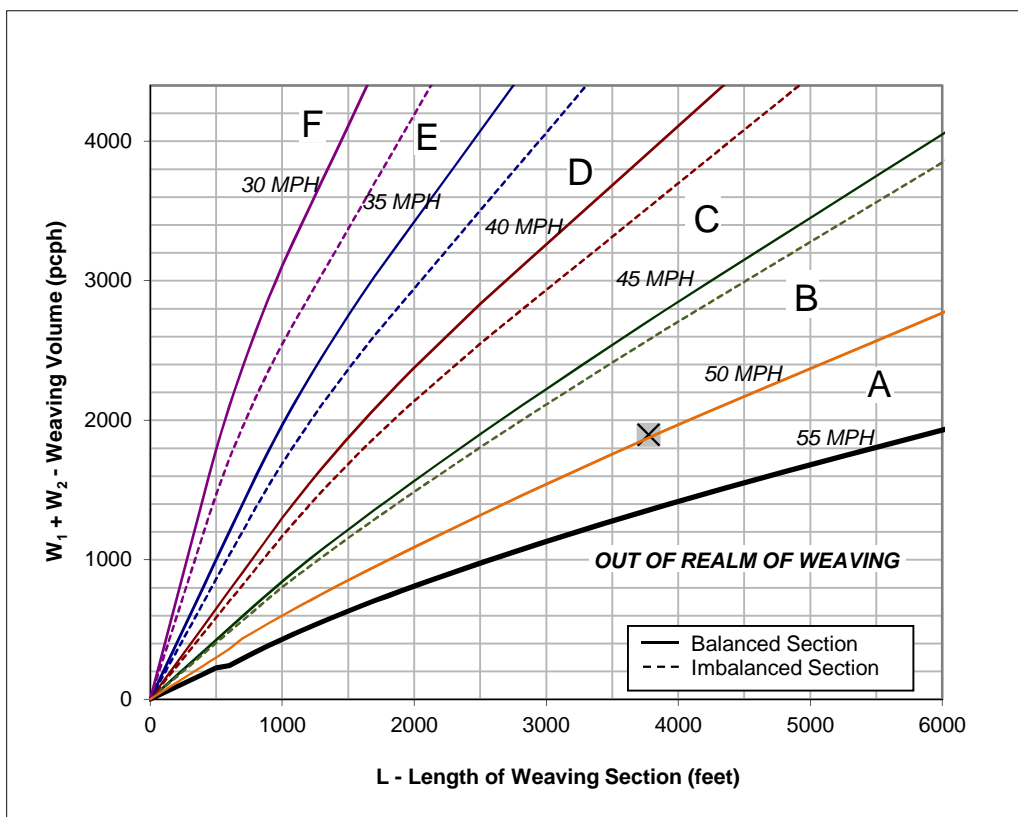
Number of Entering Mainline Lanes	N_b	3
Number of Lanes in Weaving Section	N	4
Length of Weaving Section (feet)	L	3,775

Project Information

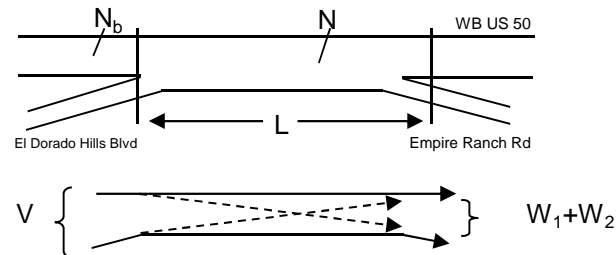
Project	Marble Valley/Lime Rock/Pedregal
Scenario	Cumulative Plus Project - PM Pk Hr
Freeway	WB US 50
On-ramp	El Dorado Hills Blvd
Off-ramp	Empire Ranch Rd

Total Weaving Section (V)		On-ramp to Mainline (W_1)		Mainline to Off-ramp (W_2)	
Volume (vph)*	4,530	Volume (vph)*	774	Volume (vph)*	1,104
Truck Percentage	1%	Truck Percentage	2%	Truck Percentage	2%
PCE for Trucks	1.5	PCE for Trucks	1.5	PCE for Trucks	1.5
Volume (pcph)	4,553	Volume (pcph)	782	Volume (pcph)	1,115

*Some vehicles were assumed to continue from the on-ramp to the off-ramp without weaving



Figure



Capacity Analysis

- Is the weaving section balanced (Y / N)? **Y**
[If optional exit lane, then "Y". Otherwise "N".]
- In the Weaving Speed Chart to the left, which two speed curves is the black "x" between?
45 MPH and **50 MPH**
If below the 55 MPH curve, out of the realm of weaving.
If left of the 30 MPH curve, LOS is F.
- Interpolated Weaving Speed (S_w , mph) **49.9**
- Weaving Intensity Factor (k) **1.20**
- Service Volume (SV, pcph)
 $SV = (1/N)[V + (k - 1) \cdot \min(W_1, W_2)]$ **1,177**
- Level of Service (LOS) **C**

The LOS in the chart above refers to the capacity of weaving traffic only; through and ramp to ramp traffic is not included.

* Note: **Do not adjust by a Peak Hour Factor (PHF)**. The methodology incorporates the PHF in the Service Volume tables.




















Sources: *Completion of Procedures for Analysis and Design of Traffic Weaving Sections*, Jack E. Leisch & Associates, September 1983 and *Highway Design Manual*, California Department of Transportation, July 24, 2009

APPENDIX A:

Existing and Cumulative Mitigations

HCM Unsignalized Intersection Capacity Analysis
4: Francisco Dr & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project Mitigations - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	2	49	475	45	63	42	412	146	37	125	262	3
Peak Hour Factor	0.86	0.86	0.86	0.52	0.52	0.52	0.92	0.92	0.92	0.75	0.75	0.75
Hourly flow rate (vph)	2	57	552	87	121	81	448	159	40	167	349	4
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	59	552	288	448	199	167	353					
Volume Left (vph)	2	0	87	448	0	167	0					
Volume Right (vph)	0	552	81	0	40	0	4					
Hadj (s)	0.04	-0.57	-0.07	0.53	-0.11	0.53	0.03					
Departure Headway (s)	7.9	3.2	6.8	7.3	6.6	7.5	7.0					
Degree Utilization, x	0.13	0.49	0.55	0.91	0.37	0.35	0.68					
Capacity (veh/h)	412	1116	501	483	531	465	499					
Control Delay (s)	12.1	9.2	17.8	46.3	12.2	13.2	22.5					
Approach Delay (s)	9.5		17.8	35.8		19.5						
Approach LOS	A		C	E		C						
Intersection Summary												
Delay			21.4									
HCM Level of Service			C									
Intersection Capacity Utilization			62.3%	ICU Level of Service								B
Analysis Period (min)			15									

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Plus Project Mitigations
AM Peak Hour

Intersection 16

Latrobe Rd/US 50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	735	761	103.5%	6.4	0.5	A
	Right Turn	177	173	97.8%	5.3	0.3	A
	Subtotal	912	934	102.4%	6.2	0.4	A
SB	Left Turn	296	299	100.8%	40.4	2.9	D
	Through	1509	1555	103.1%	31.6	3.2	C
	Right Turn						
	Subtotal	1805	1854	102.7%	33.0	2.7	C
EB	Left Turn						
	Through						
	Right Turn	1087	1122	103.3%	18.6	2.2	B
	Subtotal	1087	1122	103.3%	18.6	2.2	B
WB	Left Turn						
	Through						
	Right Turn	384	401	104.5%	3.2	0.3	A
	Subtotal	384	401	104.5%	3.2	0.3	A
Total		4188	4311	102.9%	20.7	1.3	C

Intersection 17

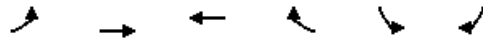
Latrobe Rd/Town Center Blvd

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	71	74	104.4%	59.1	3.0	E
	Through	653	681	104.3%	19.0	1.6	B
	Right Turn	44	48	108.0%	3.2	0.9	A
	Subtotal	768	803	104.5%	21.7	1.6	C
SB	Left Turn	530	553	104.3%	54.9	3.7	D
	Through	1501	1554	103.6%	18.0	1.1	B
	Right Turn	565	577	102.2%	9.5	0.8	A
	Subtotal	2596	2685	103.4%	23.8	1.2	C
EB	Left Turn	29	30	102.4%	61.4	7.7	E
	Through	7	7	95.7%	63.2	21.1	E
	Right Turn	7	8	117.1%	7.5	3.6	A
	Subtotal	43	45	103.7%	51.7	7.1	D
WB	Left Turn	72	73	101.5%	78.8	18.4	E
	Through	48	47	98.5%	79.8	17.5	E
	Right Turn	230	233	101.5%	36.2	9.3	D
	Subtotal	350	354	101.1%	50.9	12.5	D
Total		3757	3886	103.4%	26.1	1.2	C

HCM Unsignalized Intersection Capacity Analysis
 24: Wilson Blvd & Pedregal Dwy




















Serrano Westside EIR
 Existing Plus Project Mitigations - AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↷	
Volume (veh/h)	10	230	103	11	10	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	250	112	12	11	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	124				390	118
vC1, stage 1 conf vol					118	
vC2, stage 2 conf vol					272	
vCu, unblocked vol	124				390	118
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1463				726	934
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	11	250	124	16		
Volume Left	11	0	0	11		
Volume Right	0	0	12	5		
cSH	1463	1700	1700	784		
Volume to Capacity	0.01	0.15	0.07	0.02		
Queue Length 95th (ft)	1	0	0	2		
Control Delay (s)	7.5	0.0	0.0	9.7		
Lane LOS	A			A		
Approach Delay (s)	0.3		0.0	9.7		
Approach LOS				A		
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			22.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
4: Francisco Dr & El Dorado Hills Blvd

Serrano Westside EIR
Existing Plus Project Mitigations - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	41	517	26	35	40	546	305	19	9	192	2
Peak Hour Factor	0.89	0.89	0.89	0.60	0.60	0.60	0.94	0.94	0.94	0.84	0.84	0.84
Hourly flow rate (vph)	0	46	581	43	58	67	581	324	20	11	229	2
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	46	581	168	581	345	11	231					
Volume Left (vph)	0	0	43	581	0	11	0					
Volume Right (vph)	0	581	67	0	20	0	2					
Hadj (s)	0.03	-0.57	-0.15	0.53	-0.01	0.53	0.03					
Departure Headway (s)	6.8	3.2	6.2	6.1	5.6	7.0	6.5					
Degree Utilization, x	0.09	0.52	0.29	0.99	0.53	0.02	0.42					
Capacity (veh/h)	498	1116	559	581	639	500	545					
Control Delay (s)	10.5	9.6	11.8	56.8	13.5	8.9	12.8					
Approach Delay (s)	9.6		11.8	40.7		12.6						
Approach LOS	A		B	E		B						
Intersection Summary												
Delay			24.8									
HCM Level of Service			C									
Intersection Capacity Utilization			63.2%		ICU Level of Service		B					
Analysis Period (min)			15									

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Existing Plus Project Mitigations
PM Peak Hour

Intersection 16

Latrobe Rd/US 50 EB Ramps

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	1986	1979	99.7%	7.1	0.5	A
	Right Turn	702	696	99.2%	6.6	0.2	A
	Subtotal	2688	2676	99.5%	7.0	0.4	A
SB	Left Turn	243	238	97.9%	46.5	2.2	D
	Through	837	838	100.1%	12.4	1.2	B
	Right Turn						
	Subtotal	1080	1076	99.6%	20.0	1.2	B
EB	Left Turn						
	Through						
	Right Turn	700	696	99.5%	12.5	4.0	B
	Subtotal	700	696	99.5%	12.5	4.0	B
WB	Left Turn						
	Through						
	Right Turn	1172	1163	99.2%	23.5	6.3	C
	Subtotal	1172	1163	99.2%	23.5	6.3	C
Total		5640	5611	99.5%	13.6	1.7	B

Intersection 17

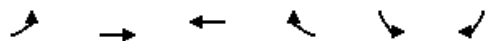
Latrobe Rd/Town Center Blvd

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	3	3	106.7%	116.0	62.0	F
	Through	1531	1526	99.7%	54.2	12.2	D
	Right Turn	127	125	98.5%	4.8	0.6	A
	Subtotal	1661	1655	99.6%	50.6	11.4	D
SB	Left Turn	571	560	98.1%	118.5	32.1	F
	Through	928	947	102.0%	19.2	2.5	B
	Right Turn	38	36	94.5%	2.2	0.4	A
	Subtotal	1537	1543	100.4%	54.9	12.8	D
EB	Left Turn	377	368	97.5%	55.8	3.9	E
	Through	54	53	97.4%	46.7	5.4	D
	Right Turn	115	112	97.5%	8.2	1.2	A
	Subtotal	546	532	97.5%	44.9	2.8	D
WB	Left Turn	58	59	100.9%	78.3	11.0	E
	Through	9	8	91.1%	78.4	16.9	E
	Right Turn	780	787	100.9%	35.4	6.5	D
	Subtotal	847	853	100.8%	38.8	6.9	D
Total		4591	4583	99.8%	49.2	4.7	D

HCM Unsignalized Intersection Capacity Analysis
 24: Wilson Blvd & Pedregal Dwy




















Serrano Westside EIR
 Existing Plus Project Mitigations - PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↶	
Volume (veh/h)	12	165	183	25	5	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	179	199	27	5	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	226				418	212
vC1, stage 1 conf vol					212	
vC2, stage 2 conf vol					205	
vCu, unblocked vol	226				418	212
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1342				726	828
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	13	179	226	11		
Volume Left	13	0	0	5		
Volume Right	0	0	27	5		
cSH	1342	1700	1700	773		
Volume to Capacity	0.01	0.11	0.13	0.01		
Queue Length 95th (ft)	1	0	0	1		
Control Delay (s)	7.7	0.0	0.0	9.7		
Lane LOS	A			A		
Approach Delay (s)	0.5		0.0	9.7		
Approach LOS				A		
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			21.1%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
5: Appian Way & Silva Valley Pkwy

























Serrano Westside/Pedregal EIR
Cumulative Plus Project Mitigations - AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	10	110	240	10	110	40	230	120	70	350	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		0.98			1.00	0.97	1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.91			1.00	0.85	1.00	0.95		1.00	0.99	
Flt Protected		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1646			1777	1542	1770	1751		1770	1837	
Flt Permitted		0.99			0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1646			1777	1542	1770	1751		1770	1837	
Peak-hour factor, PHF	0.68	0.68	0.68	0.70	0.70	0.70	0.63	0.63	0.63	0.69	0.69	0.69
Adj. Flow (vph)	74	15	162	343	14	157	63	365	190	101	507	43
RTOR Reduction (vph)	0	65	0	0	0	113	0	19	0	0	3	0
Lane Group Flow (vph)	0	186	0	0	357	44	63	536	0	101	547	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Split			Split		Perm	Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)		13.1			21.8	21.8	4.5	32.6		7.9	36.0	
Effective Green, g (s)		13.1			21.8	21.8	4.5	32.6		7.9	36.0	
Actuated g/C Ratio		0.14			0.24	0.24	0.05	0.36		0.09	0.39	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		236			424	368	87	625		153	724	
v/s Ratio Prot		c0.11			c0.20		0.04	c0.31		c0.06	c0.30	
v/s Ratio Perm						0.03						
v/c Ratio		0.79			0.84	0.12	0.72	0.86		0.66	0.76	
Uniform Delay, d1		37.8			33.2	27.3	42.8	27.2		40.4	23.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		15.8			14.1	0.1	25.6	11.2		10.2	4.5	
Delay (s)		53.6			47.2	27.4	68.4	38.4		50.6	28.4	
Level of Service		D			D	C	E	D		D	C	
Approach Delay (s)		53.6			41.2			41.5			31.9	
Approach LOS		D			D			D			C	
Intersection Summary												
HCM Average Control Delay			39.8				HCM Level of Service			D		
HCM Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			91.4				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			54.1%				ICU Level of Service			A		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy

Serrano Westside/Pedregal EIR
Cumulative Plus Project Mitigations - AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	90	100	410	120	80	20	640	320	50	40	420	280	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	0.99		1.00	1.00	0.96	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Fr t	1.00	1.00	0.85	1.00	0.97		1.00	0.98		1.00	1.00	0.85	
Fl t Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1770	1863	1544	1770	1793		1770	1809		1770	3539	1512	
Fl t Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00	
Satd. Flow (perm)	1770	1863	1544	1770	1793		1770	1809		1770	3539	1512	
Peak-hour factor, PHF	0.57	0.57	0.57	0.78	0.78	0.78	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	158	175	719	154	103	26	711	356	56	44	467	311	
RTOR Reduction (vph)	0	0	572	0	6	0	0	3	0	0	0	249	
Lane Group Flow (vph)	158	175	147	154	123	0	711	409	0	44	467	62	
Confl. Peds. (#/hr)			8			8			8			8	
Turn Type	Split		Perm	Split			Prot			Prot		Perm	
Protected Phases	4	4		8	8		5	2		1	6		
Permitted Phases			4									6	
Actuated Green, G (s)	20.4	20.4	20.4	18.9	18.9		59.6	76.1		6.4	22.9	22.9	
Effective Green, g (s)	20.4	20.4	20.4	18.9	18.9		59.6	76.1		6.4	22.9	22.9	
Actuated g/C Ratio	0.15	0.15	0.15	0.14	0.14		0.43	0.54		0.05	0.16	0.16	
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3	
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5	
Lane Grp Cap (vph)	258	272	225	239	243		755	985		81	580	248	
v/s Ratio Prot	0.09	0.09		c0.09	0.07		c0.40	0.23		0.02	c0.13		
v/s Ratio Perm			c0.10									0.04	
v/c Ratio	0.61	0.64	0.65	0.64	0.51		0.94	0.42		0.54	0.81	0.25	
Uniform Delay, d1	55.9	56.2	56.3	57.2	56.1		38.4	18.7		65.2	56.3	50.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	3.0	3.9	5.1	5.8	1.7		19.8	0.2		5.8	7.8	0.4	
Delay (s)	59.0	60.1	61.4	63.1	57.7		58.2	18.9		71.0	64.0	51.3	
Level of Service	E	E	E	E	E		E	B		E	E	D	
Approach Delay (s)		60.8			60.6			43.8			59.6		
Approach LOS		E			E			D			E		
Intersection Summary													
HCM Average Control Delay			54.7			HCM Level of Service				D			
HCM Volume to Capacity ratio			0.82										
Actuated Cycle Length (s)			139.7			Sum of lost time (s)		17.9					
Intersection Capacity Utilization			76.6%			ICU Level of Service				D			
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

12: Silva Valley Parkway & Serrano Parkway

Cumulative Plus Project AM Peak Hour
MITIGATION

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	90	120	580	250	460	240	520	190	300	730	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3	5.3	4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3207		3433	1863	1559	1770	3539	1559	1770	3428	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3207		3433	1863	1559	1770	3539	1559	1770	3428	
Peak-hour factor, PHF	0.78	0.78	0.78	0.86	0.86	0.86	0.62	0.62	0.62	0.83	0.83	0.83
Adj. Flow (vph)	128	115	154	674	291	535	387	839	306	361	880	193
RTOR Reduction (vph)	0	137	0	0	0	384	0	0	138	0	12	0
Lane Group Flow (vph)	128	132	0	674	291	151	387	839	168	361	1061	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	15.7	15.7		29.1	29.1	29.1	33.0	44.6	44.6	32.5	44.1	
Effective Green, g (s)	15.7	15.7		29.1	29.1	29.1	33.0	44.6	44.6	32.5	44.1	
Actuated g/C Ratio	0.11	0.11		0.21	0.21	0.21	0.23	0.31	0.31	0.23	0.31	
Clearance Time (s)	5.3	5.3		5.3	5.3	5.3	4.0	5.3	5.3	4.0	5.3	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	195	355		704	382	319	411	1113	490	405	1066	
v/s Ratio Prot	c0.07	0.04		c0.20	0.16		c0.22	0.24		0.20	c0.31	
v/s Ratio Perm						0.10			0.11			
v/c Ratio	0.66	0.37		0.96	0.76	0.47	0.94	0.75	0.34	0.89	0.99	
Uniform Delay, d1	60.5	58.5		55.7	53.1	49.6	53.5	43.7	37.3	52.9	48.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.9	0.5		23.7	8.3	0.8	29.9	2.8	0.3	21.0	26.2	
Delay (s)	67.4	59.0		79.4	61.4	50.4	83.3	46.5	37.6	73.9	74.9	
Level of Service	E	E		E	E	D	F	D	D	E	E	
Approach Delay (s)		61.7			65.6			54.0			74.6	
Approach LOS		E			E			D			E	
Intersection Summary												
HCM 2000 Control Delay			64.3				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			141.8				Sum of lost time (s)				19.9	
Intersection Capacity Utilization			80.8%				ICU Level of Service				D	
Analysis Period (min)			15									

c Critical Lane Group

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative Plus Project Mitigations
AM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Dr

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	80	74	92.4%	70.9	13.6	E
	Through	650	633	97.4%	7.7	0.8	A
	Right Turn	70	74	105.4%	1.5	0.2	A
	Subtotal	800	781	97.6%	13.2	2.1	B
SB	Left Turn	70	75	106.4%	107.0	12.2	F
	Through	1690	1707	101.0%	26.3	1.5	C
	Right Turn	690	693	100.4%	45.2	5.5	D
	Subtotal	2450	2475	101.0%	34.0	2.5	C
EB	Left Turn	160	159	99.3%	72.3	6.0	E
	Through	100	105	105.3%	120.6	40.1	F
	Right Turn	60	60	100.2%	26.8	23.5	C
	Subtotal	320	324	101.3%	80.1	17.8	F
WB	Left Turn	130	124	95.5%	65.6	4.7	E
	Through	120	115	95.5%	71.5	6.4	E
	Right Turn	80	77	96.0%	8.2	1.6	A
	Subtotal	330	316	95.6%	53.8	3.0	D
Total		3900	3895	99.9%	35.2	2.0	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside
Cumulative Plus Project Mitigations
AM Peak Hour

Intersection 17

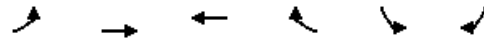
Latrobe Rd/Town Center Blvd

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	30	25	83.3%	228.9	77.2	F
	Through	1280	1241	97.0%	89.9	23.8	F
	Right Turn	60	63	104.7%	26.7	4.5	C
	Subtotal	1370	1329	97.0%	89.4	23.2	F
SB	Left Turn	550	560	101.9%	54.5	7.2	D
	Through	1460	1448	99.1%	13.8	1.0	B
	Right Turn	460	455	98.9%	5.7	0.7	A
	Subtotal	2470	2463	99.7%	21.6	2.3	C
EB	Left Turn	60	59	98.7%	66.6	5.3	E
	Through	20	20	98.0%	55.8	9.0	E
	Right Turn	20	20	97.5%	19.8	6.1	B
	Subtotal	100	98	98.3%	55.4	4.7	E
WB	Left Turn	110	110	99.6%	97.8	51.7	F
	Through	50	48	95.2%	107.5	60.0	F
	Right Turn	330	338	102.3%	34.2	22.5	C
	Subtotal	490	495	101.0%	55.8	34.4	E
Total		4430	4385	99.0%	46.8	6.4	D

HCM Unsignalized Intersection Capacity Analysis
 24: Wilson Blvd & Pedregal Dwy




















Serrano Westside/Pedregal EIR
 Cumulative Plus Project Mitigations - AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↶	
Volume (veh/h)	10	330	130	20	30	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	359	141	22	33	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	163				533	152
vC1, stage 1 conf vol					152	
vC2, stage 2 conf vol					380	
vCu, unblocked vol	163				533	152
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				95	99
cM capacity (veh/h)	1416				645	894
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	11	359	163	43		
Volume Left	11	0	0	33		
Volume Right	0	0	22	11		
cSH	1416	1700	1700	693		
Volume to Capacity	0.01	0.21	0.10	0.06		
Queue Length 95th (ft)	1	0	0	5		
Control Delay (s)	7.6	0.0	0.0	10.5		
Lane LOS	A			B		
Approach Delay (s)	0.2		0.0	10.5		
Approach LOS				B		
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			27.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis
5: Apian Way & Silva Valley Pkwy

Serrano Westside/Pedregal EIR
Cumulative Plus Project Mitigations - PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	10	60	150	10	90	100	390	130	100	260	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frbp, ped/bikes		0.98			1.00	0.98	1.00	0.99		1.00	0.99	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt		0.92			1.00	0.85	1.00	0.96		1.00	0.96	
Flt Protected		0.99			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1661			1779	1544	1770	1782		1770	1773	
Flt Permitted		0.99			0.96	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1661			1779	1544	1770	1782		1770	1773	
Peak-hour factor, PHF	0.79	0.79	0.79	0.87	0.87	0.87	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	38	13	76	172	11	103	118	459	153	118	306	118
RTOR Reduction (vph)	0	63	0	0	0	85	0	13	0	0	15	0
Lane Group Flow (vph)	0	64	0	0	183	18	118	599	0	118	409	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Split			Split		Perm	Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)		6.6			12.7	12.7	7.7	31.9		6.5	30.7	
Effective Green, g (s)		6.6			12.7	12.7	7.7	31.9		6.5	30.7	
Actuated g/C Ratio		0.09			0.17	0.17	0.10	0.43		0.09	0.42	
Clearance Time (s)		4.0			4.0	4.0	4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		149			307	266	185	771		156	739	
v/s Ratio Prot		c0.04			c0.10		c0.07	c0.34		0.07	0.23	
v/s Ratio Perm						0.01						
v/c Ratio		0.43			0.60	0.07	0.64	0.78		0.76	0.55	
Uniform Delay, d1		31.8			28.1	25.5	31.7	17.9		32.8	16.3	
Progression Factor		1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0			3.1	0.1	7.0	4.9		18.7	0.9	
Delay (s)		33.8			31.2	25.6	38.7	22.8		51.5	17.2	
Level of Service		C			C	C	D	C		D	B	
Approach Delay (s)		33.8			29.2			25.4			24.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM Average Control Delay			26.4									C
HCM Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			73.7							12.0		
Intersection Capacity Utilization			59.5%									B
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Harvard Way & Silva Valley Pkwy

Serrano Westside/Pedregal EIR
Cumulative Plus Project Mitigations - PM Peak Hour































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	110	20	390	20	20	20	390	510	20	20	370	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1551	1770	1696		1770	1849		1770	3539	1525
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1551	1770	1696		1770	1849		1770	3539	1525
Peak-hour factor, PHF	0.87	0.87	0.87	0.60	0.60	0.60	0.85	0.85	0.85	0.90	0.90	0.90
Adj. Flow (vph)	126	23	448	33	33	33	459	600	24	22	411	78
RTOR Reduction (vph)	0	0	385	0	27	0	0	1	0	0	0	60
Lane Group Flow (vph)	126	23	63	33	39	0	459	623	0	22	411	18
Confl. Peds. (#/hr)			8			8			8			8
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	13.4	13.4	13.4	9.1	9.1		34.0	54.3		1.3	21.6	21.6
Effective Green, g (s)	13.4	13.4	13.4	9.1	9.1		34.0	54.3		1.3	21.6	21.6
Actuated g/C Ratio	0.14	0.14	0.14	0.09	0.09		0.35	0.57		0.01	0.23	0.23
Clearance Time (s)	4.6	4.6	4.6	4.0	4.0		4.0	5.3		4.0	5.3	5.3
Vehicle Extension (s)	2.0	2.0	2.0	3.0	3.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	247	260	216	168	161		627	1046		24	796	343
v/s Ratio Prot	c0.07	0.01		0.02	c0.02		c0.26	c0.34		0.01	0.12	
v/s Ratio Perm			0.04									0.01
v/c Ratio	0.51	0.09	0.29	0.20	0.24		0.73	0.60		0.92	0.52	0.05
Uniform Delay, d1	38.3	36.0	37.0	40.1	40.3		27.0	13.7		47.3	32.6	29.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	0.1	0.3	0.6	0.8		4.2	0.8		145.1	0.4	0.0
Delay (s)	39.0	36.0	37.3	40.7	41.0		31.2	14.4		192.4	33.0	29.2
Level of Service	D	D	D	D	D		C	B		F	C	C
Approach Delay (s)		37.6			40.9			21.5			39.3	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM Average Control Delay			30.5			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			96.0			Sum of lost time (s)				12.6		
Intersection Capacity Utilization			60.2%			ICU Level of Service				B		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

12: Silva Valley Parkway & Serrano Parkway

Cumulative Plus Project PM Peak Hour
MITIGATION

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 		 		 	 		 	 
Volume (vph)	130	320	90	220	90	350	90	710	610	230	520	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.3		4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3411		3433	1863	1559	1770	3539	1559	1770	3476	
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3411		3433	1863	1559	1770	3539	1559	1770	3476	
Peak-hour factor, PHF	0.77	0.77	0.77	0.86	0.86	0.86	0.61	0.61	0.61	0.84	0.84	0.84
Adj. Flow (vph)	169	416	117	256	105	407	148	1164	1000	274	619	71
RTOR Reduction (vph)	0	17	0	0	0	277	0	0	184	0	6	0
Lane Group Flow (vph)	169	516	0	256	105	130	148	1164	816	274	684	0
Confl. Peds. (#/hr)			2			2			2			2
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)	13.0	23.9		13.4	24.3	24.3	16.6	59.6	59.6	25.9	68.9	
Effective Green, g (s)	13.0	23.9		13.4	24.3	24.3	16.6	59.6	59.6	25.9	68.9	
Actuated g/C Ratio	0.09	0.17		0.09	0.17	0.17	0.12	0.42	0.42	0.18	0.49	
Clearance Time (s)	4.0	5.3		4.0	5.3	5.3	4.0	5.3	5.3	4.0	5.3	
Vehicle Extension (s)	2.5	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Lane Grp Cap (vph)	162	576		325	320	267	207	1491	657	324	1693	
v/s Ratio Prot	c0.10	c0.15		0.07	0.06		0.08	0.33		c0.15	0.20	
v/s Ratio Perm						0.08			c0.52			
v/c Ratio	1.04	0.90		0.79	0.33	0.49	0.71	0.78	1.24	0.85	0.40	
Uniform Delay, d1	64.2	57.5		62.6	51.4	52.9	60.1	35.3	40.9	55.8	23.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	82.6	16.3		11.5	0.4	1.0	10.4	2.6	121.5	17.7	0.1	
Delay (s)	146.8	73.8		74.1	51.8	54.0	70.5	37.9	162.4	73.6	23.3	
Level of Service	F	E		E	D	D	E	D	F	E	C	
Approach Delay (s)		91.4			60.4			93.8			37.6	
Approach LOS		F			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			76.6				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			141.4				Sum of lost time (s)				18.6	
Intersection Capacity Utilization			75.2%				ICU Level of Service				D	
Analysis Period (min)			15									

c Critical Lane Group

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative Plus Project Mitigations
PM Peak Hour

Intersection 13

El Dorado Hills Blvd/Saratoga Way-Park Dr

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	70	69	98.0%	54.4	8.7	D
	Through	1560	1499	96.1%	20.3	2.4	C
	Right Turn	170	161	94.4%	7.7	2.4	A
	Subtotal	1800	1728	96.0%	20.5	2.1	C
SB	Left Turn	100	96	96.4%	168.8	107.8	F
	Through	880	858	97.5%	57.3	39.9	E
	Right Turn	230	221	95.9%	39.7	15.2	D
	Subtotal	1210	1175	97.1%	63.3	41.0	E
EB	Left Turn	630	643	102.1%	69.6	8.8	E
	Through	130	132	101.3%	52.4	4.0	D
	Right Turn	440	440	100.1%	21.7	4.7	C
	Subtotal	1200	1216	101.3%	50.4	4.8	D
WB	Left Turn	130	130	100.1%	68.9	7.3	E
	Through	120	119	98.9%	68.8	5.7	E
	Right Turn	220	224	101.7%	32.3	2.6	C
	Subtotal	470	473	100.5%	51.7	2.5	D
Total		4680	4591	98.1%	42.4	10.0	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Serrano Westside/Pedregal
Cumulative Plus Project Mitigations
PM Peak Hour

Intersection 17

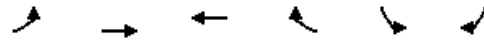
Latrobe Rd/Town Center Blvd

Signalized

Direction	Movement	Volume (veh/hr)			Total Delay (sec/veh)		
		Demand	Served	% Served	Average	Std. Dev.	LOS
NB	Left Turn	10	8	83.0%	426.0	170.4	F
	Through	1540	1393	90.4%	159.4	25.0	F
	Right Turn	100	96	95.7%	44.1	5.4	D
	Subtotal	1650	1497	90.7%	153.5	24.1	F
SB	Left Turn	700	709	101.3%	38.3	3.5	D
	Through	1430	1426	99.7%	10.0	1.1	A
	Right Turn	70	76	109.1%	1.5	0.3	A
	Subtotal	2200	2212	100.5%	18.8	0.7	B
EB	Left Turn	340	308	90.7%	235.5	148.4	F
	Through	60	61	101.8%	68.1	20.1	E
	Right Turn	90	93	102.8%	46.2	17.5	D
	Subtotal	490	462	94.3%	175.1	102.6	F
WB	Left Turn	20	18	92.0%	114.0	24.4	F
	Through	20	19	93.0%	104.3	16.6	F
	Right Turn	870	880	101.1%	31.8	6.9	C
	Subtotal	910	917	100.7%	34.9	7.0	C
Total		5250	5087	96.9%	75.1	13.7	E

HCM Unsignalized Intersection Capacity Analysis
 24: Wilson Blvd & Pedregal Dwy

Serrano Westside/Pedregal EIR
 Cumulative Plus Project Mitigations - PM Peak Hour

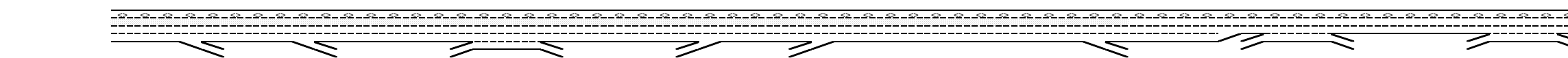


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↑	↔		↔	
Volume (veh/h)	10	210	250	30	20	10
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	228	272	33	22	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage (veh)		2	2			
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	304				538	288
vC1, stage 1 conf vol					288	
vC2, stage 2 conf vol					250	
vCu, unblocked vol	304				538	288
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				97	99
cM capacity (veh/h)	1256				665	751
Direction, Lane #	EB 1	EB 2	WB 1	SB 1		
Volume Total	11	228	304	33		
Volume Left	11	0	0	22		
Volume Right	0	0	33	11		
cSH	1256	1700	1700	692		
Volume to Capacity	0.01	0.13	0.18	0.05		
Queue Length 95th (ft)	1	0	0	4		
Control Delay (s)	7.9	0.0	0.0	10.5		
Lane LOS	A			B		
Approach Delay (s)	0.4		0.0	10.5		
Approach LOS				B		
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			25.0%		ICU Level of Service	A
Analysis Period (min)			15			

Project: Serrano/Pedregal/Marble Valley/Lime Rock
Freeway Corridor: Eastbound US 50
Alternative: Cumulative Plus Project Mitigation (Country Club)
Time Period: AM Peak Hour

Data Entry Value
Calculated Value

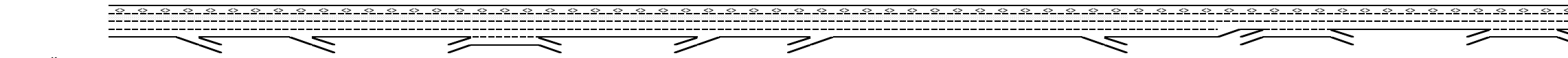
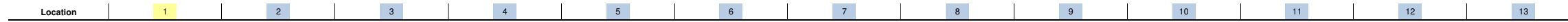
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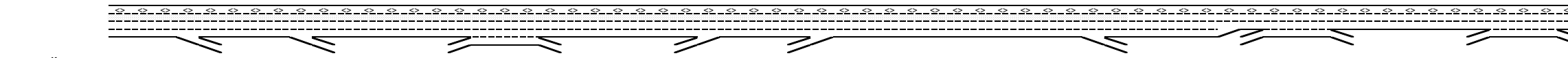
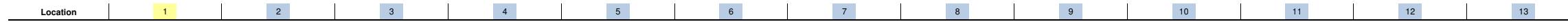
Key

- Express Lane (HOV)
- No Trucks

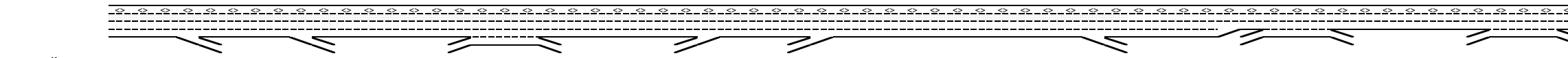
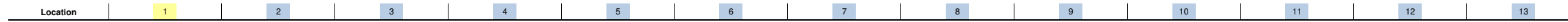
Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Define Freeway Segment													
Type	Diverge	Diverge	Basic	Weave	Basic	Merge	Basic	Basic	Diverge	Basic	Weave	Basic	Weave
Length (ft)	1,500	850	1,975	3,000	1,575	800	3,400	3,400	1,500	2,100	5,725	1,350	8,250
Accel Length						550				150			
Decel Length	150	150											
Mainline Volume	4,040	2,960	2,750	2,750	3,270	3,270	3,470	3,680	3,680	2,830	2,830	2,910	2,910
On Ramp Volume				810		200	210				440		1,220
Off Ramp Volume	1,080	210		290					850		360		1,140
Express Lane Volume	444	326	303	303	458	458	486	515	515	396	368	378	378
EL On Ramp Volume													
EL Off Ramp Volume													
Calculate Flow Rate in General Purpose Lanes (GP)													
GP Volume (vph)	3,596	2,634	2,448	3,258	2,812	3,012	2,984	3,165	3,165	2,434	2,902	2,532	3,752
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
GP Lanes	3	3	3	4	3	3	3	3	3	3	3	2	3
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	5.0	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{IV}	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.862	0.980	0.980	0.980	0.980	0.980
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	3,986	2,921	2,714	3,612	3,118	3,340	3,309	3,990	3,509	2,698	3,218	2,807	4,159
GP Flow (pcphpl)	1,329	974	905	903	1,039	1,113	1,103	1,330	1,170	899	1,073	1,403	1,386
Calculate Speed in General Purpose Lanes													
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes													
w/c ratio	0.57	0.41	0.38	0.38	0.44	0.47	0.47	0.57	0.50	0.38	0.46	0.60	0.59
Speed (mph)	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
Density (pcphpl)	20.4	15.0	13.9	13.9	16.0	17.1	17.0	20.5	18.0	13.8	16.5	21.6	21.3
LOS	C	B	B	B	B	B	B	C	B	B	B	C	C
Calculate Operations for Entering GP Lanes													
GP _N Vol (pcph)				2,722		3,120	3,078				2,592		2,814
GP _N Cap (pcph)				7,050		7,050	7,050				4,700		4,700
GP _N w/c ratio				0.39		0.44	0.44				0.55		0.60
Calculate Operations for Exiting GP Lanes													
GP _{OUT} Vol (pcph)	2,801	2,690		3,302					2,349	2,698	2,833		2,894
GP _{OUT} Cap (pcph)	7,050	7,050		7,050					7,050	4,700	4,700		4,700
GP _{OUT} w/c ratio	0.40	0.38		0.47					0.33	0.57	0.60		0.62



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Calculate Flow Rate in Express Lanes (EL)													
EL Volume (vph)	444	326	303	303	458	458	486	515	515	396	368	378	378
PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	528	387	359	359	544	544	577	661	612	471	437	450	450
EL Flow (pcphpl)	528	387	359	359	544	544	577	661	612	471	437	450	450
Calculate Speed in Express Lanes													
Lane Width (ft)													
Shoulder Width													
TRD													
f _{LW}													
f _{LC}													
Calc'd FFS													
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes													
EL _{ex} v/c ratio	0.30	0.22	0.21	0.21	0.31	0.31	0.33	0.38	0.35	0.27	0.25	0.26	0.26
Calculate On Ramp Flow Rate													
On Volume (vph)				810		200	210				440		1,220
PHF				0.92		0.92	0.92				0.71		0.92
Total Lanes				1		1	1				1		1
Terrain				Level		Level	Level				Level		Level
Grade %				0.0%		0.0%	0.0%				0.0%		0.0%
Grade Length (mi)				0.00		0.00	0.00				0.00		0.00
Truck & Bus %				2.0%		2.0%	2.0%				2.0%		3.0%
RV %				0.0%		0.0%	0.0%				0.0%		0.0%
E _T				1.5		1.5	1.5				1.5		1.5
E _R				1.2		1.2	1.2				1.2		1.2
f _{HV}				0.990		0.990	0.990				0.990		0.985
f _p				1.00		1.00	1.00				1.00		1.00
On Flow (pcph)				889		220	231				626		1,346
On Flow (pcphpl)				889		220	231				626		1,346
Calculate On Ramp Roadway Operations													
On Ramp Type				Right		Right	Right				Right		Right
On Ramp Speed (mph)				45		25	45				45		45
On Ramp Cap (pcph)				2,100		1,900	2,100				2,100		2,100
On Ramp v/c ratio				0.42		0.12	0.11				0.30		0.64

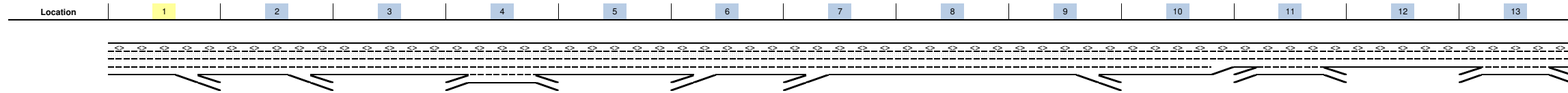


Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Calculate Off Ramp Flow Rate													
Off Volume (vph)	1,080	210		290					850		360		1,140
PHF	0.92	0.92		0.95					0.74		0.95		0.91
Total Lanes	1	1		1					1		1		1
Terrain	Level	Level		Level					Level		Level		Level
Grade %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%
Grade Length (mi)	0.00	0.00		0.00					0.00		0.00		0.00
Truck & Bus %	2.0%	2.0%		3.0%					2.0%		3.0%		2.0%
RV %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%
E _T	1.5	1.5		1.5					1.5		1.5		1.5
E _R	1.2	1.2		1.2					1.2		1.2		1.2
f _{HV}	0.990	0.990		0.985					0.990		0.985		0.990
f _p	1.00	1.00		1.00					1.00		1.00		1.00
Off Flow (pcph)	1,186	231		310					1,160		385		1,265
Off Flow (pcphpl)	1,186	231		310					1,160		385		1,265
Calculate Off Ramp Roadway Operations													
Off Ramp Type	Right	Right		Right					Right		Right		Right
Off Ramp Speed	45	25		45					45		45		45
Off Ramp Cap (pcph)	2,100	1,900		2,100					2,100		2,100		2,100
Off Ramp v/c ratio	0.56	0.12		0.15					0.55		0.18		0.60
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps													
Up Type		Off				Off	On		Off		Off		Off
Up Distance		2,350				1,575	800		4,900		2,100		1,350
Up Flow (pcph)		1,186				310	220		310		1,160		385
Down Type	Off	On				On	On		On		On		No
Down Distance	850	1,975				2,900	3,400		2,100		1,350		
Down Flow (pcph)	231	889				626	626		626		1,346		
Calculate Merge Influence Area Operations													
Effective v _p (pcph)						3,120							
Up Ramp L _{EQ}						-136							
Down Ramp L _{EQ}						3,716							
P _{FM} (Eqn 13-3)						0.593							
P _{FM} (Eqn 13-4)		#VALUE!				0.701			#VALUE!		#VALUE!		#VALUE!
P _{FM} (Eqn 13-5)	0.620												
P _{FM}						0.593							
v ₁₂ (pcph)						1,850							
v ₃ (pcph)						1,270							
v ₃₄ (pcph)													
v _{12a} (pcph)						1,850							
v _{R12a} (pcph)						2,069							
Merge Speed Index						0.32							
Merge Area Speed						57.5							
Outer Lanes Volume						1,270							
Outer Lanes Speed						62.2							
Segment Speed						59.2							
Merge v/c ratio						0.45							
Merge Density						18.1							
Merge LOS						B							



Key
 <-> Express Lane (HOV)
 No Trucks

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Calculate Diverge Influence Area Operations													
Effective v_p (pcph)	3,986	2,921							3,509				
Up Ramp L_{EQ}		9,827							4,877				
Down Ramp L_{EQ}	394	915							1,027				
P_{FD} (Eqn 13-9)	0.606	0.676							0.619				
P_{FD} (Eqn 13-10)													
P_{FD} (Eqn 13-11)	0.566												
P_{FD}	0.606	0.676							0.619				
v_{12} (pcph)	2,882	2,050							2,614				
v_3 (pcph)	1,104	871							895				
v_{34} (pcph)													
v_{12a} (pcph)	2,882	2,050							2,614				
Diverge Speed Index	0.40	0.58							0.40				
Diverge Area Speed	55.7	51.7							55.7				
Outer Lanes Volume	1,104	871							895				
Outer Lanes Speed	70.9	71.3							71.3				
Segment Speed	59.2	56.3							59.0				
Diverge v/c ratio	0.66	0.47							0.59				
Diverge Density	27.7	20.5							25.4				
Diverge LOS	C	C							C				
Calculate On Ramp to Off Ramp Flow Rate for Weave Segments													
On to Off Volume (vph)				50							10		460
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				3.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E_T				1.5							1.5		1.5
E_R				1.2							1.2		1.2
f_{HV}				0.985							0.990		0.990
f_p				1.00							1.00		1.00
On to Off Flow (pcph)				55							11		505
Calculate On Ramp to Mainline Flow Rate for Weave Segments													
On to ML Volume (vph)				760							430		760
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				3.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E_T				1.5							1.5		1.5
E_R				1.2							1.2		1.2
f_{HV}				0.985							0.990		0.990
f_p				1.00							1.00		1.00
On to ML Flow (pcph)				838							472		834
Calculate Mainline to Off Ramp Flow Rate for Weave Segments													
ML to Off Volume (vph)				240							350		680
PHF				0.95							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				6.0%							4.0%		4.0%
RV %				0.0%							0.0%		0.0%
E_T				1.5							1.5		1.5
E_R				1.2							1.2		1.2
f_{HV}				0.971							0.980		0.980
f_p				1.00							1.00		1.00
ML to Off Flow (pcph)				260							388		754

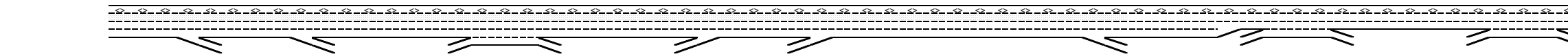


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Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments													
GP to GP Volume (vph)				2,208							2,112		1,852
PHF				0.95							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				6.0%							4.0%		4.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{HV}				0.971							0.980		0.980
f _p				1.00							1.00		1.00
GP to GP Flow (pcph)				2,393							2,342		2,053
Calculate Weave Segment Operations													
Weave Type				One-sided							One-sided		One-sided
Weave Length				2,000							4,725		7,250
Segment Lanes				3							2		2
Weave Lanes				3					3		2		2
Weave Flow (pcph)				1,099							860		1,588
Non-Weave Flow				2,449							2,353		2,558
Segment Flow				3,547							3,213		4,146
Max Weave Length				4,123							5,240		6,492
Length Check				OK							OK		Not a Weave
Ideal Weave Capacity				2,188							2,311		2,408
f _{HV}				0.974							0.982		0.984
f _p				0.997							0.999		0.998
Capacity Condition 1				6,373							4,531		4,727
Capacity Condition 2				10,973							8,789		6,150
Weave v/c ratio				0.54							0.70		0.86
Interchange Density				3							5		2
Lane Changes On to ML				1							1		1
Lane Changes ML to Off				1							1		1
Lane Changes On to Off				0							0		0
Min Lane Change Rate				1,099							860		1,588
Weave LC Rate				1,694							2,590		4,351
Non-Weave LC Rate 1				1,011							2,660		4,071
Non-Weave LC Rate 2				2,235							2,214		2,259
Non-Weave LC Rate 3				1,329							-266		-2,644
Segment LC Rate				3,024							4,803		6,610
Weave Intensity Factor				0.313							0.229		0.210
Weave Speed				53.1							55.7		56.3
Non-Weave Speed				51.4							51.1		43.6
Segment Speed				51.9							52.2		47.7
Weave Density				22.8							30.7		-
Weave LOS				C							D		Basic
Summarize Segment Operations													
Segment v/c ratio	0.66	0.47	0.38	0.54	0.44	0.45	0.47	0.57	0.59	0.38	0.70	0.60	0.59
Segment Density	27.7	20.5	13.9	22.8	16.0	18.1	17.0	20.5	25.4	13.8	30.7	21.6	21.3
Segment LOS	C	C	B	C	B	B	B	C	C	B	D	C	C
Over Capacity													

Project: Serrano/Pedregal/Marble Valley/Lime Rock
Freeway Corridor: Eastbound US 50
Alternative: Cumulative Plus Project Mitigation (Country Club)
Time Period: PM Peak Hour

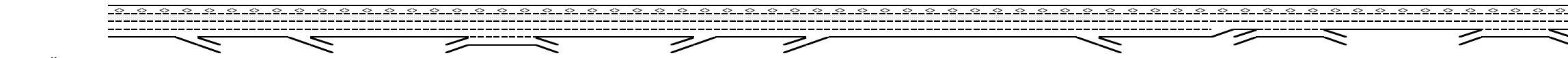
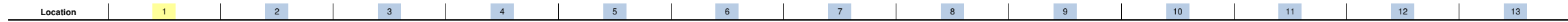
Data Entry Value
Calculated Value

Location	1	2	3	4	5	6	7	8	9	10	11	12	13
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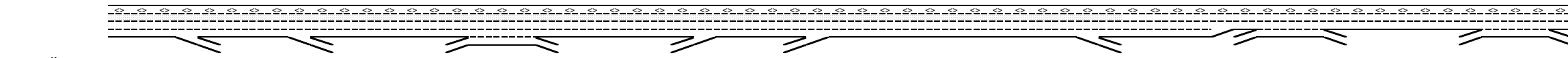
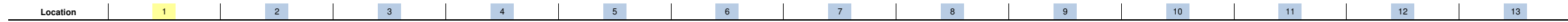


Key
 <-> Express Lane (HOV)
 No Trucks

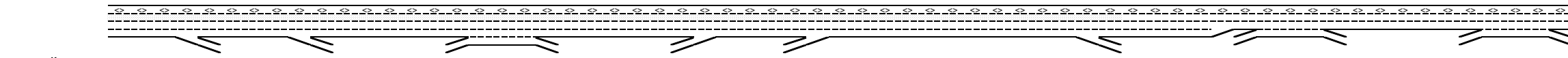
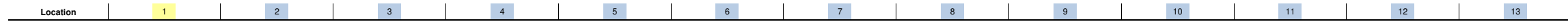
Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Define Freeway Segment													
Type	Diverge	Diverge	Basic	Weave	Basic	Merge	Basic	Basic	Diverge	Basic	Weave	Basic	Weave
Length (ft)	1,500	850	1,975	3,000	1,575	800	3,400	3,400	1,500	2,100	6,625	1,350	8,250
Accel Length						550							
Decel Length	150	150							150				
Mainline Volume	6,440	5,670	5,140	5,140	5,250	5,250	5,450	6,040	6,040	4,470	4,470	4,190	4,190
On Ramp Volume				800		200	590				440		1,120
Off Ramp Volume	770	530		690					1,570		720		1,690
Express Lane Volume	966	851	771	668	683	683	709	906	906	671	671	629	587
EL On Ramp Volume													
EL Off Ramp Volume													
Calculate Flow Rate in General Purpose Lanes (GP)													
GP Volume (vph)	5,474	4,820	4,369	5,272	4,568	4,768	4,742	5,134	5,134	3,800	4,240	3,562	4,723
PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
GP Lanes	3	3	3	4	3	3	3	3	3	3	3	2	3
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	6.0	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{WV}	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.952	0.995	0.995	0.995	0.995	0.995
f _P	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
GP Flow (pcph)	5,672	4,993	4,527	5,462	4,732	4,940	4,913	5,557	5,319	3,937	4,392	3,690	4,894
GP Flow (pcphpl)	1,891	1,664	1,509	1,366	1,577	1,647	1,638	1,852	1,773	1,312	1,464	1,845	1,631
Calculate Speed in General Purpose Lanes													
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12	12
Shoulder Width	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6	>6
TRD	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
f _{LW}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f _{LC}	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calc'd FFS	67.3	67.3	67.3	67.3	67.3	67.3	67.3	67.3	69.6	69.6	69.6	69.6	69.6
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in General Purpose Lanes													
w/c ratio	0.80	0.71	0.64	0.58	0.67	0.70	0.70	0.79	0.75	0.56	0.62	0.79	0.69
Speed (mph)	61.6	64.0	64.8	65.0	64.6	64.1	64.2	62.1	63.0	65.0	64.9	62.2	64.2
Density (pcphpl)	30.7	26.0	23.3	21.0	24.4	25.7	25.5	29.8	28.1	20.2	22.5	29.7	25.4
LOS	D	D	C	C	C	C	C	D	D	C	C	D	C
Calculate Operations for Entering GP Lanes													
GP _N Vol (pcph)				4,584		4,720	4,265				3,767		3,697
GP _N Cap (pcph)				7,050		7,050	7,050				4,700		4,700
GP _N w/c ratio				0.65		0.67	0.60				0.80		0.79
Calculate Operations for Exiting GP Lanes													
GP _{OUT} Vol (pcph)	4,826	4,412		4,701					3,685	3,937	3,623		3,018
GP _{OUT} Cap (pcph)	7,050	7,050		7,050					7,050	4,700	4,700		4,700
GP _{OUT} w/c ratio	0.68	0.63		0.67					0.52	0.84	0.77		0.64



Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Calculate Flow Rate in Express Lanes (EL)													
EL Volume (vph)	966	851	771	668	683	683	709	906	906	671	671	629	587
PHF	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Express Lanes	1	1	1	1	1	1	1	1	1	1	1	1	1
Terrain	Level	Level	Level	Level	Level	Level	Level	Grade	Level	Level	Level	Level	Level
Grade %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Grade Length (mi)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Truck & Bus %	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
RV %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E _T	1.5	1.5	1.5	1.5	1.5	1.5	1.5	5.5	1.5	1.5	1.5	1.5	1.5
E _R	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6.0	1.2	1.2	1.2	1.2	1.2
f _{HV}	0.990	0.990	0.990	0.990	0.990	0.990	0.990	0.917	0.990	0.990	0.990	0.990	0.990
f _p	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
EL Flow (pcph)	1,084	954	865	750	766	766	795	1,097	1,017	752	752	705	658
EL Flow (pcphpl)	1,084	954	865	750	766	766	795	1,097	1,017	752	752	705	658
Calculate Speed in Express Lanes													
Lane Width (ft)													
Shoulder Width													
TRD													
f _{LW}													
f _{LC}													
Calc'd FFS													
Measured FFS	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0	65.0
FFS	65	65	65	65	65	65	65	65	65	65	65	65	65
Calculate Operations in Express Lanes													
EL _{ex} v/c ratio	0.62	0.55	0.49	0.43	0.44	0.44	0.45	0.63	0.58	0.43	0.43	0.40	0.38
Calculate On Ramp Flow Rate													
On Volume (vph)				800		200	590				440		1,120
PHF				0.92		0.92	0.92				0.71		0.95
Total Lanes				1		1	1				1		1
Terrain				Level		Level	Level				Level		Level
Grade %				0.0%		0.0%	0.0%				0.0%		0.0%
Grade Length (mi)				0.00		0.00	0.00				0.00		0.00
Truck & Bus %				2.0%		2.0%	2.0%				2.0%		3.0%
RV %				0.0%		0.0%	0.0%				0.0%		0.0%
E _T				1.5		1.5	1.5				1.5		1.5
E _R				1.2		1.2	1.2				1.2		1.2
f _{HV}				0.990		0.990	0.990				0.990		0.985
f _p				1.00		1.00	1.00				1.00		1.00
On Flow (pcph)				878		220	648				626		1,197
On Flow (pcphpl)				878		220	648				626		1,197
Calculate On Ramp Roadway Operations													
On Ramp Type				Right		Right	Right				Right		
On Ramp Speed (mph)				45		25	45				45		
On Ramp Cap (pcph)				2,100		1,900	2,100				2,100		
On Ramp v/c ratio				0.42		0.12	0.31				0.30		



Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Calculate Off Ramp Flow Rate													
Off Volume (vph)	770	530		690					1,570		720		1,690
PHF	0.92	0.92		0.92					0.97		0.95		0.91
Total Lanes	1	1		1					1		1		1
Terrain	Level	Level		Level					Level		Level		Level
Grade %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%
Grade Length (mi)	0.00	0.00		0.00					0.00		0.00		0.00
Truck & Bus %	2.0%	2.0%		3.0%					2.0%		3.0%		2.0%
RV %	0.0%	0.0%		0.0%					0.0%		0.0%		0.0%
E _T	1.5	1.5		1.5					1.5		1.5		1.5
E _R	1.2	1.2		1.2					1.2		1.2		1.2
f _{HV}	0.990	0.990		0.985					0.990		0.985		0.990
f _p	1.00	1.00		1.00					1.00		1.00		1.00
Off Flow (pcph)	845	582		761					1,635		769		1,876
Off Flow (pcphpl)	845	582		761					1,635		769		1,876
Calculate Off Ramp Roadway Operations													
Off Ramp Type	Right	Right		Right					Right				Right
Off Ramp Speed	45	25		45					45				45
Off Ramp Cap (pcph)	2,100	1,900		2,100					2,100				2,100
Off Ramp v/c ratio	0.40	0.31		0.36					0.78				0.89
Determine Adjacent Ramp for Three-Lane Mainline Segments with One-Lane Ramps													
Up Type		Off					On		Off		Off		No
Up Distance		2,350					1,575	800	4,900		2,100		
Up Flow (pcph)		845					761	220	761		1,635		
Down Type	Off	On					On	On	On		No		#REF!
Down Distance	850	1,975					2,900	3,400	2,100				#REF!
Down Flow (pcph)	582	878					626	626	626				#REF!
Calculate Merge Influence Area Operations													
Effective v _p (pcph)							4,720						
Up Ramp L _{EQ}							206						
Down Ramp L _{EQ}							3,716						
P _{FM} (Eqn 13-3)							0.593						
P _{FM} (Eqn 13-4)		#VALUE!					0.679		#VALUE!		#VALUE!		#REF!
P _{FM} (Eqn 13-5)	0.729												
P _{FM}							0.593						
v ₁₂ (pcph)							2,798						
v ₃ (pcph)							1,921						
v ₃₄ (pcph)													
v _{12a} (pcph)							2,798						
v _{R12a} (pcph)							3,018						
Merge Speed Index							0.37						
Merge Area Speed							56.4						
Outer Lanes Volume							1,921						
Outer Lanes Speed							59.9						
Segment Speed							57.7						
Merge v/c ratio							0.66						
Merge Density							25.5						
Merge LOS							C						



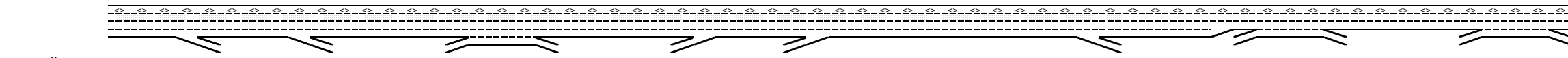
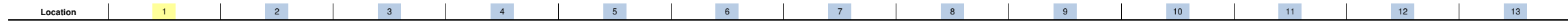
Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
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Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Calculate Diverge Influence Area Operations													
Effective v_p (pcph)	5,672	4,993							5,319				
Up Ramp L_{EQ}		5,969							11,016				
Down Ramp L_{EQ}	886	1,132							1,662				
P_{FD} (Eqn 13-9)	0.579	0.608							0.552				
P_{FD} (Eqn 13-10)													
P_{FD} (Eqn 13-11)	0.582												#REF!
P_{FD}	0.582	0.608							0.552				
v_{12} (pcph)	3,656	3,266							3,668				
v_3 (pcph)	2,016	1,728							1,651				
v_{34} (pcph)													
v_{12a} (pcph)	3,656	3,266							3,668				
Diverge Speed Index	0.37	0.61							0.45				
Diverge Area Speed	56.4	51.0							54.8				
Outer Lanes Volume	2,016	1,728							1,651				
Outer Lanes Speed	67.3	68.5							68.8				
Segment Speed	59.9	55.9							58.5				
Diverge v/c ratio	0.83	0.74							0.83				
Diverge Density	34.3	31.0							34.4				
Diverge LOS	D	D							D				

Calculate On Ramp to Off Ramp Flow Rate for Weave Segments													
On to Off Volume (vph)				419							162		551
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				2.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E_T				1.5							1.5		1.5
E_R				1.2							1.2		1.2
f_{HV}				0.990							0.990		0.990
f_p				1.00							1.00		1.00
On to Off Flow (pcph)				460							178		605

Calculate On Ramp to Mainline Flow Rate for Weave Segments													
On to ML Volume (vph)				381							278		569
PHF				0.92							0.92		0.92
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				2.0%							2.0%		2.0%
RV %				0.0%							0.0%		0.0%
E_T				1.5							1.5		1.5
E_R				1.2							1.2		1.2
f_{HV}				0.990							0.990		0.990
f_p				1.00							1.00		1.00
On to ML Flow (pcph)				418							305		625

Calculate Mainline to Off Ramp Flow Rate for Weave Segments													
ML to Off Volume (vph)				271							558		1,139
PHF				0.97							0.97		0.97
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				1.0%							1.0%		1.0%
RV %				0.0%							0.0%		0.0%
E_T				1.5							1.5		1.5
E_R				1.2							1.2		1.2
f_{HV}				0.995							0.995		0.995
f_p				1.00							1.00		1.00
ML to Off Flow (pcph)				281							578		1,180



Key
 <-> Express Lane (HOV)
 No Trucks

Name	Latrobe Rd off-ramp	El Dorado Hills Blvd off-ramp	El Dorado Hills Blvd off to on-ramp	El Dorado Hills Blvd to Silva Valley Pkwy	Silva Valley Pkwy off to on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy on-ramp	Silva Valley Pkwy to Bass Lake Rd	Bass Lake Rd off-ramp	Bass Lake Rd off to on-ramp	Bass Lake Rd to Cambridge Rd	Cambridge Rd off to on-ramp	Cambridge Rd to Cameron Park
Calculate General Purpose Lanes to General Purpose Lanes Flow Rate for Weave Segments													
GP to GP Volume (vph)				4,201							3,242		2,464
PHF				0.92							0.97		0.97
Terrain				Level							Level		Level
Grade %				0.0%							0.0%		0.0%
Grade Length (mi)				0.00							0.00		0.00
Truck & Bus %				1.0%							1.0%		1.0%
RV %				0.0%							0.0%		0.0%
E _T				1.5							1.5		1.5
E _R				1.2							1.2		1.2
f _{HV}				0.995							0.995		0.995
f _p				1.00							1.00		1.00
GP to GP Flow (pcph)				4,589							3,358		2,553
Calculate Weave Segment Operations													
Weave Type				One-sided							One-sided		One-sided
Weave Length				2,000							5,625		7,250
Segment Lanes				3							2		2
Weave Lanes				3					3		2		2
Weave Flow (pcph)				699							883		1,805
Non-Weave Flow				5,049							3,536		3,158
Segment Flow				5,748							4,420		4,963
Max Weave Length				2,185							4,535		6,277
Length Check				OK							Not a Weave		Not a Weave
Ideal Weave Capacity				2,336							2,433		2,424
f _{HV}				0.994							0.994		0.994
f _p				0.999							0.999		0.999
Capacity Condition 1				6,962							4,837		4,813
Capacity Condition 2				28,593							11,934		6,551
Weave v/c ratio				0.82							0.91		1.02
Interchange Density				3							5		2
Lane Changes On to ML				1							1		1
Lane Changes ML to Off				1							1		1
Lane Changes On to Off				0							0		0
Min Lane Change Rate				699							883		1,805
Weave LC Rate				1,295							2,964		4,567
Non-Weave LC Rate 1				1,546							3,392		4,195
Non-Weave LC Rate 2				2,815							2,478		2,393
Non-Weave LC Rate 3				4,922							-8,771		-4,895
Segment LC Rate				4,110							5,441		6,960
Weave Intensity Factor				0.399							0.220		0.219
Weave Speed				50.7							56.0		56.0
Non-Weave Speed				50.8							48.0		40.1
Segment Speed				50.8							49.4		44.7
Weave Density				37.7							-		-
Weave LOS				E							Basic		Basic
Summarize Segment Operations													
Segment v/c ratio	0.83	0.74	0.64	0.82	0.67	0.66	0.70	0.79	0.83	0.56	0.62	0.79	0.69
Segment Density	34.3	31.0	23.3	37.7	24.4	25.5	25.5	29.8	34.4	20.2	22.5	29.7	25.4
Segment LOS	D	D	C	E	C	C	C	D	D	C	C	D	C
Over Capacity													

APPENDIX A:

Existing and Cumulative Signal Warrants

Major Street El Dorado Hills Blvd
 Minor Street Francisco Dr

Project Central El Dorado
 Scenario Existing Conditions
 Peak Hour AM

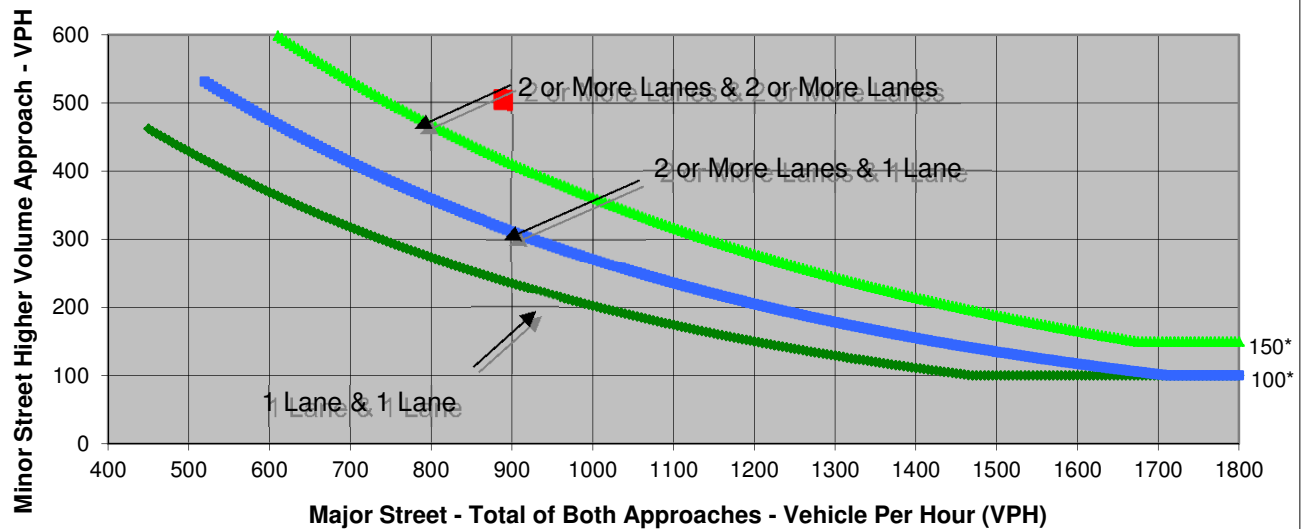
Turn Movement Volumes

	NB	SB	EB	WB
Left	361	125	2	45
Through	115	248	49	63
Right	37	3	453	42
Total	513	376	504	150

Major Street Direction

<u>X</u>	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street El Dorado Hills Blvd	Minor Street Francisco Dr	Warrant Met
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	889	504	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

Major Street **El Dorado Hills Blvd**
 Minor Street **Francisco Dr**

Project **Central El Dorado**
 Scenario **Existing Conditions**
 Peak Hour **PM**

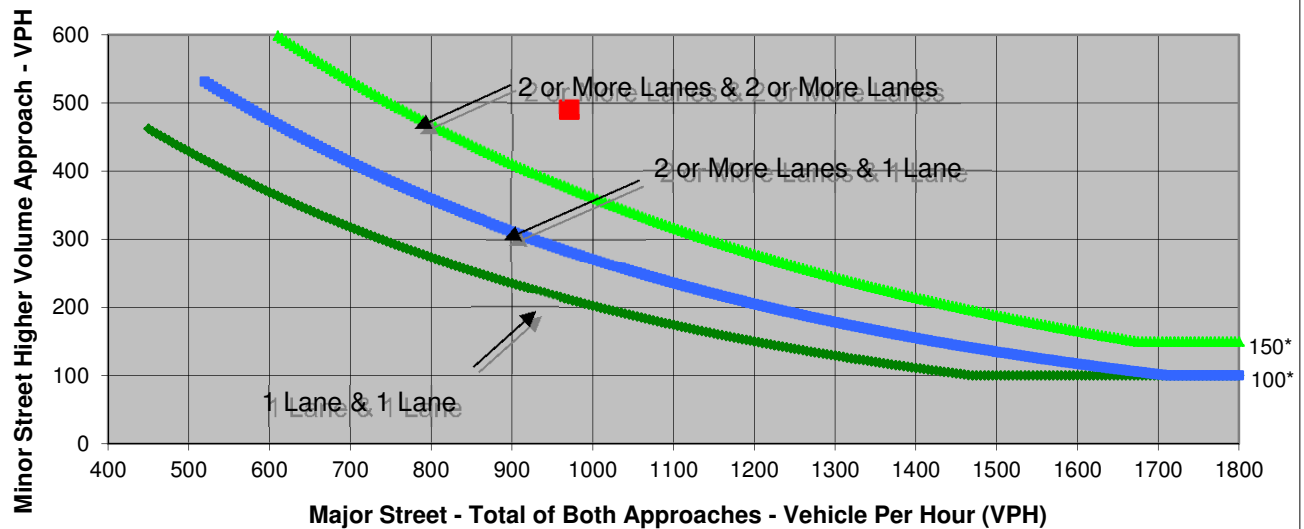
Turn Movement Volumes

	NB	SB	EB	WB
Left	504	9	0	26
Through	281	156	41	35
Right	19	2	449	40
Total	804	167	490	101

Major Street Direction

X	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street El Dorado Hills Blvd	Minor Street Francisco Dr	Warrant Met
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	971	490	
* Note: Traffic Volume for Major Street is Total Volume of Both Approaches. Traffic Volume for Minor Street is the Volume of High Volume Approach.			

Major Street **Silva Valley Pkwy**
 Minor Street **Charter Way/Appian Way**

Project **Central El Dorado**
 Scenario **Existing Conditions**
 Peak Hour **AM**

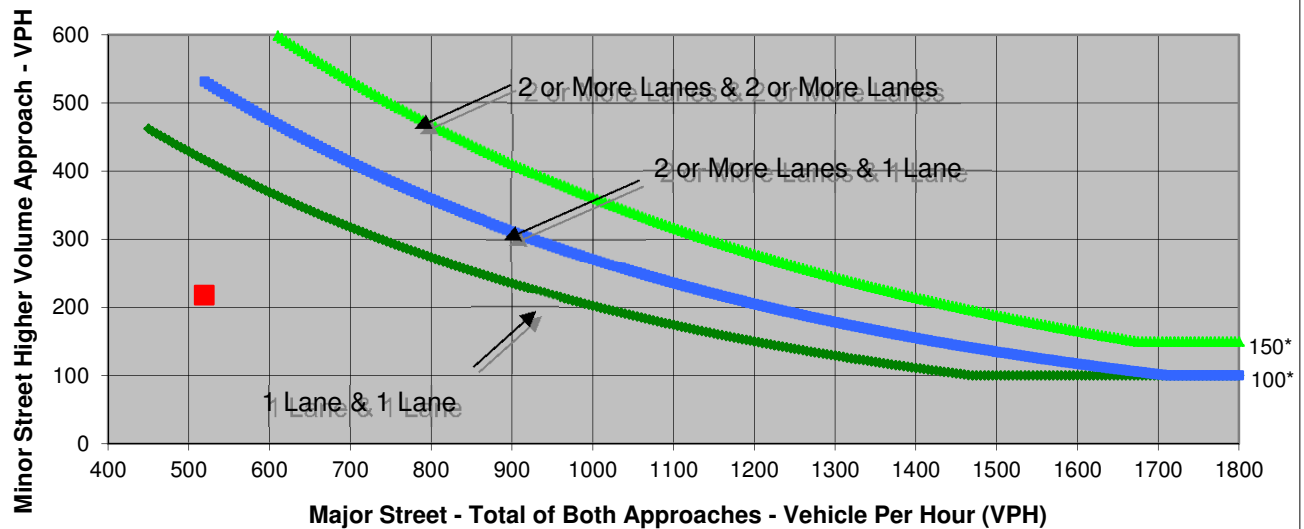
Turn Movement Volumes

	NB	SB	EB	WB
Left	20	23	35	154
Through	190	226	1	2
Right	41	19	83	62
Total	251	268	119	218

Major Street Direction

X	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street Silva Valley Pkwy	Minor Street Charter Way/Appian Way	Warrant Met
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	519	218	
* Note: Traffic Volume for Major Street is Total Volume of Both Approches. Traffic Volume for Minor Street is the Volume of High Volume Approach.			

Major Street **Silva Valley Pkwy**
 Minor Street **Charter Way/Appian Way**

Project **Central El Dorado**
 Scenario **Existing Conditions**
 Peak Hour **PM**

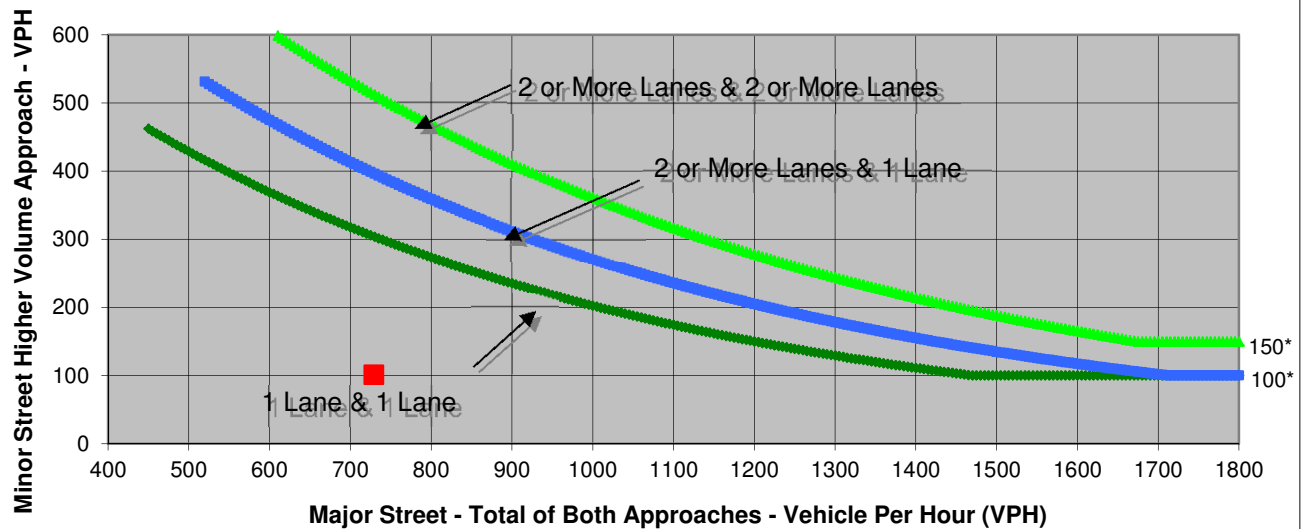
Turn Movement Volumes

	NB	SB	EB	WB
Left	70	47	17	56
Through	243	191	4	2
Right	89	89	39	43
Total	402	327	60	101

Major Street Direction

X	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street Silva Valley Pkwy	Minor Street Charter Way/Appian Way	Warrant Met
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	729	101	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

Major Street **El Dorado Hills Blvd**
 Minor Street **Francisco Dr**

Project **Central El Dorado**
 Scenario **Existing Plus Project**
 Peak Hour **AM**

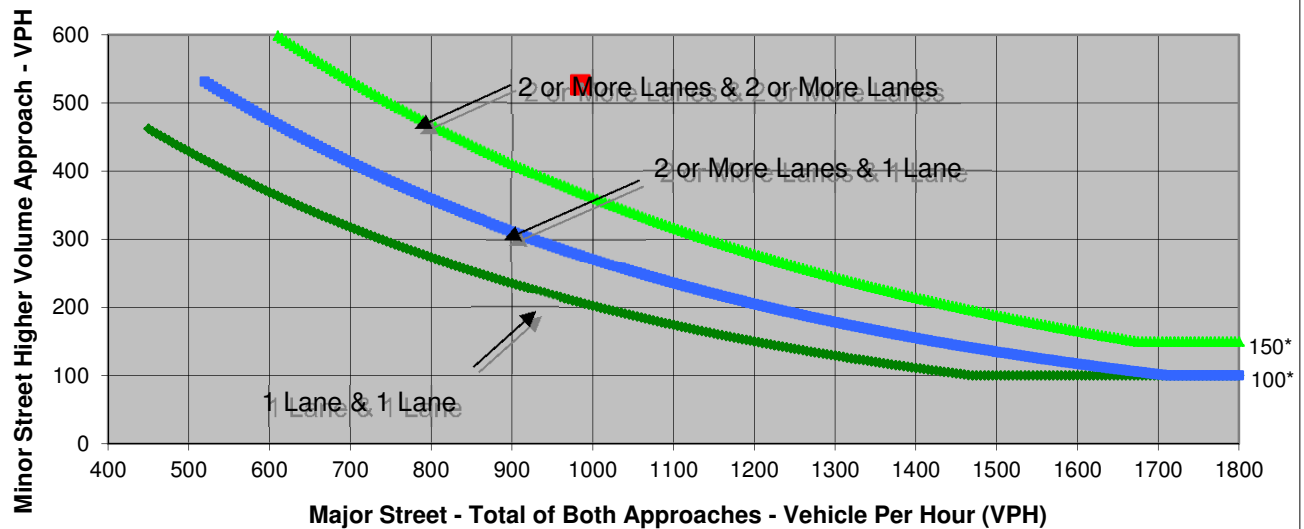
Turn Movement Volumes

	NB	SB	EB	WB
Left	412	125	2	45
Through	146	262	49	63
Right	37	3	475	42
Total	595	390	526	150

Major Street Direction

X	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street El Dorado Hills Blvd	Minor Street Francisco Dr	Warrant Met
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	985	526	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

Major Street **El Dorado Hills Blvd**
 Minor Street **Francisco Dr**

Project **Central El Dorado**
 Scenario **Existing Plus Project**
 Peak Hour **PM**

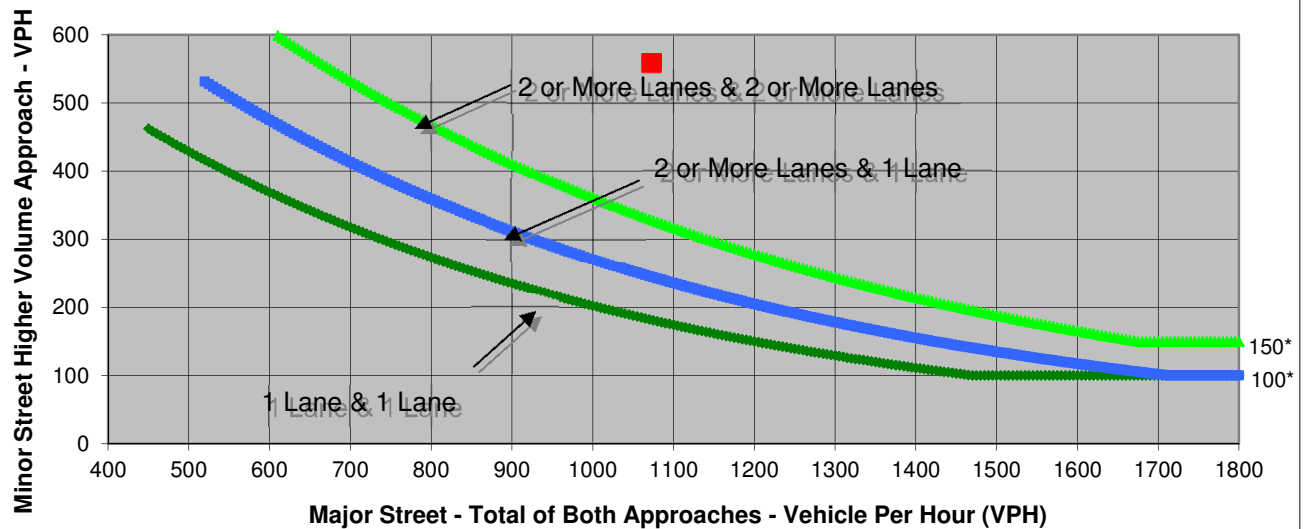
Turn Movement Volumes

	NB	SB	EB	WB
Left	546	9	0	26
Through	305	192	41	35
Right	19	2	517	40
Total	870	203	558	101

Major Street Direction

X	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street El Dorado Hills Blvd	Minor Street Francisco Dr	Warrant Met
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	1,073	558	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

Major Street **Silva Valley Pkwy**
 Minor Street **Charter Way/Appian Way**

Project **Central El Dorado**
 Scenario **Existing Plus Project**
 Peak Hour **AM**

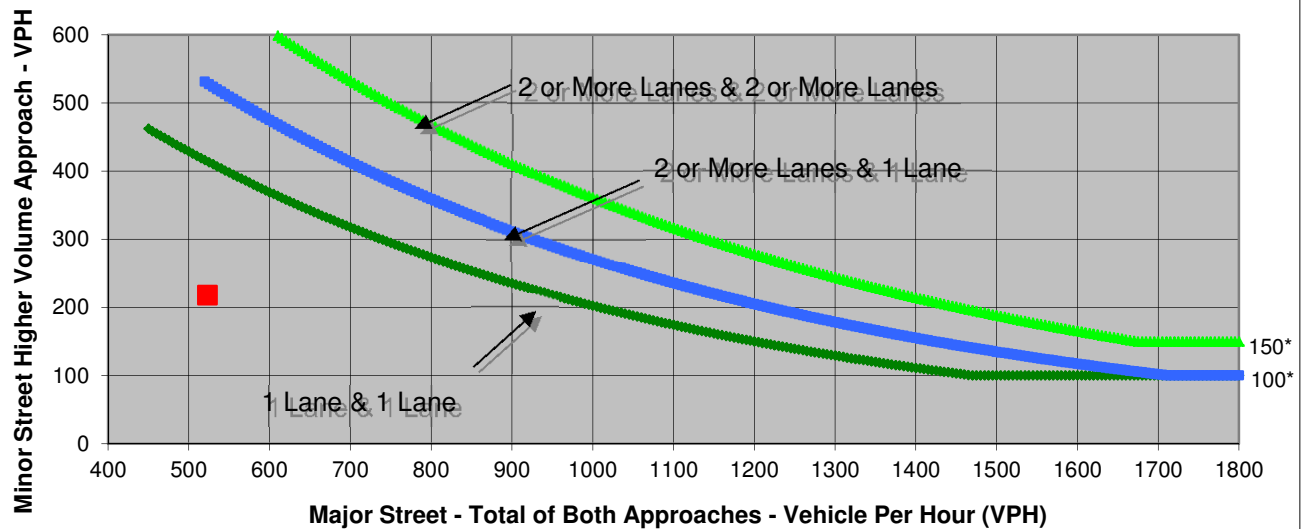
Turn Movement Volumes

	NB	SB	EB	WB
Left	20	23	35	154
Through	193	227	1	2
Right	41	19	83	62
Total	254	269	119	218

Major Street Direction

X	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street Silva Valley Pkwy	Minor Street Charter Way/Appian Way	Warrant Met
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	523	218	
* Note: Traffic Volume for Major Street is Total Volume of Both Approaches. Traffic Volume for Minor Street is the Volume of High Volume Approach.			

Major Street **Silva Valley Pkwy**
 Minor Street **Charter Way/Appian Way**

Project **Central El Dorado**
 Scenario **Existing Plus Project**
 Peak Hour **PM**

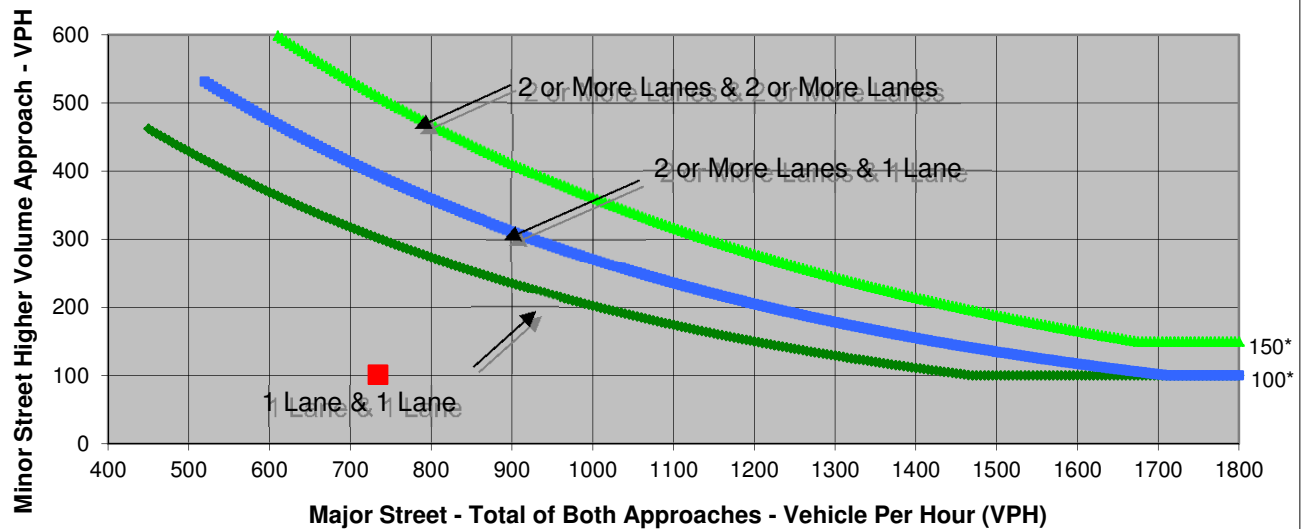
Turn Movement Volumes

	NB	SB	EB	WB
Left	70	47	17	56
Through	246	193	4	2
Right	89	89	39	43
Total	405	329	60	101

Major Street Direction

X	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street Silva Valley Pkwy	Minor Street Charter Way/Appian Way	Warrant Met
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	734	101	
* Note: Traffic Volume for Major Street is Total Volume of Both Approaches. Traffic Volume for Minor Street is the Volume of High Volume Approach.			

Major Street **Wilson Blvd**
 Minor Street **Pedregal Drwy**

Project **Central El Dorado**
 Scenario **Existing Plus Project**
 Peak Hour **AM**

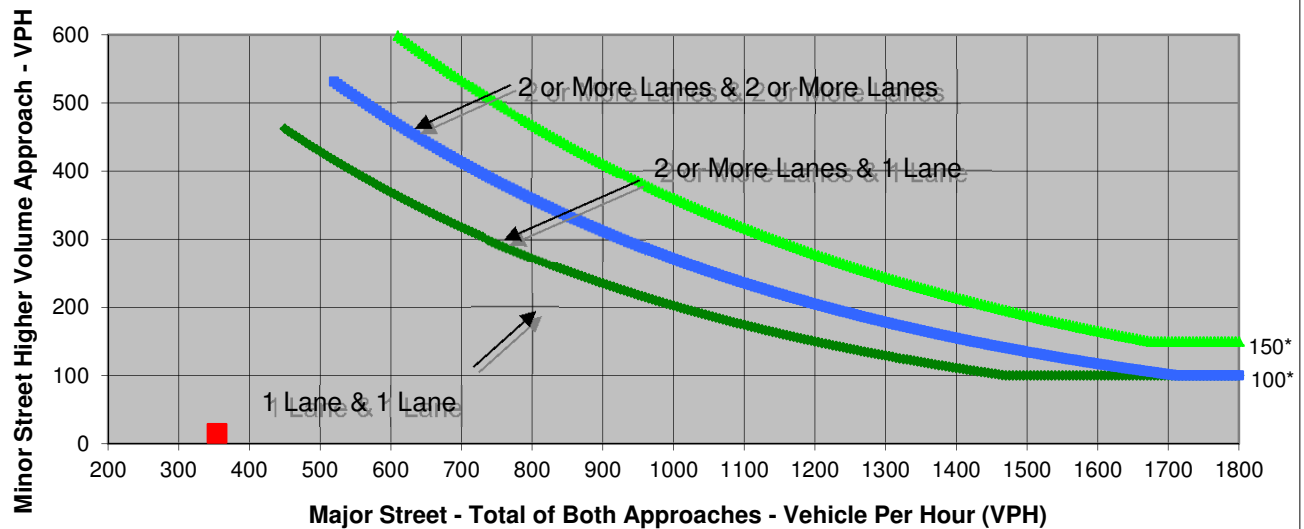
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	10	10	0
Through	0	0	230	103
Right	0	5	0	11
Total	0	15	240	114

Major Street Direction

	North/South
X	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street Wilson Blvd	Minor Street Pedregal Drwy	Warrant Met
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	354	15	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

Major Street Wilson Blvd
 Minor Street Pedregal Drwy

Project Central El Dorado
 Scenario Existing Plus Project
 Peak Hour PM

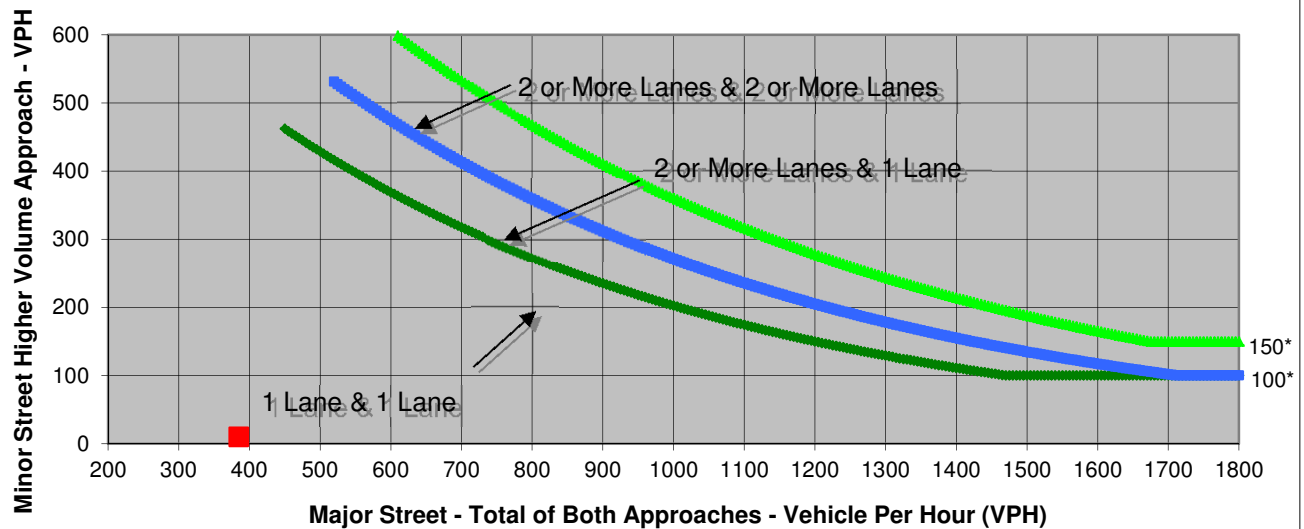
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	5	12	0
Through	0	0	165	183
Right	0	5	0	25
Total	0	10	177	208

Major Street Direction

	North/South
X	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street Wilson Blvd	Minor Street Pedregal Drwy	Warrant Met
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	385	10	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

Major Street Silva Valley Pkwy
 Minor Street Charter Way/Appian Way

Project Central El Dorado
 Scenario Cumulative No Project
 Peak Hour AM

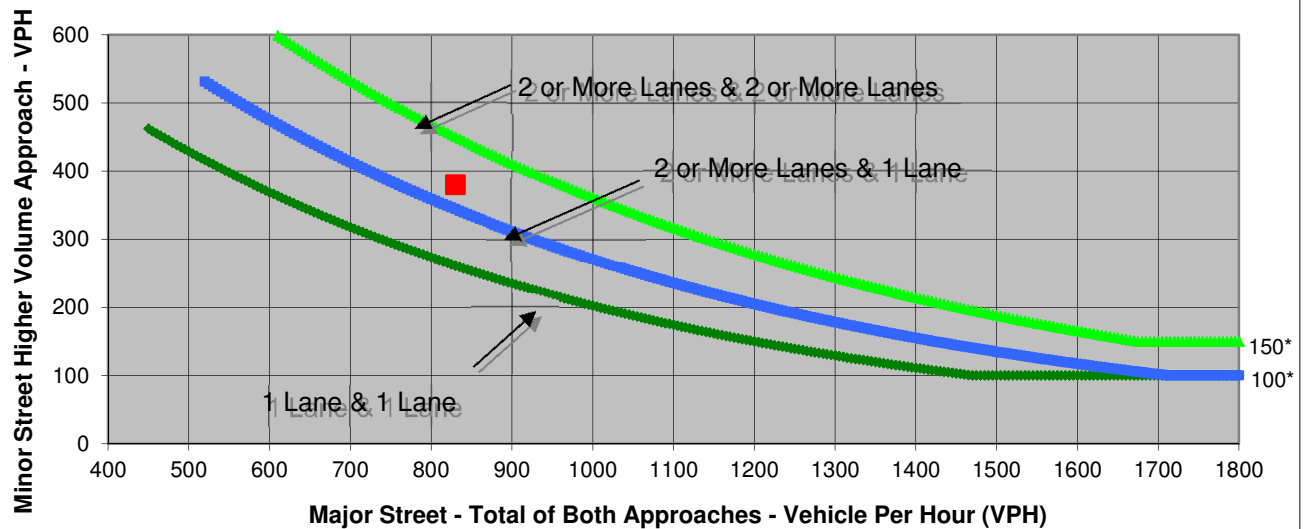
Turn Movement Volumes

	NB	SB	EB	WB
Left	40	70	50	240
Through	230	340	10	10
Right	120	30	110	130
Total	390	440	170	380

Major Street Direction

<u>X</u>	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Silva Valley Pkwy	Charter Way/Appian Way	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	830	380	
* Note: Traffic Volume for Major Street is Total Volume of Both Approches. Traffic Volume for Minor Street is the Volume of High Volume Approach.			

Major Street Silva Valley Pkwy
 Minor Street Charter Way/Appian Way

Project Central El Dorado
 Scenario Cumulative No Project
 Peak Hour PM

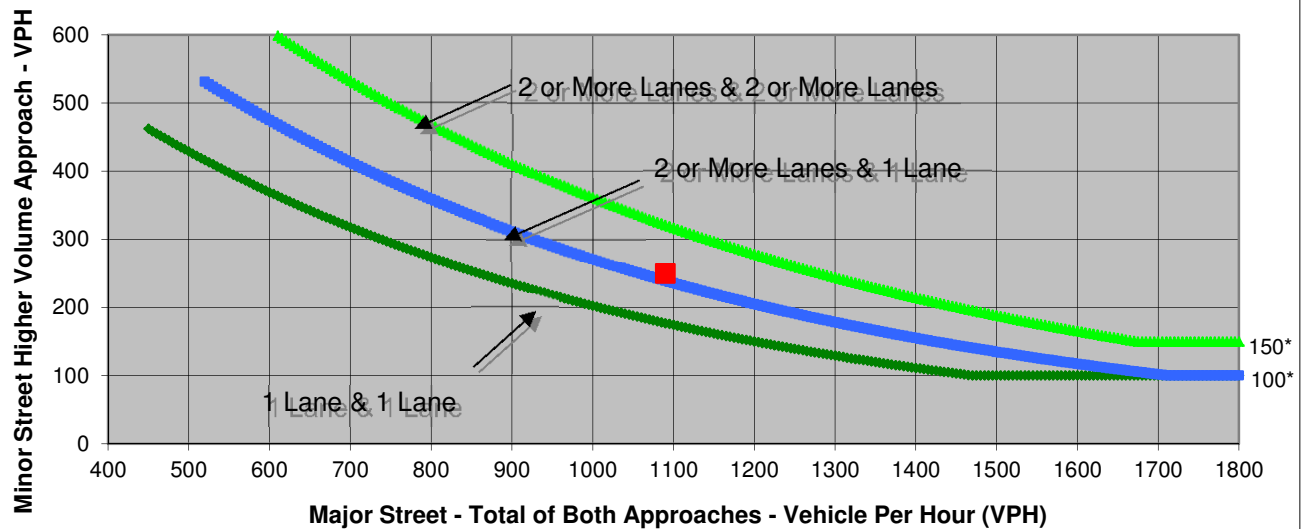
Turn Movement Volumes

	NB	SB	EB	WB
Left	100	100	30	150
Through	410	260	10	10
Right	120	100	60	90
Total	630	460	100	250

Major Street Direction

<u>X</u>	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Silva Valley Pkwy	Charter Way/Appian Way	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	1,090	250	
* Note: Traffic Volume for Major Street is Total Volume of Both Approaches. Traffic Volume for Minor Street is the Volume of High Volume Approach.			

Major Street Silva Valley Pkwy
 Minor Street Charter Way/Appian Way

Project Central El Dorado
 Scenario Cumulative Plus Project
 Peak Hour AM

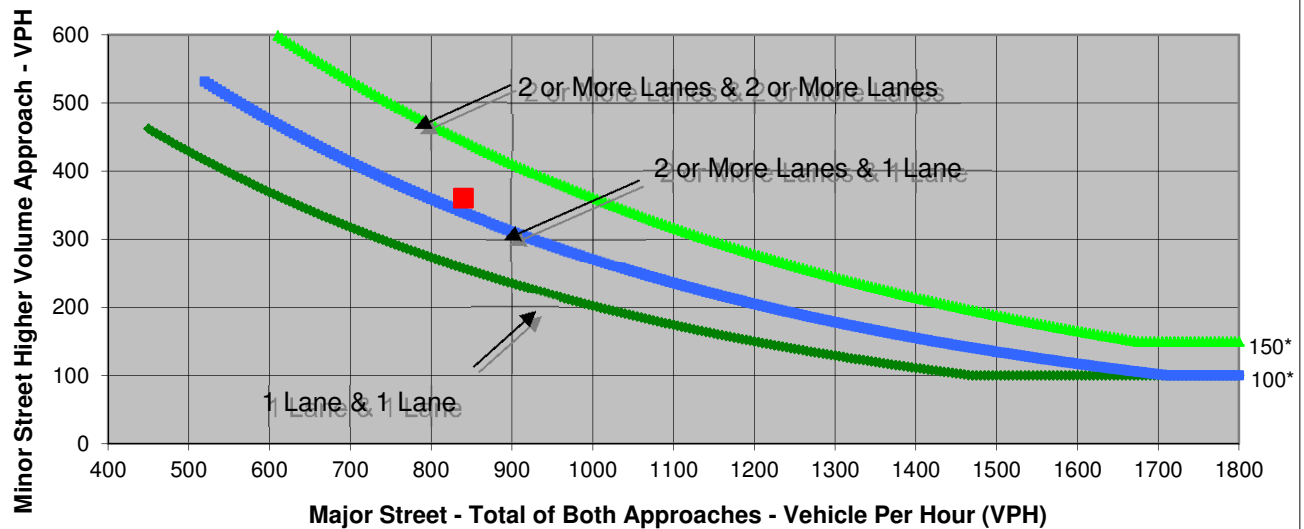
Turn Movement Volumes

	NB	SB	EB	WB
Left	40	70	50	240
Through	230	350	10	10
Right	120	30	110	110
Total	390	450	170	360

Major Street Direction

<u>X</u>	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	Silva Valley Pkwy	Charter Way/Appian Way	
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	840	360	
* Note: Traffic Volume for Major Street is Total Volume of Both Approaches. Traffic Volume for Minor Street is the Volume of High Volume Approach.			

Major Street **Silva Valley Pkwy**
 Minor Street **Charter Way/Appian Way**

Project **Central El Dorado**
 Scenario **Cumulative Plus Project**
 Peak Hour **PM**

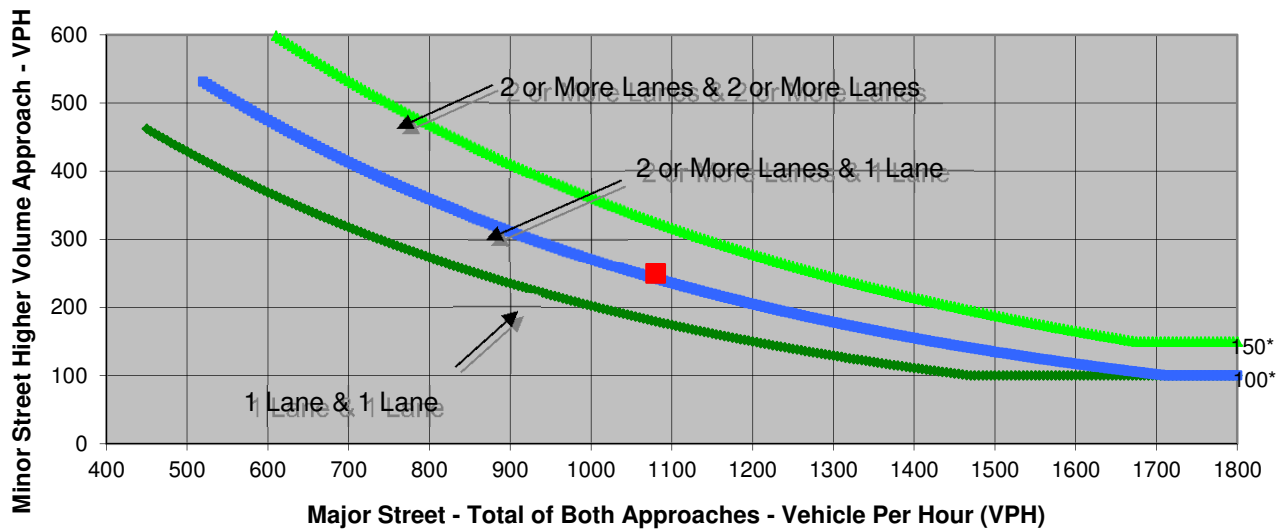
Turn Movement Volumes

	NB	SB	EB	WB
Left	100	100	30	150
Through	390	260	10	10
Right	130	100	60	90
Total	620	460	100	250

Major Street Direction

X	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street Silva Valley Pkwy	Minor Street Charter Way/Appian Way	Warrant Met
Number of Approach Lanes	1	1	<u>YES</u>
Traffic Volume (VPH) *	1,080	250	
* Note: Traffic Volume for Major Street is Total Volume of Both Approches. Traffic Volume for Minor Street is the Volume of High Volume Approach.			

Major Street **Wilson Blvd**
 Minor Street **Pedregal Drwy**

Project **Central El Dorado**
 Scenario **Cumulative Plus Project**
 Peak Hour **AM**

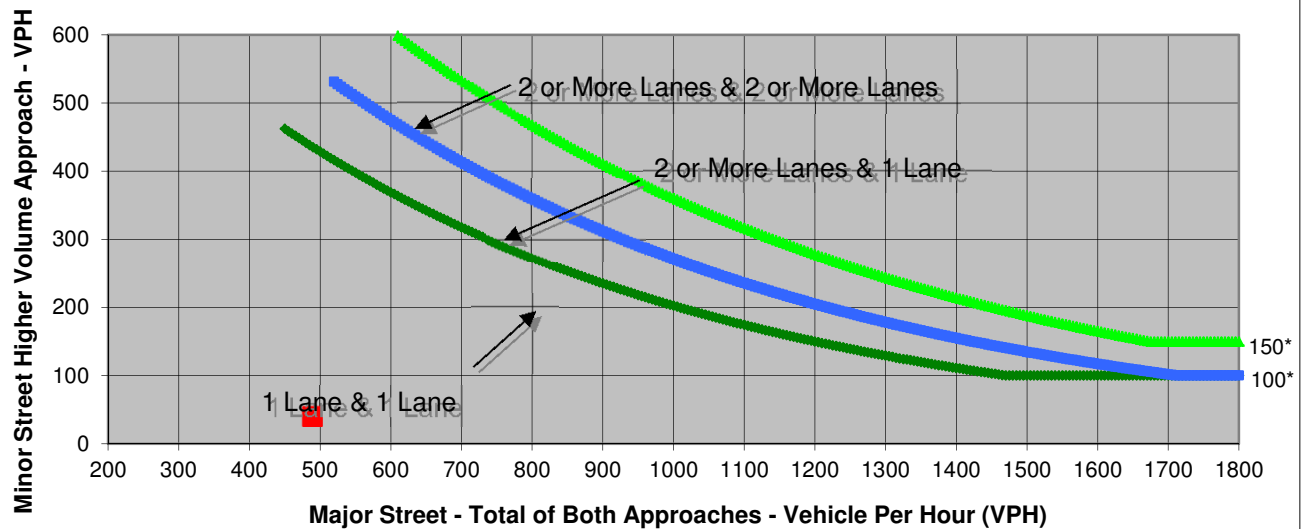
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	30	10	0
Through	0	0	330	130
Right	0	10	0	20
Total	0	40	340	150

Major Street Direction

	North/South
X	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street Wilson Blvd	Minor Street Pedregal Drwy	Warrant Met
Number of Approach Lanes	1	1	<u>NO</u>
Traffic Volume (VPH) *	490	40	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

Major Street **Wilson Blvd**
 Minor Street **Pedregal Drwy**

Project **Central El Dorado**
 Scenario **Cumulative Plus Project**
 Peak Hour **PM**

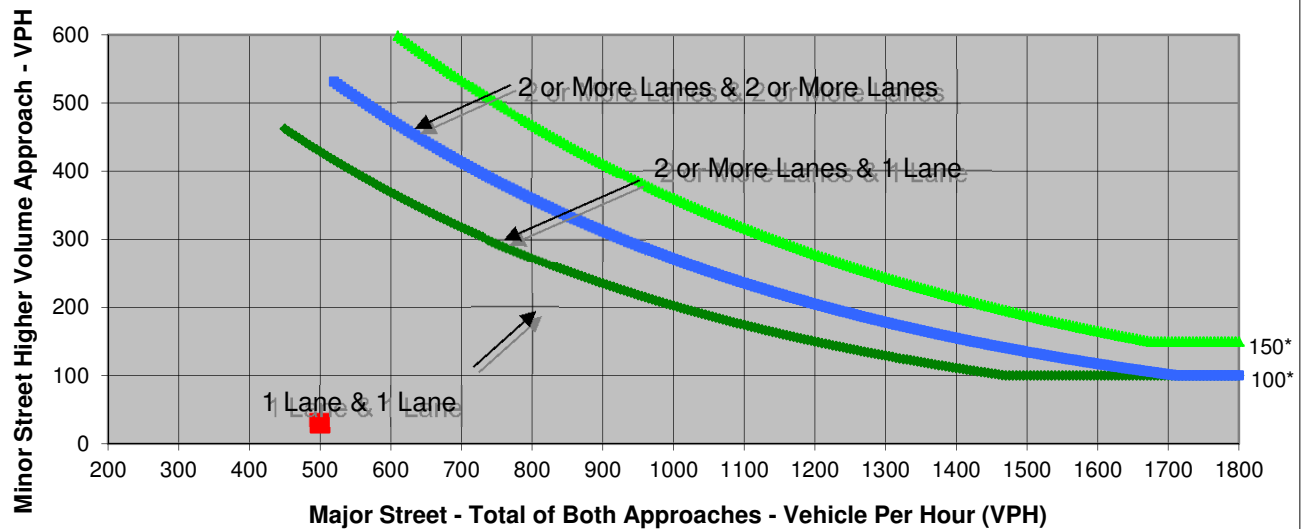
Turn Movement Volumes

	NB	SB	EB	WB
Left	0	20	10	0
Through	0	0	210	250
Right	0	10	0	30
Total	0	30	220	280

Major Street Direction

	North/South
X	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: California Manual on Uniform Traffic Control Devices, Caltrans, 2012

	Major Street Wilson Blvd	Minor Street Pedregal Drwy	Warrant Met
Number of Approach Lanes	1	1	NO
Traffic Volume (VPH) *	500	30	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

APPENDIX A:

Intersection Vehicle Queuing

Intersection: 15: Saratoga Way & El Dorado Hills Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	LT	R	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	723	944	315	86	134	255	123	468	742	610	203	224
Average Queue (ft)	294	370	78	31	39	85	17	400	563	111	71	92
95th Queue (ft)	769	993	319	73	98	183	65	531	878	388	170	196
Link Distance (ft)	3222	3222				975			656	656	656	656
Upstream Blk Time (%)									12	0		0
Queuing Penalty (veh)									38	1		0
Storage Bay Dist (ft)			300	150	150		150	550				
Storage Blk Time (%)		13	0		0	3	0		16			
Queuing Penalty (veh)		75	0		0	4	0		72			

Intersection: 15: Saratoga Way & El Dorado Hills Blvd

Movement	NB	SB	SB	SB	SB	SB	B73	B73	B73
Directions Served	TR	L	T	T	TR	R	T	T	T
Maximum Queue (ft)	79	262	378	337	317	224	159	44	24
Average Queue (ft)	34	79	226	132	155	27	16	2	1
95th Queue (ft)	66	187	397	273	282	137	92	26	17
Link Distance (ft)	656		304	304	304	304	574	574	574
Upstream Blk Time (%)			3	1	0	0			
Queuing Penalty (veh)			15	3	1	0			
Storage Bay Dist (ft)		250							
Storage Blk Time (%)		0	5						
Queuing Penalty (veh)		0	4						

Intersection: 16: US 50 EB Ramps &

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	801	783	200	730	601	183	227	198	234	220	270	458
Average Queue (ft)	380	289	178	404	55	47	14	50	54	29	43	77
95th Queue (ft)	760	714	256	852	322	132	121	129	144	193	221	288
Link Distance (ft)	2974	2974		712	712	712	712			656	656	656
Upstream Blk Time (%)				3	0					0	0	1
Queuing Penalty (veh)				15	1					2	2	3
Storage Bay Dist (ft)			175					575	575			
Storage Blk Time (%)			23	2								
Queuing Penalty (veh)			77	5								

Intersection: 16: US 50 EB Ramps &

Movement	SB
Directions Served	T
Maximum Queue (ft)	316
Average Queue (ft)	82
95th Queue (ft)	255
Link Distance (ft)	656
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: Town Center Blvd & Latrobe Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	TR	R	L	L	T	T	T
Maximum Queue (ft)	83	90	61	51	124	772	466	56	229	1552	1484	1450
Average Queue (ft)	32	32	20	13	89	352	92	13	44	946	870	783
95th Queue (ft)	72	73	52	38	156	709	282	43	180	1614	1521	1478
Link Distance (ft)			3400	3400		1314	1314			2246	2246	2246
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	350	350			100			225	225			
Storage Blk Time (%)					13	49			0	63		
Queuing Penalty (veh)					27	54			0	18		

Intersection: 17: Town Center Blvd & Latrobe Road

Movement	NB	SB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	T	R
Maximum Queue (ft)	1145	399	421	624	621	713	439
Average Queue (ft)	285	318	343	329	301	316	75
95th Queue (ft)	1149	441	475	747	659	646	286
Link Distance (ft)	2246			712	712	712	712
Upstream Blk Time (%)				5	2	2	0
Queuing Penalty (veh)				32	15	10	0
Storage Bay Dist (ft)		375	375				
Storage Blk Time (%)		10	18	0			
Queuing Penalty (veh)		53	94	0			

Intersection: 25: US-50 WB Ramps & Silva Valley Pkwy

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	T	T	R
Maximum Queue (ft)	258	287	98	85	91	317	869	337
Average Queue (ft)	146	159	53	36	47	33	102	141
95th Queue (ft)	229	246	89	67	77	275	507	290
Link Distance (ft)	1335	1335		587	587	2466	2466	
Upstream Blk Time (%)						0	0	
Queuing Penalty (veh)						0	0	
Storage Bay Dist (ft)			400					400
Storage Blk Time (%)								0
Queuing Penalty (veh)								1

Intersection: 26: US-50 EB Ramps & Silva Valley Pkwy

Movement	EB	EB	EB	NB	NB	SB	SB
Directions Served	L	L	R	T	T	T	T
Maximum Queue (ft)	79	92	62	47	60	55	85
Average Queue (ft)	35	53	22	12	21	12	27
95th Queue (ft)	65	85	49	38	48	39	65
Link Distance (ft)	1620	1620		1401	1401	587	587
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			300				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 1

Intersection: 15: Saratoga Way & El Dorado Hills Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	LT	R	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	664	798	209	78	88	190	102	470	730	294	330	381
Average Queue (ft)	204	263	47	25	23	70	21	431	609	115	152	188
95th Queue (ft)	749	867	239	62	62	142	67	499	835	230	278	319
Link Distance (ft)	3222	3222				975			656	656	656	656
Upstream Blk Time (%)									12			
Queuing Penalty (veh)									68			
Storage Bay Dist (ft)			300	150	150		150	550				
Storage Blk Time (%)		3	5		0	1	0		16			
Queuing Penalty (veh)		16	8		0	1	0		103			

Intersection: 15: Saratoga Way & El Dorado Hills Blvd

Movement	NB	SB	SB	SB	SB	SB	B73	B73	B73
Directions Served	TR	L	T	T	TR	R	T	T	T
Maximum Queue (ft)	232	239	377	324	305	25	269	204	61
Average Queue (ft)	39	64	234	149	158	1	44	25	13
95th Queue (ft)	131	161	385	286	279	19	252	197	131
Link Distance (ft)	656		304	304	304	304	574	574	574
Upstream Blk Time (%)			10	2	2		1	0	0
Queuing Penalty (veh)			32	6	6		3	1	0
Storage Bay Dist (ft)		250							
Storage Blk Time (%)		0	16						
Queuing Penalty (veh)		0	11						

Intersection: 16: US 50 EB Ramps &

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	810	721	200	624	96	114	66	125	385	617	606	606
Average Queue (ft)	327	197	167	217	19	40	2	38	81	297	261	281
95th Queue (ft)	861	738	262	569	62	96	40	94	324	717	662	678
Link Distance (ft)	2974	2974		712	712	712	712			656	656	656
Upstream Blk Time (%)				2						6	4	6
Queuing Penalty (veh)				11						26	17	25
Storage Bay Dist (ft)			175					575	575			
Storage Blk Time (%)			16	0						7		
Queuing Penalty (veh)			93	0						15		

Intersection: 16: US 50 EB Ramps &

Movement	SB
Directions Served	T
Maximum Queue (ft)	654
Average Queue (ft)	227
95th Queue (ft)	664
Link Distance (ft)	656
Upstream Blk Time (%)	7
Queuing Penalty (veh)	30
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: US-50 WB Ramps & Silva Valley Pkwy

Movement	WB	WB	WB	NB	NB	SB	SB	SB	
Directions Served	L	LT	R	T	T			R	
Maximum Queue (ft)	158	171	277	188	198	113	172	59	
Average Queue (ft)	86	94	138	66	73	46	81	27	
95th Queue (ft)	137	144	234	137	149	90	138	45	
Link Distance (ft)	1335	1335		587	587	1281	1281		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	400			400					
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 26: US-50 EB Ramps & Silva Valley Pkwy

Movement	EB	EB	EB	NB	NB	B28	B28	SB	SB	
Directions Served	L	L	R	T	T	T	T	T	T	
Maximum Queue (ft)	171	196	71	91	98	4	36	105	128	
Average Queue (ft)	91	116	21	40	48	0	2	40	57	
95th Queue (ft)	147	173	54	77	88	4	24	79	100	
Link Distance (ft)	1620	1620		1373	1373	154	154	587	587	
Upstream Blk Time (%)								0		
Queuing Penalty (veh)								0		
Storage Bay Dist (ft)	300									
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 15: Saratoga Way & El Dorado Hills Blvd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	LT	R	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	701	837	279	96	148	280	163	466	750	589	180	169
Average Queue (ft)	300	379	83	33	34	93	20	417	613	90	68	89
95th Queue (ft)	870	1046	329	77	91	201	82	523	881	336	142	153
Link Distance (ft)	3222	3222				975			656	656	656	656
Upstream Blk Time (%)									14	0		
Queuing Penalty (veh)									43	1		
Storage Bay Dist (ft)			300	150	150		150	550				
Storage Blk Time (%)		15	0		0	4	0		18			
Queuing Penalty (veh)		82	0		0	6	0		83			

Intersection: 15: Saratoga Way & El Dorado Hills Blvd

Movement	NB	SB	SB	SB	SB	SB	B73	B73	B73
Directions Served	TR	L	T	T	TR	R	T	T	T
Maximum Queue (ft)	92	229	380	302	308	232	197	121	15
Average Queue (ft)	32	69	216	117	149	24	17	7	1
95th Queue (ft)	65	160	383	249	272	131	98	106	14
Link Distance (ft)	656		304	304	304	304	574	574	574
Upstream Blk Time (%)			3	0	0			0	
Queuing Penalty (veh)			13	1	1			0	
Storage Bay Dist (ft)		250							
Storage Blk Time (%)			4						
Queuing Penalty (veh)			3						

Intersection: 16: US 50 EB Ramps &

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	575	463	200	777	557	185	343	204	216	163	316	399
Average Queue (ft)	232	142	190	479	65	50	32	61	62	25	64	105
95th Queue (ft)	465	382	235	907	367	135	193	138	144	141	243	294
Link Distance (ft)	2974	2974		712	712	712	712			656	656	656
Upstream Blk Time (%)				4	1							0
Queuing Penalty (veh)				20	3							1
Storage Bay Dist (ft)			175					575	575			
Storage Blk Time (%)			29	3								
Queuing Penalty (veh)			95	9								

Intersection: 16: US 50 EB Ramps &

Movement	SB
Directions Served	T
Maximum Queue (ft)	346
Average Queue (ft)	101
95th Queue (ft)	279
Link Distance (ft)	656
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 21: Project Drwy (North) & El Dorado Hills Blvd

Movement	EB	NB
Directions Served	R	L
Maximum Queue (ft)	76	31
Average Queue (ft)	45	14
95th Queue (ft)	84	41
Link Distance (ft)	962	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		0
Queuing Penalty (veh)		2

Intersection: 22: Project Drwy (South) & El Dorado Hills Blvd

Movement	WB	SB
Directions Served	R	L
Maximum Queue (ft)	38	27
Average Queue (ft)	19	9
95th Queue (ft)	47	30
Link Distance (ft)	367	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		100
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2

Intersection: 25: US-50 WB Ramps & Silva Valley Pkwy

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	T	T	R
Maximum Queue (ft)	390	400	256	100	103	73	408	328
Average Queue (ft)	206	220	75	48	59	25	82	154
95th Queue (ft)	362	373	212	79	89	60	250	297
Link Distance (ft)	1335	1335		587	587	2452	2452	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			400					400
Storage Blk Time (%)		1	0					0
Queuing Penalty (veh)		4	0					1

Intersection: 26: US-50 EB Ramps & Silva Valley Pkwy

Movement	EB	EB	EB	NB	NB	SB	SB
Directions Served	L	L	R	T	T	T	T
Maximum Queue (ft)	88	101	75	55	56	56	68
Average Queue (ft)	37	56	24	14	20	10	24
95th Queue (ft)	70	89	57	39	47	36	56
Link Distance (ft)	1620	1620		1401	1401	587	587
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			300				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 5

Intersection: 15: Saratoga Way & El Dorado Hills Blvd

Movement	EB	EB	EB	B109	B109	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	LT	R	T	T	L	L	T	R	L	L	T
Maximum Queue (ft)	599	784	306	13	14	79	119	217	123	464	712	269
Average Queue (ft)	280	330	44	0	1	28	25	79	22	399	498	122
95th Queue (ft)	1033	1111	227	13	14	66	73	168	74	493	750	234
Link Distance (ft)	3222	3222		129	129			975			656	656
Upstream Blk Time (%)					0							6
Queuing Penalty (veh)					0							37
Storage Bay Dist (ft)			300			150	150		150	550		
Storage Blk Time (%)		7	1					2	0			8
Queuing Penalty (veh)		39	3					4	0			49

Intersection: 15: Saratoga Way & El Dorado Hills Blvd

Movement	NB	NB	NB	SB	SB	SB	SB	SB	B73	B73	B73
Directions Served	T	T	TR	L	T	T	TR	R	T	T	T
Maximum Queue (ft)	360	500	340	260	379	348	301	72	516	356	194
Average Queue (ft)	167	207	46	65	282	159	161	3	91	46	13
95th Queue (ft)	298	380	157	173	427	290	263	39	365	264	141
Link Distance (ft)	656	656	656		304	304	304	304	574	574	574
Upstream Blk Time (%)		0			21	2	1		1	0	0
Queuing Penalty (veh)		0			74	6	2		4	1	0
Storage Bay Dist (ft)				250							
Storage Blk Time (%)				0	28						
Queuing Penalty (veh)				0	20						

Intersection: 16: US 50 EB Ramps &

Movement	EB	EB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	R	R	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	889	833	200	510	190	142	82	145	420	643	623	633
Average Queue (ft)	390	270	163	179	36	58	4	47	96	299	251	273
95th Queue (ft)	1087	1004	265	493	135	125	48	108	352	716	635	653
Link Distance (ft)	2974	2974		712	712	712	712			656	656	656
Upstream Blk Time (%)				2	0					6	2	4
Queuing Penalty (veh)				11	1					26	9	19
Storage Bay Dist (ft)			175					575	575			
Storage Blk Time (%)			13	0						7		
Queuing Penalty (veh)			73	1						18		

Intersection: 16: US 50 EB Ramps &

Movement	SB
Directions Served	T
Maximum Queue (ft)	639
Average Queue (ft)	193
95th Queue (ft)	547
Link Distance (ft)	656
Upstream Blk Time (%)	1
Queuing Penalty (veh)	4
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 21: Project Drwy (North) & El Dorado Hills Blvd

Movement	EB	NB
Directions Served	R	L
Maximum Queue (ft)	72	56
Average Queue (ft)	30	25
95th Queue (ft)	58	49
Link Distance (ft)	963	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	50	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	3	

Intersection: 22: Project Drwy (South) & El Dorado Hills Blvd

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	59	25	86
Average Queue (ft)	22	2	23
95th Queue (ft)	51	14	60
Link Distance (ft)	367	3182	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	2		

Network Summary

Network wide Queuing Penalty: 5

Intersection: 25: US-50 WB Ramps & Silva Valley Pkwy

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	T	T	T	T	R
Maximum Queue (ft)	167	178	252	184	190	102	166	73
Average Queue (ft)	93	104	129	77	82	39	76	34
95th Queue (ft)	143	158	213	144	157	80	129	60
Link Distance (ft)	1335	1335		587	587	2467	2467	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400			400				
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 26: US-50 EB Ramps & Silva Valley Pkwy

Movement	EB	EB	EB	NB	NB	SB	SB
Directions Served	L	L	R	T	T	T	T
Maximum Queue (ft)	144	162	57	98	114	106	124
Average Queue (ft)	74	96	19	44	55	29	47
95th Queue (ft)	119	141	49	86	96	72	94
Link Distance (ft)	1620	1620		1401	1401	587	587
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	300						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Network Summary

Network wide Queuing Penalty: 0
