

Appendix A: Count Data

City of San Jacinto
 N/S: Hewitt Street
 E/W: Main Street
 Weather: Clear

File Name : 01_SJC_HEMA AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

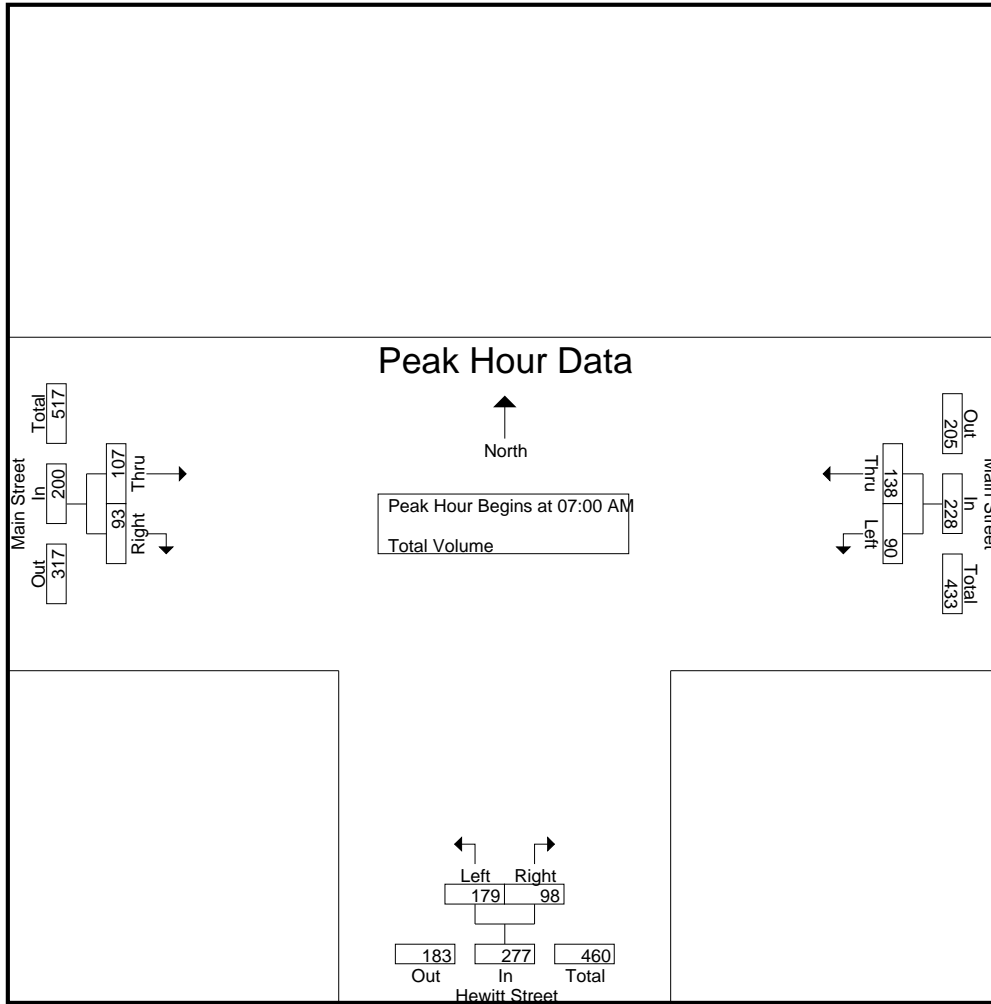
Start Time	Main Street Westbound			Hewitt Street Northbound			Main Street Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	19	29	48	48	23	71	17	20	37	156
07:15 AM	26	38	64	54	18	72	36	22	58	194
07:30 AM	23	42	65	45	28	73	29	23	52	190
07:45 AM	22	29	51	32	29	61	25	28	53	165
Total	90	138	228	179	98	277	107	93	200	705
08:00 AM	20	21	41	17	28	45	18	30	48	134
08:15 AM	24	16	40	33	25	58	21	23	44	142
08:30 AM	34	30	64	31	18	49	12	16	28	141
08:45 AM	27	23	50	17	22	39	20	12	32	121
Total	105	90	195	98	93	191	71	81	152	538
Grand Total	195	228	423	277	191	468	178	174	352	1243
Apprch %	46.1	53.9		59.2	40.8		50.6	49.4		
Total %	15.7	18.3	34	22.3	15.4	37.7	14.3	14	28.3	

Start Time	Main Street Westbound			Hewitt Street Northbound			Main Street Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
07:00 AM	19	29	48	48	23	71	17	20	37	156
07:15 AM	26	38	64	54	18	72	36	22	58	194
07:30 AM	23	42	65	45	28	73	29	23	52	190
07:45 AM	22	29	51	32	29	61	25	28	53	165
Total Volume	90	138	228	179	98	277	107	93	200	705
% App. Total	39.5	60.5		64.6	35.4		53.5	46.5		
PHF	.865	.821	.877	.829	.845	.949	.743	.830	.862	.909

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

City of San Jacinto
 N/S: Hewitt Street
 E/W: Main Street
 Weather: Clear

File Name : 01_SJC_HEMA AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:15 AM		
+0 mins.	19	29	48	48	23	71	36	22	58
+15 mins.	26	38	64	54	18	72	29	23	52
+30 mins.	23	42	65	45	28	73	25	28	53
+45 mins.	22	29	51	32	29	61	18	30	48
Total Volume	90	138	228	179	98	277	108	103	211
% App. Total	39.5	60.5		64.6	35.4		51.2	48.8	
PHF	.865	.821	.877	.829	.845	.949	.750	.858	.909

City of San Jacinto
 N/S: Hewitt Street
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Groups Printed- Total Volume

Start Time	Main Street Westbound			Hewitt Street Northbound			Main Street Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:00 PM	34	26	60	33	30	63	27	27	54	177
04:15 PM	30	29	59	22	34	56	26	18	44	159
04:30 PM	37	28	65	27	18	45	22	22	44	154
04:45 PM	33	48	81	43	21	64	17	23	40	185
Total	134	131	265	125	103	228	92	90	182	675
05:00 PM	34	27	61	29	16	45	24	29	53	159
05:15 PM	32	21	53	15	21	36	28	34	62	151
05:30 PM	29	42	71	35	24	59	34	25	59	189
05:45 PM	22	20	42	29	24	53	33	28	61	156
Total	117	110	227	108	85	193	119	116	235	655
Grand Total	251	241	492	233	188	421	211	206	417	1330
Apprch %	51	49		55.3	44.7		50.6	49.4		
Total %	18.9	18.1	37	17.5	14.1	31.7	15.9	15.5	31.4	

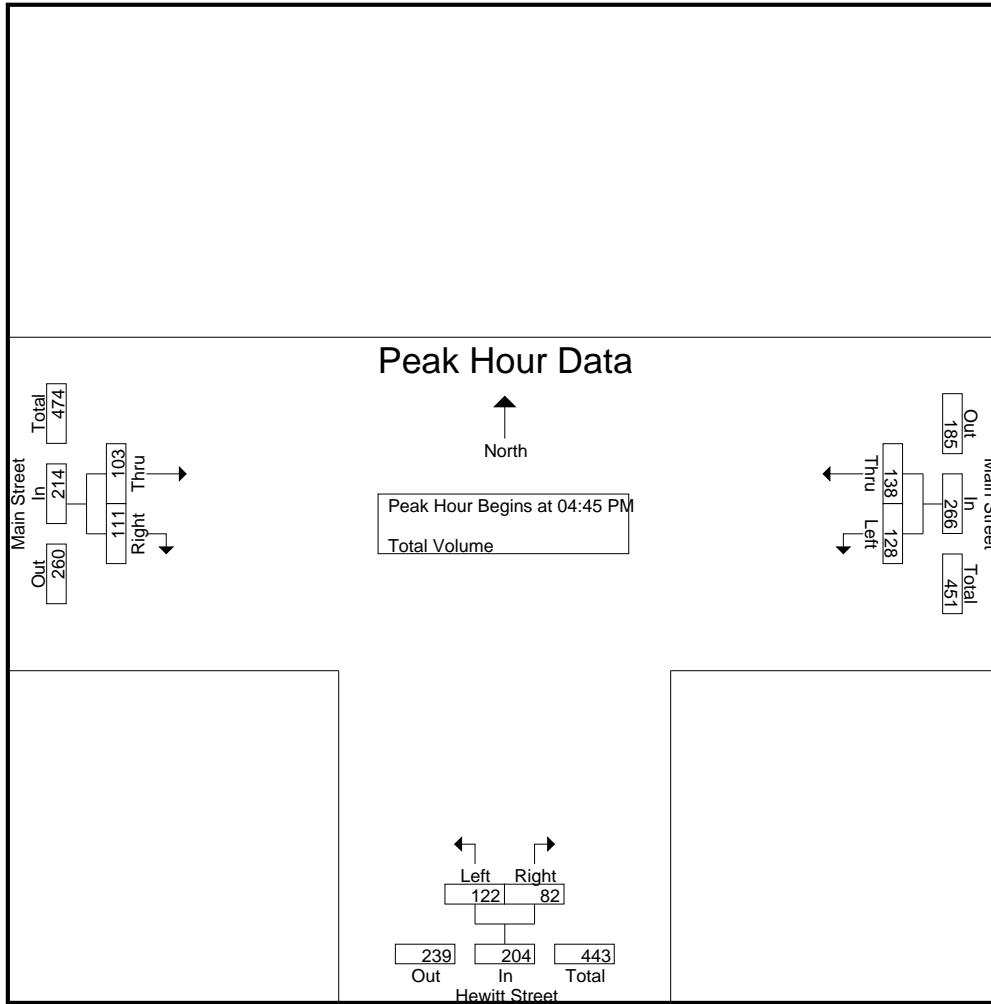
Start Time	Main Street Westbound			Hewitt Street Northbound			Main Street Eastbound			Int. Total
	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	
04:45 PM	33	48	81	43	21	64	17	23	40	185
05:00 PM	34	27	61	29	16	45	24	29	53	159
05:15 PM	32	21	53	15	21	36	28	34	62	151
05:30 PM	29	42	71	35	24	59	34	25	59	189
Total Volume	128	138	266	122	82	204	103	111	214	684
% App. Total	48.1	51.9		59.8	40.2		48.1	51.9		
PHF	.941	.719	.821	.709	.854	.797	.757	.816	.863	.905

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

City of San Jacinto
 N/S: Hewitt Street
 E/W: Main Street
 Weather: Clear

File Name : 01_SJC_HEMA PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			05:00 PM		
+0 mins.	30	29	59	33	30	63	24	29	53
+15 mins.	37	28	65	22	34	56	28	34	62
+30 mins.	33	48	81	27	18	45	34	25	59
+45 mins.	34	27	61	43	21	64	33	28	61
Total Volume	134	132	266	125	103	228	119	116	235
% App. Total	50.4	49.6		54.8	45.2		50.6	49.4	
PHF	.905	.688	.821	.727	.757	.891	.875	.853	.948

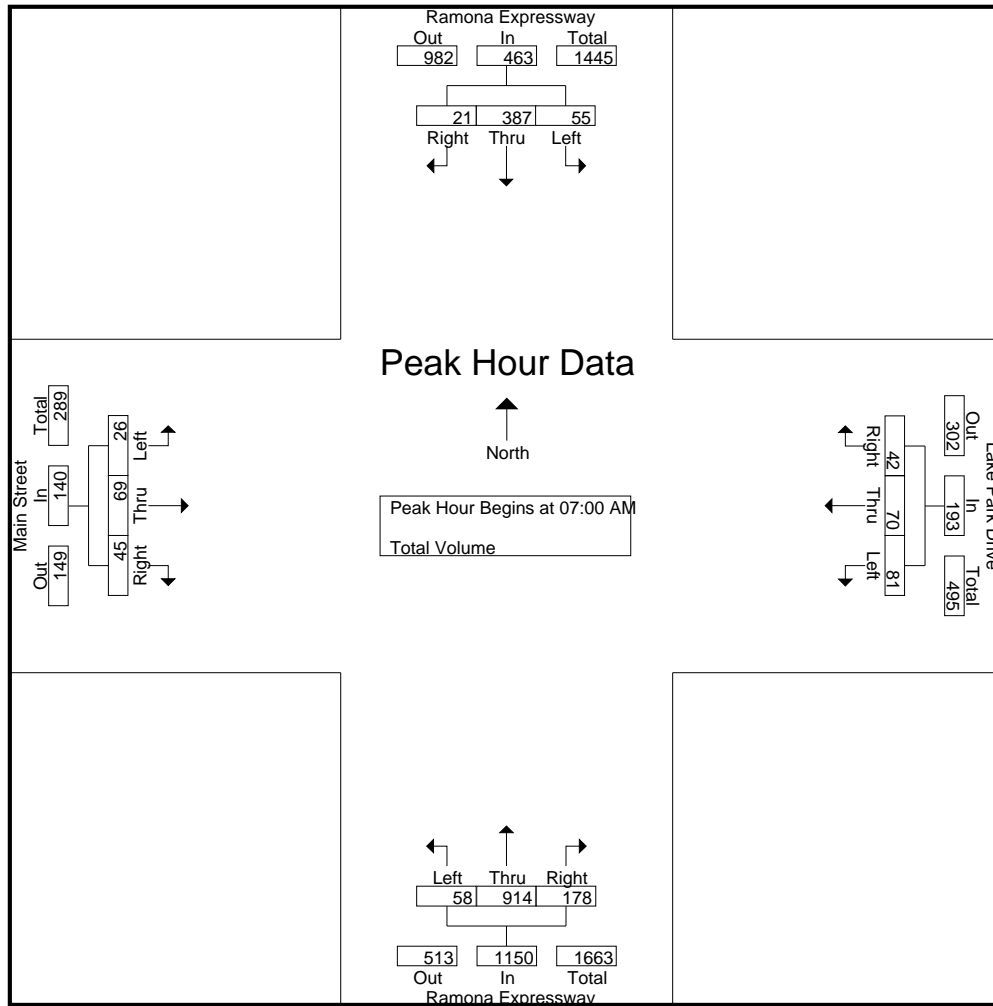
City of San Jacinto
 N/S: Ramona Expressway
 E/W: Main Street/Lake Park Drive
 Weather: Clear

File Name : 02_SJC_RAMA AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

Start Time	Ramona Expressway Southbound				Lake Park Drive Westbound				Ramona Expressway Northbound				Main Street 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 AM	10	88	4	102	25	13	14	52	21	244	55	320	3	13	7	23	497
07:15 AM	10	109	6	125	24	15	8	47	16	232	43	291	11	18	10	39	502
07:30 AM	21	74	5	100	17	23	13	53	12	256	41	309	6	19	13	38	500
07:45 AM	14	116	6	136	15	19	7	41	9	182	39	230	6	19	15	40	447
Total	55	387	21	463	81	70	42	193	58	914	178	1150	26	69	45	140	1946
08:00 AM	11	82	1	94	20	25	3	48	7	134	38	179	7	21	7	35	356
08:15 AM	9	71	1	81	27	25	10	62	8	131	49	188	1	26	1	28	359
08:30 AM	16	62	0	78	44	28	11	83	5	96	42	143	4	16	1	21	325
08:45 AM	8	69	10	87	26	22	10	58	6	69	31	106	2	23	3	28	279
Total	44	284	12	340	117	100	34	251	26	430	160	616	14	86	12	112	1319
Grand Total	99	671	33	803	198	170	76	444	84	1344	338	1766	40	155	57	252	3265
Apprch %	12.3	83.6	4.1		44.6	38.3	17.1		4.8	76.1	19.1		15.9	61.5	22.6		
Total %	3	20.6	1	24.6	6.1	5.2	2.3	13.6	2.6	41.2	10.4	54.1	1.2	4.7	1.7	7.7	

Start Time	Ramona Expressway Southbound				Lake Park Drive Westbound				Ramona Expressway Northbound				Main Street 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 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	10	88	4	102	25	13	14	52	21	244	55	320	3	13	7	23	497
07:15 AM	10	109	6	125	24	15	8	47	16	232	43	291	11	18	10	39	502
07:30 AM	21	74	5	100	17	23	13	53	12	256	41	309	6	19	13	38	500
07:45 AM	14	116	6	136	15	19	7	41	9	182	39	230	6	19	15	40	447
Total Volume	55	387	21	463	81	70	42	193	58	914	178	1150	26	69	45	140	1946
% App. Total	11.9	83.6	4.5		42	36.3	21.8		5	79.5	15.5		18.6	49.3	32.1		
PHF	.655	.834	.875	.851	.810	.761	.750	.910	.690	.893	.809	.898	.591	.908	.750	.875	.969



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:00 AM				07:15 AM			
+0 mins.	10	88	4	102	20	25	3	48	21	244	55	320	11	18	10	39
+15 mins.	10	109	6	125	27	25	10	62	16	232	43	291	6	19	13	38
+30 mins.	21	74	5	100	44	28	11	83	12	256	41	309	6	19	15	40
+45 mins.	14	116	6	136	26	22	10	58	9	182	39	230	7	21	7	35
Total Volume	55	387	21	463	117	100	34	251	58	914	178	1150	30	77	45	152
% App. Total	11.9	83.6	4.5		46.6	39.8	13.5		5	79.5	15.5		19.7	50.7	29.6	
PHF	.655	.834	.875	.851	.665	.893	.773	.756	.690	.893	.809	.898	.682	.917	.750	.950

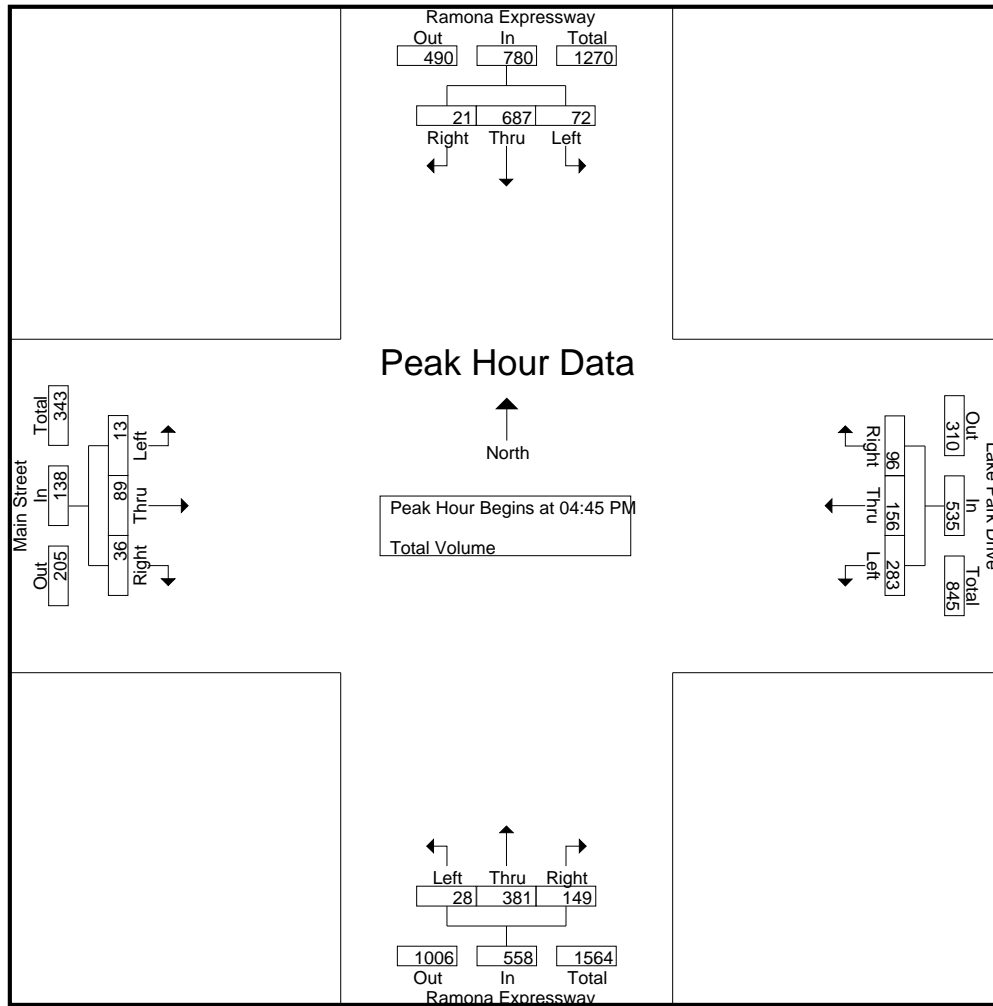
City of San Jacinto
 N/S: Ramona Expressway
 E/W: Main Street/Lake Park Drive
 Weather: Clear

File Name : 02_SJC_RAMA PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

Start Time	Ramona Expressway Southbound				Lake Park Drive Westbound				Ramona Expressway Northbound				Main Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	21	142	5	168	69	45	31	145	8	92	48	148	2	30	14	46	507
04:15 PM	30	162	3	195	57	36	23	116	5	63	44	112	0	34	12	46	469
04:30 PM	30	127	1	158	69	49	23	141	8	87	44	139	1	24	5	30	468
04:45 PM	17	168	5	190	66	53	30	149	7	90	40	137	2	20	10	32	508
Total	98	599	14	711	261	183	107	551	28	332	176	536	5	108	41	154	1952
05:00 PM	19	174	6	199	76	39	25	140	8	99	40	147	3	15	8	26	512
05:15 PM	22	177	6	205	71	31	24	126	4	101	46	151	4	29	7	40	522
05:30 PM	14	168	4	186	70	33	17	120	9	91	23	123	4	25	11	40	469
05:45 PM	18	153	6	177	50	17	23	90	4	91	33	128	3	27	12	42	437
Total	73	672	22	767	267	120	89	476	25	382	142	549	14	96	38	148	1940
Grand Total	171	1271	36	1478	528	303	196	1027	53	714	318	1085	19	204	79	302	3892
Apprch %	11.6	86	2.4		51.4	29.5	19.1		4.9	65.8	29.3		6.3	67.5	26.2		
Total %	4.4	32.7	0.9	38	13.6	7.8	5	26.4	1.4	18.3	8.2	27.9	0.5	5.2	2	7.8	

Start Time	Ramona Expressway Southbound				Lake Park Drive Westbound				Ramona Expressway Northbound				Main Street 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 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	17	168	5	190	66	53	30	149	7	90	40	137	2	20	10	32	508
05:00 PM	19	174	6	199	76	39	25	140	8	99	40	147	3	15	8	26	512
05:15 PM	22	177	6	205	71	31	24	126	4	101	46	151	4	29	7	40	522
05:30 PM	14	168	4	186	70	33	17	120	9	91	23	123	4	25	11	40	469
Total Volume	72	687	21	780	283	156	96	535	28	381	149	558	13	89	36	138	2011
% App. Total	9.2	88.1	2.7		52.9	29.2	17.9		5	68.3	26.7		9.4	64.5	26.1		
PHF	.818	.970	.875	.951	.931	.736	.800	.898	.778	.943	.810	.924	.813	.767	.818	.863	.963



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:30 PM				04:30 PM				04:00 PM			
+0 mins.	17	168	5	190	69	49	23	141	8	87	44	139	2	30	14	46
+15 mins.	19	174	6	199	66	53	30	149	7	90	40	137	0	34	12	46
+30 mins.	22	177	6	205	76	39	25	140	8	99	40	147	1	24	5	30
+45 mins.	14	168	4	186	71	31	24	126	4	101	46	151	2	20	10	32
Total Volume	72	687	21	780	282	172	102	556	27	377	170	574	5	108	41	154
% App. Total	9.2	88.1	2.7		50.7	30.9	18.3		4.7	65.7	29.6		3.2	70.1	26.6	
PHF	.818	.970	.875	.951	.928	.811	.850	.933	.844	.933	.924	.950	.625	.794	.732	.837

City of San Jacinto
 N/S: Soboba Road
 E/W: Lake Park Drive
 Weather: Clear

File Name : 03_SJC_SOLA AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

Start Time	Soboba Road Southbound			Soboba Road Northbound			Lake Park Drive Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	11	17	28	26	5	31	46	35	81	140
07:15 AM	15	16	31	31	7	38	29	38	67	136
07:30 AM	6	20	26	33	5	38	26	53	79	143
07:45 AM	8	16	24	22	2	24	32	33	65	113
Total	40	69	109	112	19	131	133	159	292	532
08:00 AM	14	21	35	19	5	24	23	48	71	130
08:15 AM	8	18	26	45	5	50	26	51	77	153
08:30 AM	12	17	29	57	8	65	16	63	79	173
08:45 AM	11	12	23	37	8	45	16	45	61	129
Total	45	68	113	158	26	184	81	207	288	585
Grand Total	85	137	222	270	45	315	214	366	580	1117
Apprch %	38.3	61.7		85.7	14.3		36.9	63.1		
Total %	7.6	12.3	19.9	24.2	4	28.2	19.2	32.8	51.9	

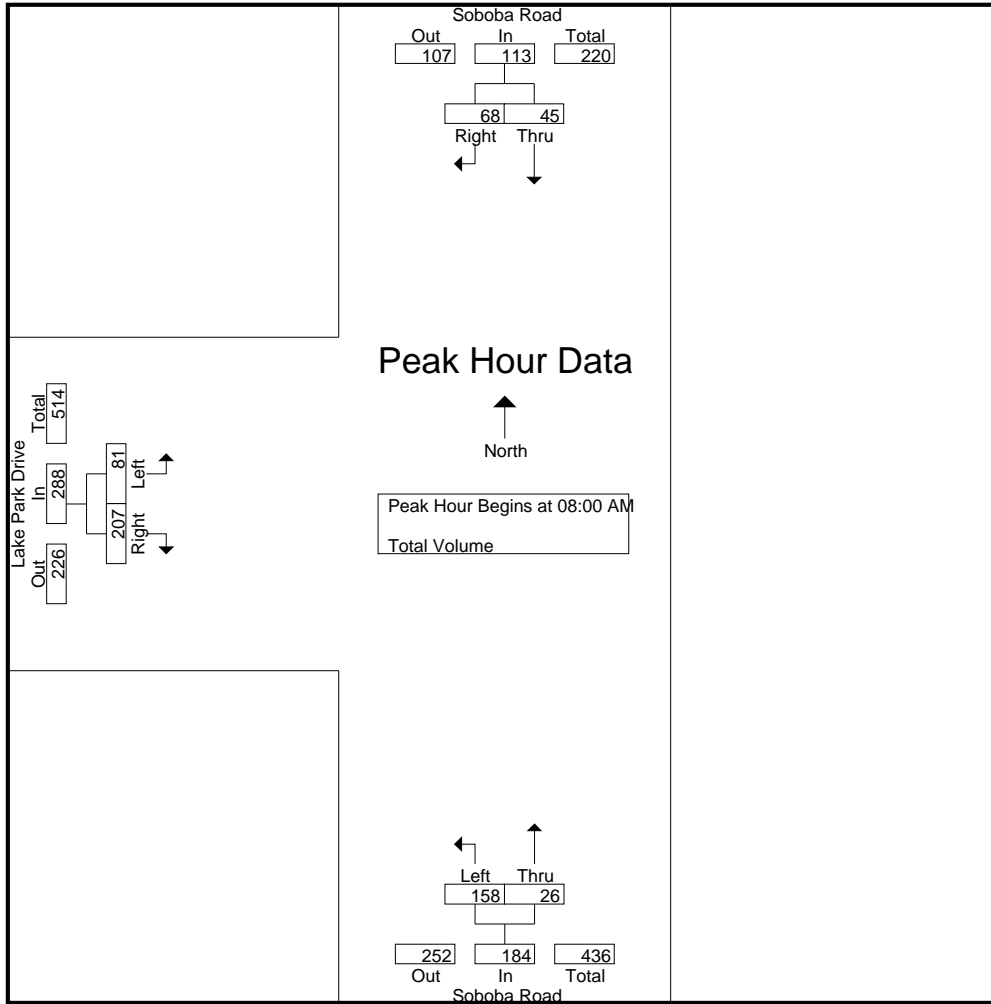
Start Time	Soboba Road Southbound			Soboba Road Northbound			Lake Park Drive Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
08:00 AM	14	21	35	19	5	24	23	48	71	130
08:15 AM	8	18	26	45	5	50	26	51	77	153
08:30 AM	12	17	29	57	8	65	16	63	79	173
08:45 AM	11	12	23	37	8	45	16	45	61	129
Total Volume	45	68	113	158	26	184	81	207	288	585
% App. Total	39.8	60.2		85.9	14.1		28.1	71.9		
PHF	.804	.810	.807	.693	.813	.708	.779	.821	.911	.845

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

Peak Hour for Entire Intersection Begins at 08:00 AM

City of San Jacinto
 N/S: Soboba Road
 E/W: Lake Park Drive
 Weather: Clear

File Name : 03_SJC_SOLA AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:15 AM			08:00 AM			07:00 AM		
+0 mins.	15	16	31	19	5	24	46	35	81
+15 mins.	6	20	26	45	5	50	29	38	67
+30 mins.	8	16	24	57	8	65	26	53	79
+45 mins.	14	21	35	37	8	45	32	33	65
Total Volume	43	73	116	158	26	184	133	159	292
% App. Total	37.1	62.9		85.9	14.1		45.5	54.5	
PHF	.717	.869	.829	.693	.813	.708	.723	.750	.901

City of San Jacinto
 N/S: Soboba Road
 E/W: Lake Park Drive
 Weather: Clear

File Name : 03_SJC_SOLA PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

Start Time	Soboba Road Southbound			Soboba Road Northbound			Lake Park Drive Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	27	38	65	95	30	125	25	65	90	280
04:15 PM	22	35	57	79	25	104	15	78	93	254
04:30 PM	25	43	68	103	29	132	20	73	93	293
04:45 PM	24	58	82	79	30	109	9	72	81	272
Total	98	174	272	356	114	470	69	288	357	1099
05:00 PM	20	68	88	66	29	95	14	55	69	252
05:15 PM	28	48	76	70	25	95	22	64	86	257
05:30 PM	21	46	67	76	28	104	13	49	62	233
05:45 PM	31	42	73	50	31	81	13	69	82	236
Total	100	204	304	262	113	375	62	237	299	978
Grand Total	198	378	576	618	227	845	131	525	656	2077
Apprch %	34.4	65.6		73.1	26.9		20	80		
Total %	9.5	18.2	27.7	29.8	10.9	40.7	6.3	25.3	31.6	

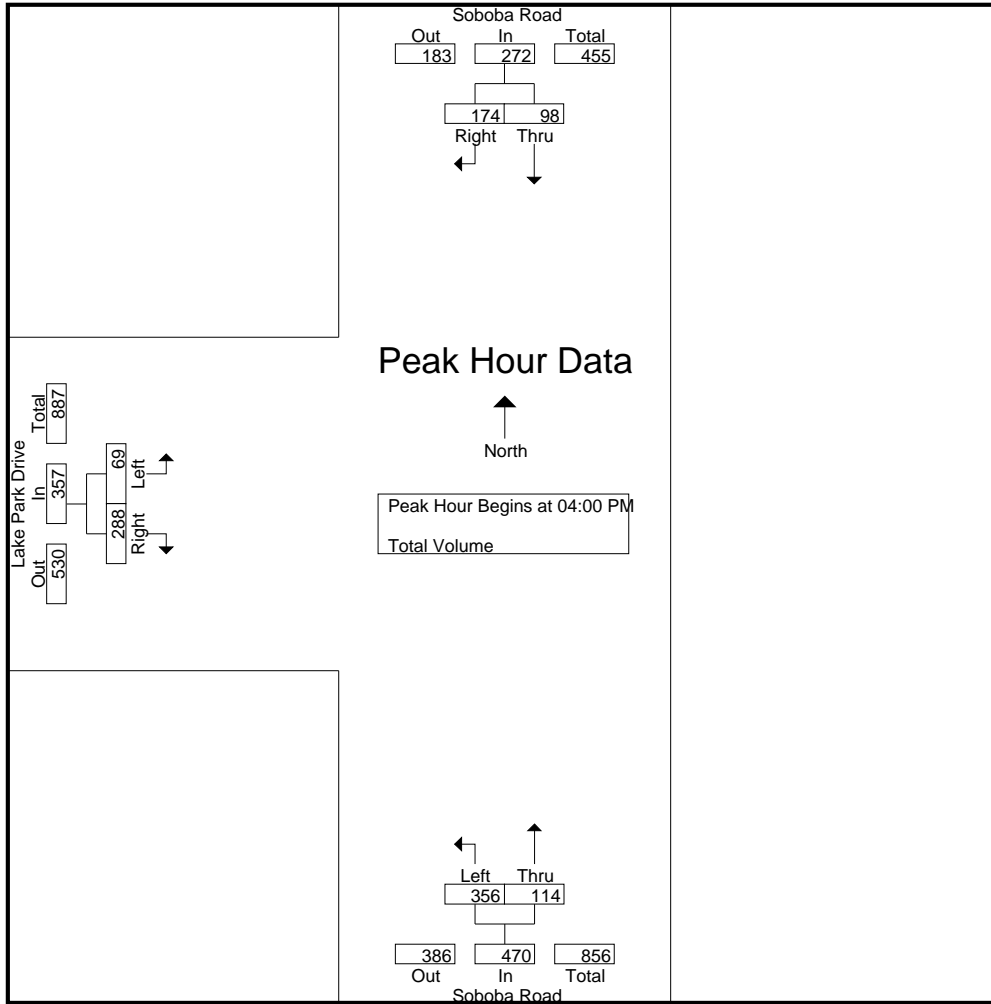
Start Time	Soboba Road Southbound			Soboba Road Northbound			Lake Park Drive Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	27	38	65	95	30	125	25	65	90	280
04:15 PM	22	35	57	79	25	104	15	78	93	254
04:30 PM	25	43	68	103	29	132	20	73	93	293
04:45 PM	24	58	82	79	30	109	9	72	81	272
Total Volume	98	174	272	356	114	470	69	288	357	1099
% App. Total	36	64		75.7	24.3		19.3	80.7		
PHF	.907	.750	.829	.864	.950	.890	.690	.923	.960	.938

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

City of San Jacinto
 N/S: Soboba Road
 E/W: Lake Park Drive
 Weather: Clear

File Name : 03_SJC_SOLA PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM			04:00 PM			04:00 PM		
+0 mins.	25	43	68	95	30	125	25	65	90
+15 mins.	24	58	82	79	25	104	15	78	93
+30 mins.	20	68	88	103	29	132	20	73	93
+45 mins.	28	48	76	79	30	109	9	72	81
Total Volume	97	217	314	356	114	470	69	288	357
% App. Total	30.9	69.1		75.7	24.3		19.3	80.7	
PHF	.866	.798	.892	.864	.950	.890	.690	.923	.960

City of San Jacinto
 N/S: Ramona Expressway
 E/W: Donna Way
 Weather: Clear

File Name : 04_SJC_RADO AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

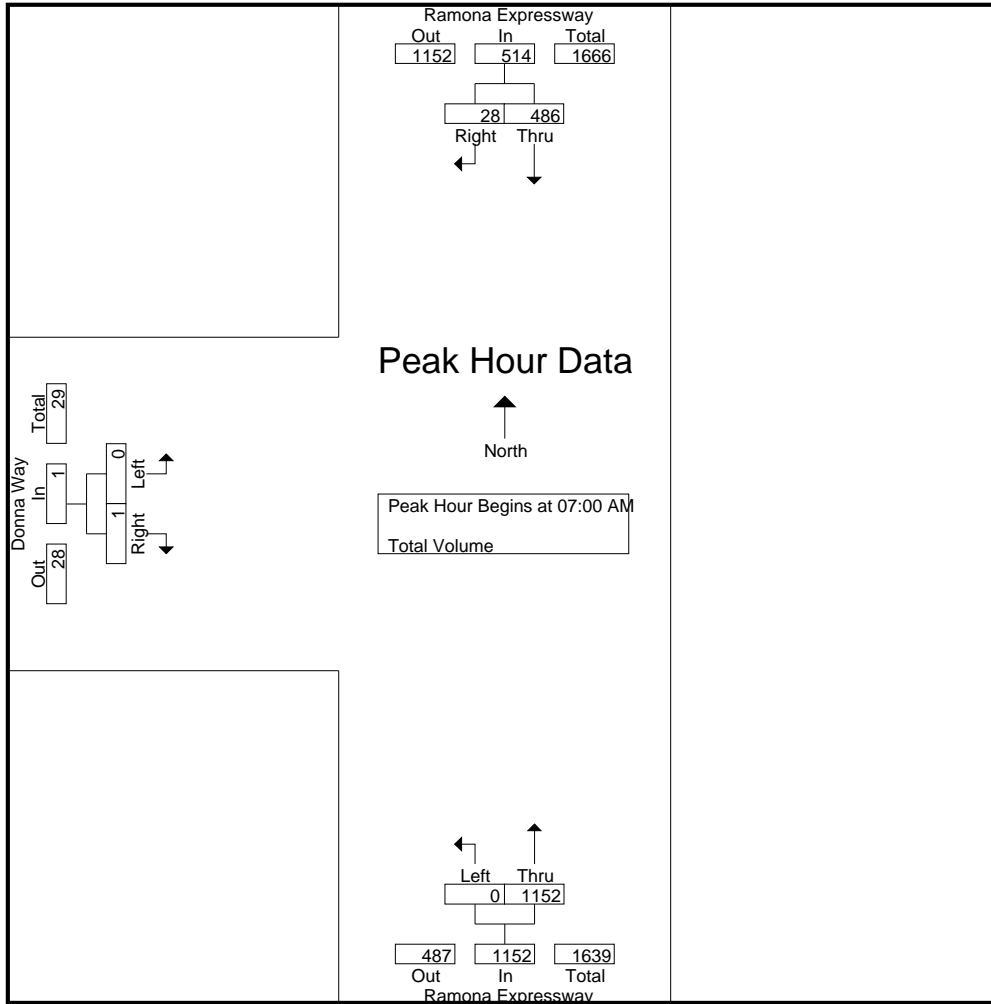
Start Time	Ramona Expressway Southbound			Ramona Expressway Northbound			Donna Way Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	118	2	120	0	319	319	0	0	0	439
07:15 AM	136	7	143	0	300	300	0	0	0	443
07:30 AM	99	5	104	0	302	302	0	0	0	406
07:45 AM	133	14	147	0	231	231	0	1	1	379
Total	486	28	514	0	1152	1152	0	1	1	1667
08:00 AM	106	5	111	0	178	178	0	4	4	293
08:15 AM	96	3	99	0	186	186	0	1	1	286
08:30 AM	101	5	106	0	146	146	0	0	0	252
08:45 AM	92	7	99	0	105	105	0	3	3	207
Total	395	20	415	0	615	615	0	8	8	1038
Grand Total	881	48	929	0	1767	1767	0	9	9	2705
Apprch %	94.8	5.2		0	100		0	100		
Total %	32.6	1.8	34.3	0	65.3	65.3	0	0.3	0.3	

Start Time	Ramona Expressway Southbound			Ramona Expressway Northbound			Donna Way Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	118	2	120	0	319	319	0	0	0	439
07:15 AM	136	7	143	0	300	300	0	0	0	443
07:30 AM	99	5	104	0	302	302	0	0	0	406
07:45 AM	133	14	147	0	231	231	0	1	1	379
Total Volume	486	28	514	0	1152	1152	0	1	1	1667
% App. Total	94.6	5.4		0	100		0	100		
PHF	.893	.500	.874	.000	.903	.903	.000	.250	.250	.941

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

City of San Jacinto
 N/S: Ramona Expressway
 E/W: Donna Way
 Weather: Clear

File Name : 04_SJC_RADO AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			08:00 AM		
+0 mins.	118	2	120	0	319	319	0	4	4
+15 mins.	136	7	143	0	300	300	0	1	1
+30 mins.	99	5	104	0	302	302	0	0	0
+45 mins.	133	14	147	0	231	231	0	3	3
Total Volume	486	28	514	0	1152	1152	0	8	8
% App. Total	94.6	5.4		0	100		0	100	
PHF	.893	.500	.874	.000	.903	.903	.000	.500	.500

City of San Jacinto
 N/S: Ramona Expressway
 E/W: Donna Way
 Weather: Clear

File Name : 04_SJC_RADO PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

Start Time	Ramona Expressway Southbound			Ramona Expressway Northbound			Donna Way Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:00 PM	224	3	227	0	144	144	0	7	7	378
04:15 PM	224	6	230	0	117	117	0	3	3	350
04:30 PM	193	3	196	0	145	145	0	6	6	347
04:45 PM	242	5	247	0	131	131	0	6	6	384
Total	883	17	900	0	537	537	0	22	22	1459
05:00 PM	257	4	261	0	151	151	0	7	7	419
05:15 PM	256	2	258	0	158	158	0	2	2	418
05:30 PM	242	6	248	0	119	119	0	1	1	368
05:45 PM	215	2	217	0	131	131	0	4	4	352
Total	970	14	984	0	559	559	0	14	14	1557
Grand Total	1853	31	1884	0	1096	1096	0	36	36	3016
Apprch %	98.4	1.6		0	100		0	100		
Total %	61.4	1	62.5	0	36.3	36.3	0	1.2	1.2	

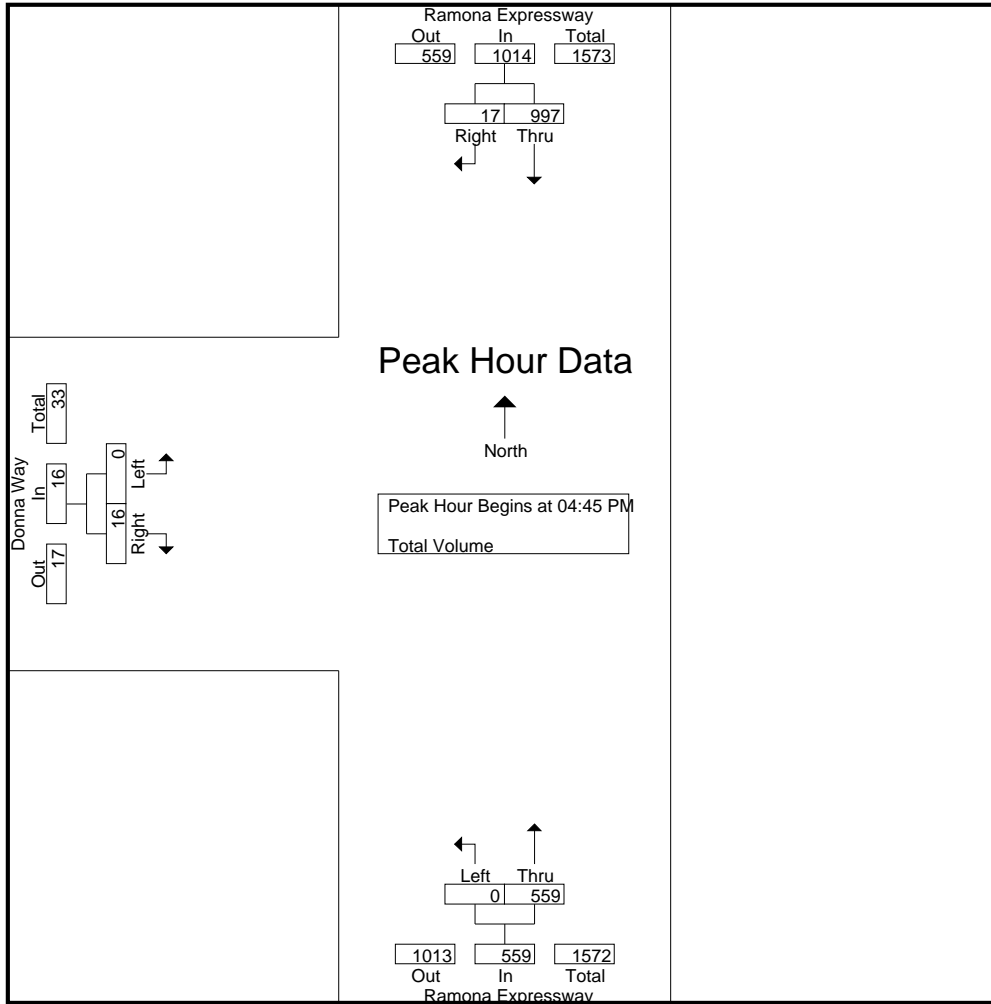
Start Time	Ramona Expressway Southbound			Ramona Expressway Northbound			Donna Way Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:45 PM	242	5	247	0	131	131	0	6	6	384
05:00 PM	257	4	261	0	151	151	0	7	7	419
05:15 PM	256	2	258	0	158	158	0	2	2	418
05:30 PM	242	6	248	0	119	119	0	1	1	368
Total Volume	997	17	1014	0	559	559	0	16	16	1589
% App. Total	98.3	1.7		0	100		0	100		
PHF	.970	.708	.971	.000	.884	.884	.000	.571	.571	.948

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

City of San Jacinto
 N/S: Ramona Expressway
 E/W: Donna Way
 Weather: Clear

File Name : 04_SJC_RADO PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM			04:30 PM			04:00 PM		
+0 mins.	242	5	247	0	145	145	0	7	7
+15 mins.	257	4	261	0	131	131	0	3	3
+30 mins.	256	2	258	0	151	151	0	6	6
+45 mins.	242	6	248	0	158	158	0	6	6
Total Volume	997	17	1014	0	585	585	0	22	22
% App. Total	98.3	1.7		0	100		0	100	
PHF	.970	.708	.971	.000	.926	.926	.000	.786	.786

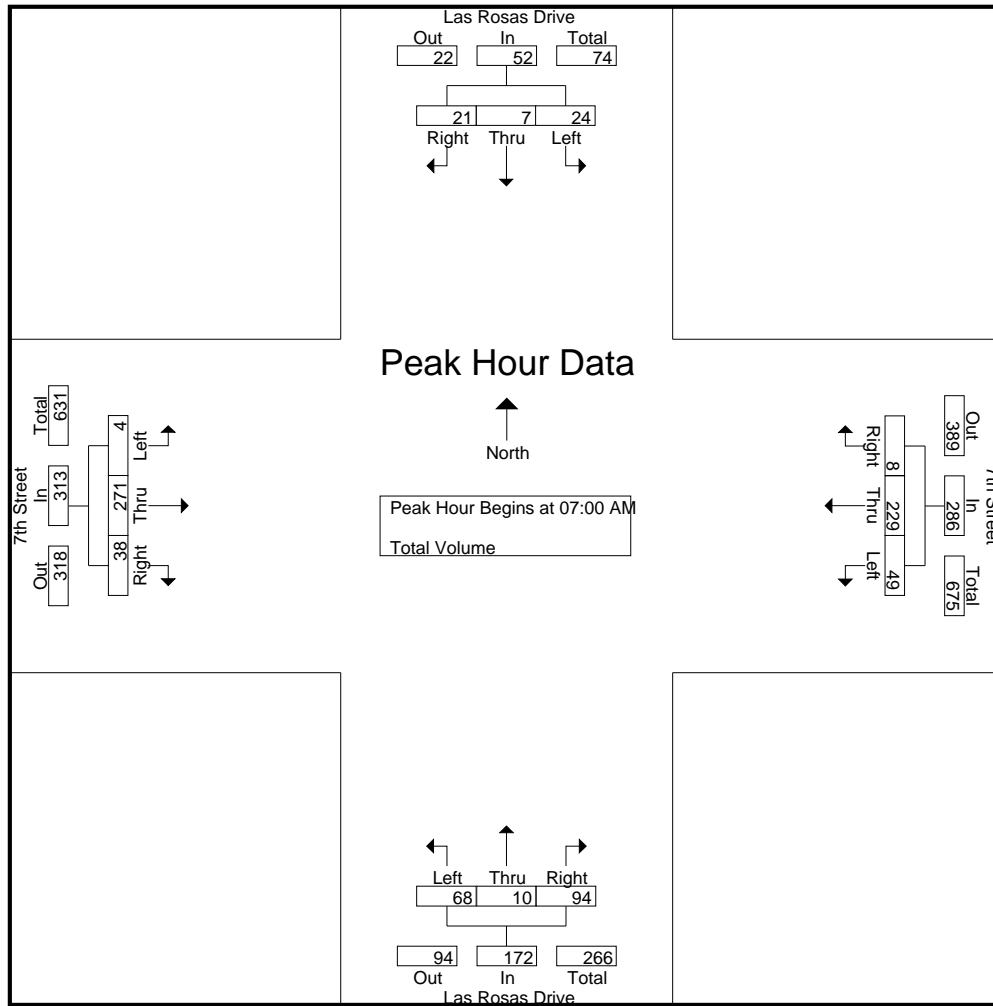
City of San Jacinto
 N/S: Las Rosas Drive
 E/W: 7th Street
 Weather: Clear

File Name : 05_SJC_LA7th AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

Start Time	Las Rosas Drive Southbound				7th Street Westbound				Las Rosas Drive Northbound				7th Street 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 AM	9	4	6	19	7	54	2	63	19	3	31	53	2	83	10	95	230
07:15 AM	13	2	8	23	16	99	4	119	26	2	37	65	1	131	5	137	344
07:30 AM	2	0	2	4	15	51	2	68	11	4	15	30	1	28	6	35	137
07:45 AM	0	1	5	6	11	25	0	36	12	1	11	24	0	29	17	46	112
Total	24	7	21	52	49	229	8	286	68	10	94	172	4	271	38	313	823
08:00 AM	0	4	6	10	13	17	1	31	13	1	7	21	3	31	30	64	126
08:15 AM	3	8	8	19	8	15	2	25	35	7	13	55	2	14	57	73	172
08:30 AM	0	12	5	17	17	9	0	26	30	9	15	54	3	13	26	42	139
08:45 AM	0	2	8	10	5	16	2	23	10	4	6	20	4	18	14	36	89
Total	3	26	27	56	43	57	5	105	88	21	41	150	12	76	127	215	526
Grand Total	27	33	48	108	92	286	13	391	156	31	135	322	16	347	165	528	1349
Apprch %	25	30.6	44.4		23.5	73.1	3.3		48.4	9.6	41.9		3	65.7	31.2		
Total %	2	2.4	3.6	8	6.8	21.2	1	29	11.6	2.3	10	23.9	1.2	25.7	12.2	39.1	

Start Time	Las Rosas Drive Southbound				7th Street Westbound				Las Rosas Drive Northbound				7th Street 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 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	9	4	6	19	7	54	2	63	19	3	31	53	2	83	10	95	230
07:15 AM	13	2	8	23	16	99	4	119	26	2	37	65	1	131	5	137	344
07:30 AM	2	0	2	4	15	51	2	68	11	4	15	30	1	28	6	35	137
07:45 AM	0	1	5	6	11	25	0	36	12	1	11	24	0	29	17	46	112
Total Volume	24	7	21	52	49	229	8	286	68	10	94	172	4	271	38	313	823
% App. Total	46.2	13.5	40.4		17.1	80.1	2.8		39.5	5.8	54.7		1.3	86.6	12.1		
PHF	.462	.438	.656	.565	.766	.578	.500	.601	.654	.625	.635	.662	.500	.517	.559	.571	.598



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	4	6	10	7	54	2	63	19	3	31	53	2	83	10	95
+15 mins.	3	8	8	19	16	99	4	119	26	2	37	65	1	131	5	137
+30 mins.	0	12	5	17	15	51	2	68	11	4	15	30	1	28	6	35
+45 mins.	0	2	8	10	11	25	0	36	12	1	11	24	0	29	17	46
Total Volume	3	26	27	56	49	229	8	286	68	10	94	172	4	271	38	313
% App. Total	5.4	46.4	48.2		17.1	80.1	2.8		39.5	5.8	54.7		1.3	86.6	12.1	
PHF	.250	.542	.844	.737	.766	.578	.500	.601	.654	.625	.635	.662	.500	.517	.559	.571

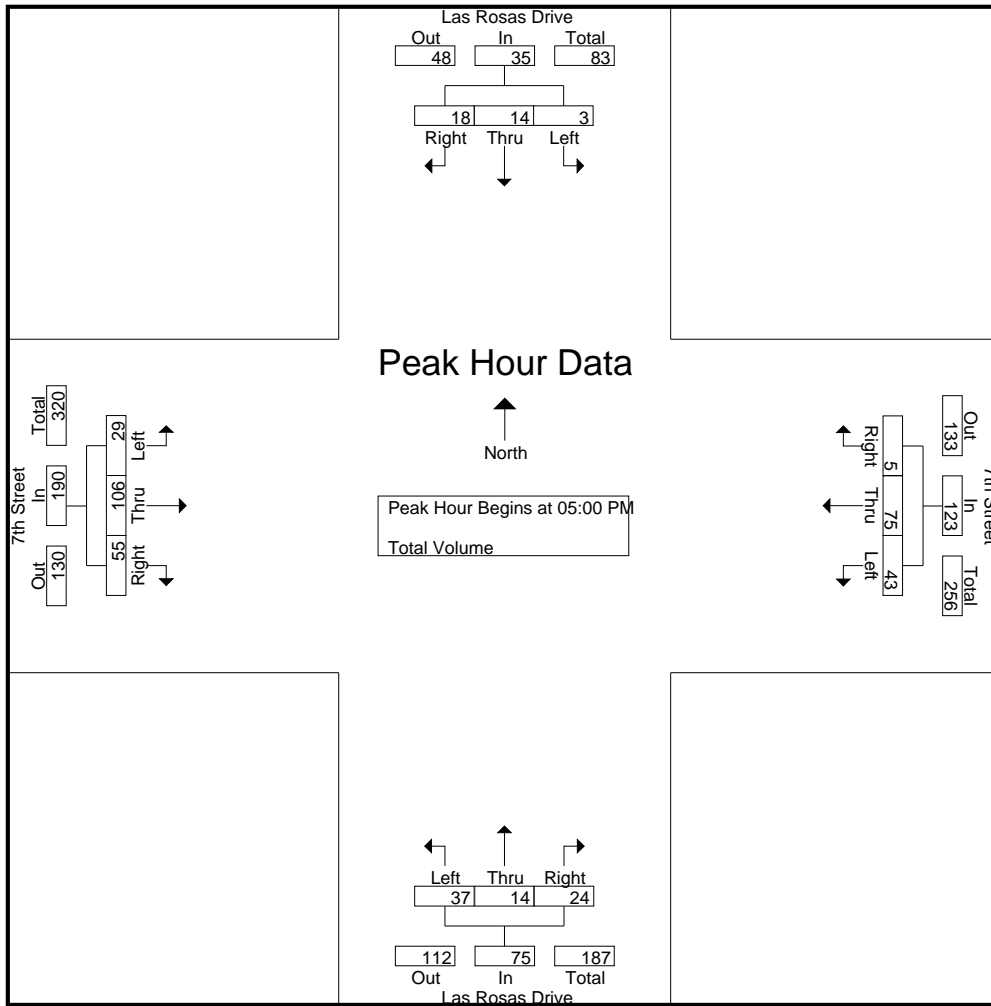
City of San Jacinto
 N/S: Las Rosas Drive
 E/W: 7th Street
 Weather: Clear

File Name : 05_SJC_LA7th PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

Start Time	Las Rosas Drive Southbound				7th Street Westbound				Las Rosas Drive Northbound				7th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	2	3	5	10	7	24	1	32	6	0	4	10	4	20	11	35	87
04:15 PM	1	1	3	5	4	18	1	23	8	1	4	13	11	19	6	36	77
04:30 PM	0	0	5	5	4	15	0	19	13	2	3	18	2	16	9	27	69
04:45 PM	0	2	2	4	5	10	0	15	11	1	4	16	0	33	4	37	72
Total	3	6	15	24	20	67	2	89	38	4	15	57	17	88	30	135	305
05:00 PM	0	0	1	1	11	22	1	34	5	1	5	11	3	34	10	47	93
05:15 PM	0	1	11	12	11	12	2	25	5	4	6	15	7	19	11	37	89
05:30 PM	1	6	2	9	13	25	2	40	14	6	6	26	10	26	17	53	128
05:45 PM	2	7	4	13	8	16	0	24	13	3	7	23	9	27	17	53	113
Total	3	14	18	35	43	75	5	123	37	14	24	75	29	106	55	190	423
Grand Total	6	20	33	59	63	142	7	212	75	18	39	132	46	194	85	325	728
Apprch %	10.2	33.9	55.9		29.7	67	3.3		56.8	13.6	29.5		14.2	59.7	26.2		
Total %	0.8	2.7	4.5	8.1	8.7	19.5	1	29.1	10.3	2.5	5.4	18.1	6.3	26.6	11.7	44.6	

Start Time	Las Rosas Drive Southbound				7th Street Westbound				Las Rosas Drive Northbound				7th Street 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 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	1	1	11	22	1	34	5	1	5	11	3	34	10	47	93
05:15 PM	0	1	11	12	11	12	2	25	5	4	6	15	7	19	11	37	89
05:30 PM	1	6	2	9	13	25	2	40	14	6	6	26	10	26	17	53	128
05:45 PM	2	7	4	13	8	16	0	24	13	3	7	23	9	27	17	53	113
Total Volume	3	14	18	35	43	75	5	123	37	14	24	75	29	106	55	190	423
% App. Total	8.6	40	51.4		35	61	4.1		49.3	18.7	32		15.3	55.8	28.9		
PHF	.375	.500	.409	.673	.827	.750	.625	.769	.661	.583	.857	.721	.725	.779	.809	.896	.826



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	1	1	11	22	1	34	5	1	5	11	3	34	10	47
+15 mins.	0	1	11	12	11	12	2	25	5	4	6	15	7	19	11	37
+30 mins.	1	6	2	9	13	25	2	40	14	6	6	26	10	26	17	53
+45 mins.	2	7	4	13	8	16	0	24	13	3	7	23	9	27	17	53
Total Volume	3	14	18	35	43	75	5	123	37	14	24	75	29	106	55	190
% App. Total	8.6	40	51.4		35	61	4.1		49.3	18.7	32		15.3	55.8	28.9	
PHF	.375	.500	.409	.673	.827	.750	.625	.769	.661	.583	.857	.721	.725	.779	.809	.896

City of San Jacinto
 N/S: Donna Way
 E/W: 7th Street
 Weather: Clear

File Name : 06_SJC_DO7th AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

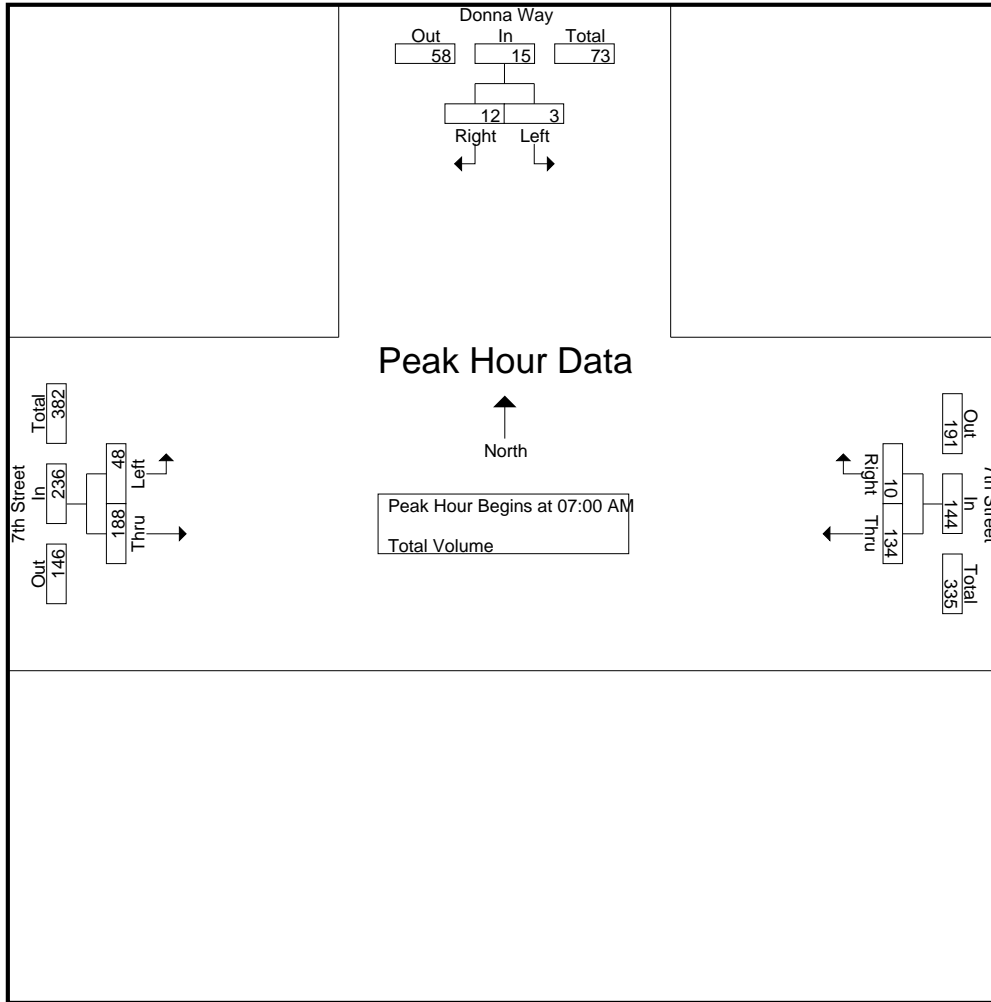
Start Time	Donna Way Southbound			7th Street Westbound			7th Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	3	3	43	1	44	5	50	55	102
07:15 AM	2	5	7	44	1	45	26	91	117	169
07:30 AM	0	2	2	15	1	16	5	26	31	49
07:45 AM	1	2	3	32	7	39	12	21	33	75
Total	3	12	15	134	10	144	48	188	236	395
08:00 AM	0	0	0	25	4	29	5	30	35	64
08:15 AM	1	0	1	25	1	26	1	27	28	55
08:30 AM	0	4	4	21	1	22	1	28	29	55
08:45 AM	0	3	3	16	1	17	3	16	19	39
Total	1	7	8	87	7	94	10	101	111	213
Grand Total	4	19	23	221	17	238	58	289	347	608
Apprch %	17.4	82.6		92.9	7.1		16.7	83.3		
Total %	0.7	3.1	3.8	36.3	2.8	39.1	9.5	47.5	57.1	

Start Time	Donna Way Southbound			7th Street Westbound			7th Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	3	3	43	1	44	5	50	55	102
07:15 AM	2	5	7	44	1	45	26	91	117	169
07:30 AM	0	2	2	15	1	16	5	26	31	49
07:45 AM	1	2	3	32	7	39	12	21	33	75
Total Volume	3	12	15	134	10	144	48	188	236	395
% App. Total	20	80		93.1	6.9		20.3	79.7		
PHF	.375	.600	.536	.761	.357	.800	.462	.516	.504	.584

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

City of San Jacinto
 N/S: Donna Way
 E/W: 7th Street
 Weather: Clear

File Name : 06_SJC_DO7th AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	3	3	43	1	44	5	50	55
+15 mins.	2	5	7	44	1	45	26	91	117
+30 mins.	0	2	2	15	1	16	5	26	31
+45 mins.	1	2	3	32	7	39	12	21	33
Total Volume	3	12	15	134	10	144	48	188	236
% App. Total	20	80		93.1	6.9		20.3	79.7	
PHF	.375	.600	.536	.761	.357	.800	.462	.516	.504

City of San Jacinto
 N/S: Donna Way
 E/W: 7th Street
 Weather: Clear

File Name : 06_SJC_DO7th PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

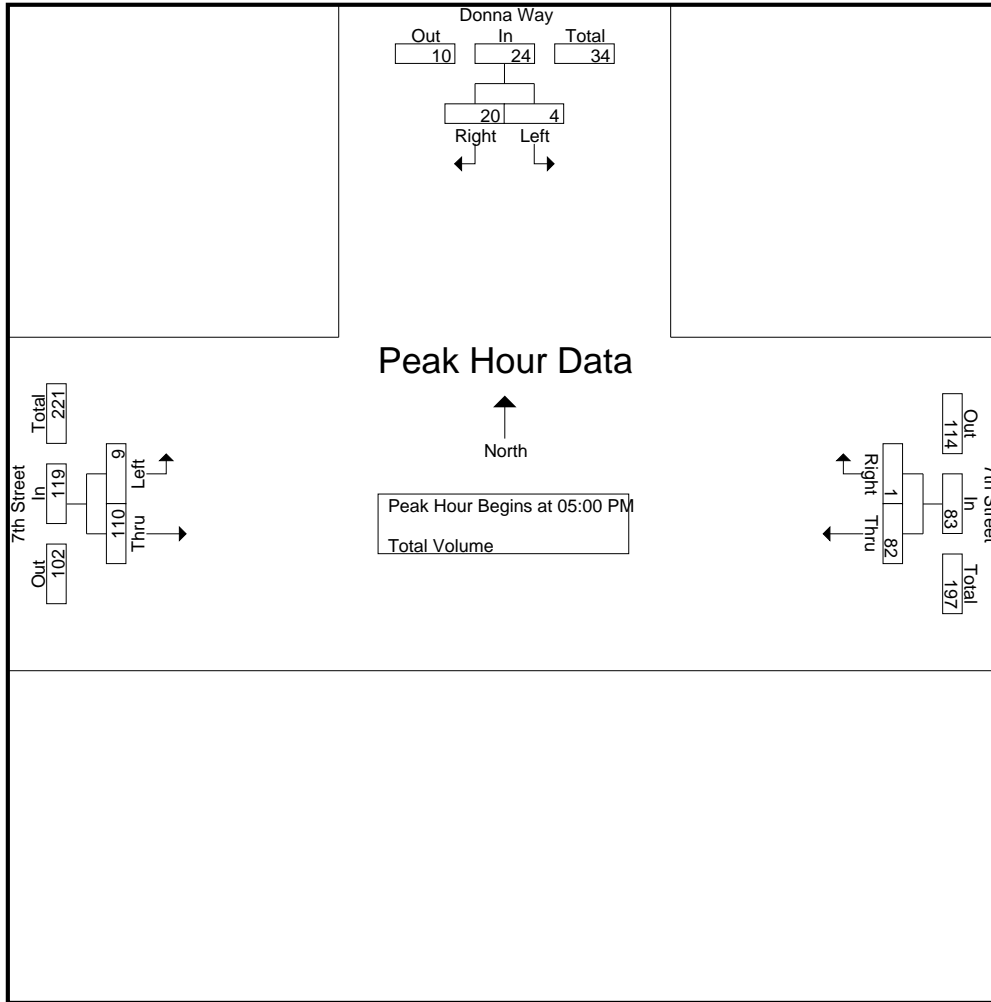
Start Time	Donna Way Southbound			7th Street Westbound			7th Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	1	1	19	1	20	0	26	26	47
04:15 PM	0	2	2	18	3	21	0	19	19	42
04:30 PM	1	2	3	10	0	10	2	18	20	33
04:45 PM	1	1	2	10	1	11	6	27	33	46
Total	2	6	8	57	5	62	8	90	98	168
05:00 PM	3	6	9	22	0	22	1	35	36	67
05:15 PM	0	0	0	24	0	24	2	23	25	49
05:30 PM	1	6	7	26	0	26	1	26	27	60
05:45 PM	0	8	8	10	1	11	5	26	31	50
Total	4	20	24	82	1	83	9	110	119	226
Grand Total	6	26	32	139	6	145	17	200	217	394
Apprch %	18.8	81.2		95.9	4.1		7.8	92.2		
Total %	1.5	6.6	8.1	35.3	1.5	36.8	4.3	50.8	55.1	

Start Time	Donna Way Southbound			7th Street Westbound			7th Street Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
05:00 PM	3	6	9	22	0	22	1	35	36	67
05:15 PM	0	0	0	24	0	24	2	23	25	49
05:30 PM	1	6	7	26	0	26	1	26	27	60
05:45 PM	0	8	8	10	1	11	5	26	31	50
Total Volume	4	20	24	82	1	83	9	110	119	226
% App. Total	16.7	83.3		98.8	1.2		7.6	92.4		
PHF	.333	.625	.667	.788	.250	.798	.450	.786	.826	.843

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 05:00 PM

City of San Jacinto
 N/S: Donna Way
 E/W: 7th Street
 Weather: Clear

File Name : 06_SJC_DO7th PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	05:00 PM			04:45 PM			04:45 PM		
+0 mins.	3	6	9	10	1	11	6	27	33
+15 mins.	0	0	0	22	0	22	1	35	36
+30 mins.	1	6	7	24	0	24	2	23	25
+45 mins.	0	8	8	26	0	26	1	26	27
Total Volume	4	20	24	82	1	83	10	111	121
% App. Total	16.7	83.3		98.8	1.2		8.3	91.7	
PHF	.333	.625	.667	.788	.250	.798	.417	.793	.840

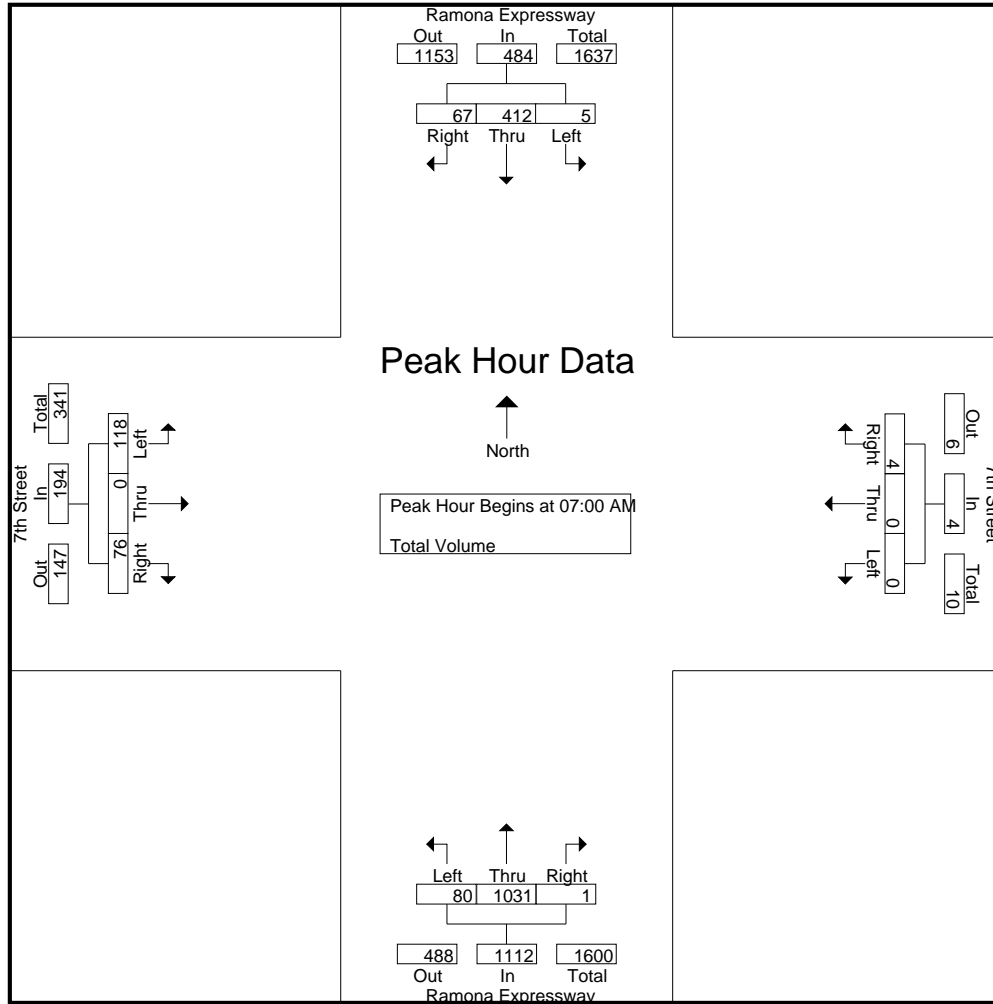
City of San Jacinto
 N/S: Ramona Expressway
 E/W: 7th Street
 Weather: Clear

File Name : 07_SJC_RA7th AM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

Groups Printed- Total Volume

Start Time	Ramona Expressway Southbound				7th Street Westbound				Ramona Expressway Northbound				7th Street 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 AM	1	91	26	118	0	0	3	3	16	283	0	299	33	0	16	49	469
07:15 AM	1	113	21	135	0	0	0	0	26	272	0	298	52	0	42	94	527
07:30 AM	2	90	6	98	0	0	0	0	10	253	0	263	22	0	8	30	391
07:45 AM	1	118	14	133	0	0	1	1	28	223	1	252	11	0	10	21	407
Total	5	412	67	484	0	0	4	4	80	1031	1	1112	118	0	76	194	1794
08:00 AM	1	96	14	111	0	0	0	0	11	163	0	174	15	1	14	30	315
08:15 AM	1	84	13	98	1	2	0	3	11	164	1	176	17	0	11	28	305
08:30 AM	0	88	14	102	0	0	2	2	8	123	0	131	20	0	7	27	262
08:45 AM	4	84	6	94	0	1	1	2	11	94	2	107	10	0	5	15	218
Total	6	352	47	405	1	3	3	7	41	544	3	588	62	1	37	100	1100
Grand Total	11	764	114	889	1	3	7	11	121	1575	4	1700	180	1	113	294	2894
Apprch %	1.2	85.9	12.8		9.1	27.3	63.6		7.1	92.6	0.2		61.2	0.3	38.4		
Total %	0.4	26.4	3.9	30.7	0	0.1	0.2	0.4	4.2	54.4	0.1	58.7	6.2	0	3.9	10.2	

Start Time	Ramona Expressway Southbound				7th Street Westbound				Ramona Expressway Northbound				7th Street 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 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	91	26	118	0	0	3	3	16	283	0	299	33	0	16	49	469
07:15 AM	1	113	21	135	0	0	0	0	26	272	0	298	52	0	42	94	527
07:30 AM	2	90	6	98	0	0	0	0	10	253	0	263	22	0	8	30	391
07:45 AM	1	118	14	133	0	0	1	1	28	223	1	252	11	0	10	21	407
Total Volume	5	412	67	484	0	0	4	4	80	1031	1	1112	118	0	76	194	1794
% App. Total	1	85.1	13.8		0	0	100		7.2	92.7	0.1		60.8	0	39.2		
PHF	.625	.873	.644	.896	.000	.000	.333	.333	.714	.911	.250	.930	.567	.000	.452	.516	.851



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:00 AM				07:00 AM			
+0 mins.	1	91	26	118	0	0	0	0	16	283	0	299	33	0	16	49
+15 mins.	1	113	21	135	1	2	0	3	26	272	0	298	52	0	42	94
+30 mins.	2	90	6	98	0	0	2	2	10	253	0	263	22	0	8	30
+45 mins.	1	118	14	133	0	1	1	2	28	223	1	252	11	0	10	21
Total Volume	5	412	67	484	1	3	3	7	80	1031	1	1112	118	0	76	194
% App. Total	1	85.1	13.8		14.3	42.9	42.9		7.2	92.7	0.1		60.8	0	39.2	
PHF	.625	.873	.644	.896	.250	.375	.375	.583	.714	.911	.250	.930	.567	.000	.452	.516

City of San Jacinto
 N/S: Ramona Expressway
 E/W: 7th Street
 Weather: Clear

File Name : 07_SJC_RA7th PM
 Site Code : 12217661
 Start Date : 10/4/2017
 Page No : 1

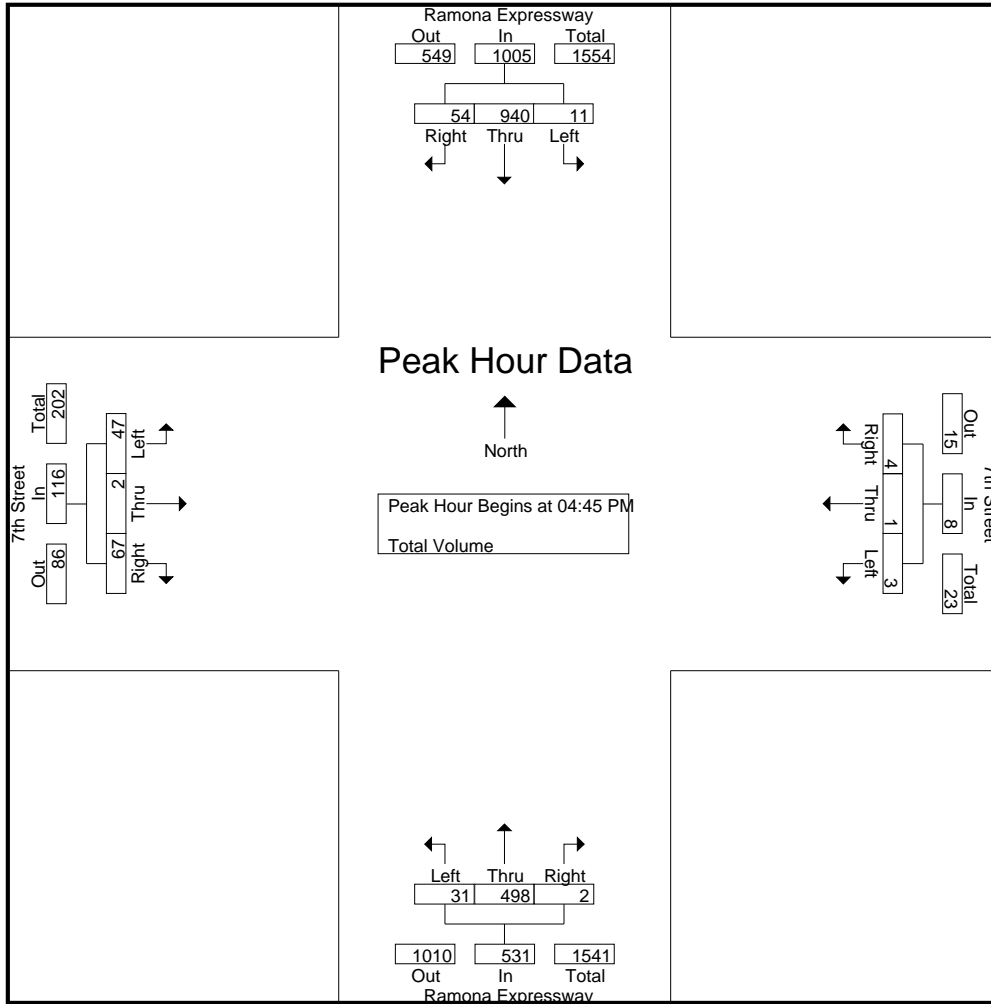
Groups Printed- Total Volume

Start Time	Ramona Expressway Southbound				7th Street Westbound				Ramona Expressway Northbound				7th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	7	210	13	230	0	1	1	2	8	126	1	135	6	0	19	25	392
04:15 PM	2	219	10	231	0	0	0	0	7	106	0	113	8	0	12	20	364
04:30 PM	4	186	4	194	0	0	0	0	6	133	0	139	9	0	10	19	352
04:45 PM	3	230	6	239	1	0	0	1	5	119	1	125	11	1	16	28	393
Total	16	845	33	894	1	1	1	3	26	484	2	512	34	1	57	92	1501
05:00 PM	6	240	15	261	0	0	4	4	8	134	1	143	13	0	23	36	444
05:15 PM	2	239	15	256	1	0	0	1	10	135	0	145	13	0	12	25	427
05:30 PM	0	231	18	249	1	1	0	2	8	110	0	118	10	1	16	27	396
05:45 PM	3	209	4	216	1	0	1	2	7	117	1	125	13	0	14	27	370
Total	11	919	52	982	3	1	5	9	33	496	2	531	49	1	65	115	1637
Grand Total	27	1764	85	1876	4	2	6	12	59	980	4	1043	83	2	122	207	3138
Apprch %	1.4	94	4.5		33.3	16.7	50		5.7	94	0.4		40.1	1	58.9		
Total %	0.9	56.2	2.7	59.8	0.1	0.1	0.2	0.4	1.9	31.2	0.1	33.2	2.6	0.1	3.9	6.6	

Start Time	Ramona Expressway Southbound				7th Street Westbound				Ramona Expressway Northbound				7th Street Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	3	230	6	239	1	0	0	1	5	119	1	125	11	1	16	28	393
05:00 PM	6	240	15	261	0	0	4	4	8	134	1	143	13	0	23	36	444
05:15 PM	2	239	15	256	1	0	0	1	10	135	0	145	13	0	12	25	427
05:30 PM	0	231	18	249	1	1	0	2	8	110	0	118	10	1	16	27	396
Total Volume	11	940	54	1005	3	1	4	8	31	498	2	531	47	2	67	116	1660
% App. Total	1.1	93.5	5.4		37.5	12.5	50		5.8	93.8	0.4		40.5	1.7	57.8		
PHF	.458	.979	.750	.963	.750	.250	.250	.500	.775	.922	.500	.916	.904	.500	.728	.806	.935

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				05:00 PM				04:30 PM				04:45 PM			
+0 mins.	3	230	6	239	0	0	4	4	6	133	0	139	11	1	16	28
+15 mins.	6	240	15	261	1	0	0	1	5	119	1	125	13	0	23	36
+30 mins.	2	239	15	256	1	1	0	2	8	134	1	143	13	0	12	25
+45 mins.	0	231	18	249	1	0	1	2	10	135	0	145	10	1	16	27
Total Volume	11	940	54	1005	3	1	5	9	29	521	2	552	47	2	67	116
% App. Total	1.1	93.5	5.4		33.3	11.1	55.6		5.3	94.4	0.4		40.5	1.7	57.8	
PHF	.458	.979	.750	.963	.750	.250	.313	.563	.725	.965	.500	.952	.904	.500	.728	.806

Appendix B: Existing Synchro Worksheets

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	107	93	90	138	179	98
Future Vol, veh/h	107	93	90	138	179	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	116	101	98	150	195	107
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	10	10	11.6
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	65%	0%	100%	0%
Vol Thru, %	0%	53%	0%	100%
Vol Right, %	35%	47%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	277	200	90	138
LT Vol	179	0	90	0
Through Vol	0	107	0	138
RT Vol	98	93	0	0
Lane Flow Rate	301	217	98	150
Geometry Grp	2	5	7	7
Degree of Util (X)	0.416	0.293	0.164	0.23
Departure Headway (Hd)	4.968	4.853	6.025	5.52
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	720	733	591	645
Service Time	3.037	2.937	3.812	3.306
HCM Lane V/C Ratio	0.418	0.296	0.166	0.233
HCM Control Delay	11.6	10	10	10
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.1	1.2	0.6	0.9

HCM 6th Signalized Intersection Summary
 2: Main St/Lake Park Dr & Ramona Expy

Existing AM
 06/20/2019



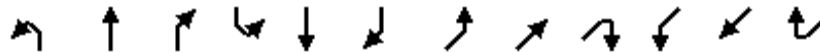
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	69	45	81	70	42	58	914	178	55	387	21
Future Volume (veh/h)	26	69	45	81	70	42	58	914	178	55	387	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	71	46	84	72	43	60	942	184	57	399	22
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	131	111	127	134	113	583	1832	358	100	1190	65
Arrive On Green	0.07	0.07	0.07	0.07	0.07	0.07	0.33	0.62	0.62	0.06	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	2964	579	1781	3425	188
Grp Volume(v), veh/h	27	71	46	84	72	43	60	564	562	57	206	215
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1766	1781	1777	1836
Q Serve(g_s), s	1.4	3.6	2.7	4.5	3.6	2.5	2.3	17.4	17.4	3.1	8.4	8.4
Cycle Q Clear(g_c), s	1.4	3.6	2.7	4.5	3.6	2.5	2.3	17.4	17.4	3.1	8.4	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.10
Lane Grp Cap(c), veh/h	125	131	111	127	134	113	583	1098	1092	100	617	638
V/C Ratio(X)	0.22	0.54	0.41	0.66	0.54	0.38	0.10	0.51	0.51	0.57	0.33	0.34
Avail Cap(c_a), veh/h	601	631	535	328	344	292	583	1098	1092	180	617	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	44.0	43.6	44.3	43.9	43.4	22.9	10.5	10.5	45.0	23.6	23.6
Incr Delay (d2), s/veh	0.9	3.4	2.4	5.7	3.3	2.1	0.4	1.7	1.7	5.0	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.8	1.1	2.2	1.8	1.1	1.0	6.7	6.7	1.5	3.7	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.8	47.4	46.0	50.0	47.2	45.4	23.3	12.2	12.2	50.0	25.0	25.0
LnGrp LOS	D	D	D	D	D	D	C	B	B	D	C	C
Approach Vol, veh/h		144			199			1186			478	
Approach Delay, s/veh		46.3			48.0			12.7			28.0	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	65.0		11.4	36.5	38.5		11.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.0	56.1		33.0	32.0	34.0		18.0				
Max Q Clear Time (g_c+1/4), s	15.0	19.4		5.6	4.3	10.4		6.5				
Green Ext Time (p_c), s	0.0	9.7		0.6	0.1	2.5		0.5				

Intersection Summary

HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 3: Lake Park Dr & Soboba Rd

Existing AM
 06/20/2019



Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	158	26	0	0	45	68	81	0	207	0	0	0
Future Volume (veh/h)	158	26	0	0	45	68	81	0	207	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	29	0	0	50	76	90	0	230	0	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	1150	0	4	732	620	347	0	309	0	4	0
Arrive On Green	0.13	0.61	0.00	0.00	0.39	0.39	0.19	0.00	0.19	0.00	0.00	0.00
Sat Flow, veh/h	1781	1870	0	1781	1870	1585	1781	0	1585	0	1870	0
Grp Volume(v), veh/h	176	29	0	0	50	76	90	0	230	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	1870	1585	1781	0	1585	0	1870	0
Q Serve(g_s), s	4.5	0.3	0.0	0.0	0.8	1.4	2.0	0.0	6.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.5	0.3	0.0	0.0	0.8	1.4	2.0	0.0	6.5	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	229	1150	0	4	732	620	347	0	309	0	4	0
V/C Ratio(X)	0.77	0.03	0.00	0.00	0.07	0.12	0.26	0.00	0.74	0.00	0.00	0.00
Avail Cap(c_a), veh/h	471	1150	0	188	732	620	678	0	603	0	712	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	19.9	3.6	0.0	0.0	9.0	9.2	16.1	0.0	17.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.4	0.0	0.0	0.0	0.2	0.4	0.4	0.0	3.6	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.1	0.0	0.0	0.3	0.5	0.8	0.0	2.4	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	3.6	0.0	0.0	9.2	9.6	16.5	0.0	21.5	0.0	0.0	0.0
LnGrp LOS	C	A	A	A	A	A	B	A	C	A	A	A
Approach Vol, veh/h		205			126			320				0
Approach Delay, s/veh		22.2			9.4			20.1				0.0
Approach LOS		C			A			C				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	33.6		13.7	10.6	23.0		0.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	26.0		18.0	12.5	18.5		18.0				
Max Q Clear Time (g_c+I), s	10.0	2.3		8.5	6.5	3.4		0.0				
Green Ext Time (p_c), s	0.0	0.1		0.9	0.2	0.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay		18.7										
HCM 6th LOS			B									

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	1	0	1152	486	28
Future Vol, veh/h	0	1	0	1152	486	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	1252	528	30

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	279	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	718	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	718	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	718	-
HCM Lane V/C Ratio	-	0.002	-
HCM Control Delay (s)	-	10	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0	-

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗			↕↗	
Traffic Vol, veh/h	4	271	38	49	229	8	68	10	94	24	7	21
Future Vol, veh/h	4	271	38	49	229	8	68	10	94	24	7	21
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	295	41	53	249	9	74	11	102	26	8	23
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	11.4	10.8	10.5	10.4
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	46%
Vol Thru, %	0%	10%	0%	100%	70%	0%	100%	91%	13%
Vol Right, %	0%	90%	0%	0%	30%	0%	0%	9%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	104	4	181	128	49	153	84	52
LT Vol	68	0	4	0	0	49	0	0	24
Through Vol	0	10	0	181	90	0	153	76	7
RT Vol	0	94	0	0	38	0	0	8	21
Lane Flow Rate	74	113	4	196	139	53	166	92	57
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.145	0.187	0.008	0.336	0.231	0.099	0.286	0.156	0.108
Departure Headway (Hd)	7.081	5.946	6.665	6.159	5.949	6.716	6.21	6.143	6.847
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	506	601	537	583	603	533	577	583	522
Service Time	4.833	3.698	4.409	3.903	3.693	4.463	3.957	3.89	4.606
HCM Lane V/C Ratio	0.146	0.188	0.007	0.336	0.231	0.099	0.288	0.158	0.109
HCM Control Delay	11	10.1	9.5	12	10.5	10.2	11.4	10	10.4
HCM Lane LOS	B	B	A	B	B	B	B	A	B
HCM 95th-tile Q	0.5	0.7	0	1.5	0.9	0.3	1.2	0.5	0.4

Intersection

Int Delay, s/veh 1.6

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	48	118	134	10	3	12
Future Vol, veh/h	48	118	134	10	3	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	128	146	11	3	13

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	157	0	-	0	384	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	232	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1423	-	-	-	619	894
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	807	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1423	-	-	-	595	894
Mov Cap-2 Maneuver	-	-	-	-	595	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	807	-

Approach EB WB SB

HCM Control Delay, s 2.2 0 9.5
HCM LOS A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1423	-	-	-	812
HCM Lane V/C Ratio	0.037	-	-	-	0.02
HCM Control Delay (s)	7.6	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM 6th Signalized Intersection Summary
 7: E 7th St & Ramona Expy

Existing AM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	118	0	76	0	0	4	80	1031	1	5	412	67
Future Volume (veh/h)	118	0	76	0	0	4	80	1031	1	5	412	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	131	0	84	0	0	4	89	1146	1	6	458	74
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	0	386	3	0	107	121	1826	2	14	1354	217
Arrive On Green	0.09	0.00	0.24	0.00	0.00	0.07	0.07	0.50	0.50	0.01	0.44	0.44
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3643	3	1781	3066	493
Grp Volume(v), veh/h	131	0	84	0	0	4	89	559	588	6	264	268
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1870	1781	1777	1782
Q Serve(g_s), s	3.9	0.0	2.3	0.0	0.0	0.1	2.7	12.5	12.5	0.2	5.3	5.4
Cycle Q Clear(g_c), s	3.9	0.0	2.3	0.0	0.0	0.1	2.7	12.5	12.5	0.2	5.3	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.28
Lane Grp Cap(c), veh/h	167	0	386	3	0	107	121	891	937	14	784	787
V/C Ratio(X)	0.78	0.00	0.22	0.00	0.00	0.04	0.74	0.63	0.63	0.42	0.34	0.34
Avail Cap(c_a), veh/h	215	0	568	163	0	522	303	891	937	163	784	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	16.5	0.0	0.0	23.8	25.0	9.9	9.9	27.0	10.0	10.0
Incr Delay (d2), s/veh	13.2	0.0	0.3	0.0	0.0	0.1	8.4	3.3	3.2	18.7	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.8	0.0	0.0	0.0	1.3	4.6	4.8	0.1	2.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	0.0	16.8	0.0	0.0	24.0	33.4	13.3	13.1	45.7	11.2	11.2
LnGrp LOS	D	A	B	A	A	C	C	B	B	D	B	B
Approach Vol, veh/h		215			4			1236			538	
Approach Delay, s/veh		29.4			24.0			14.6			11.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	31.9	0.0	17.8	8.2	28.6	9.6	8.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	27.4	5.0	19.6	9.3	23.1	6.6	18.0				
Max Q Clear Time (g_c+I1), s	2.2	14.5	0.0	4.3	4.7	7.4	5.9	2.1				
Green Ext Time (p_c), s	0.0	6.2	0.0	0.3	0.1	2.9	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	
Traffic Vol, veh/h	103	111	128	138	122	82
Future Vol, veh/h	103	111	128	138	122	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	121	139	150	133	89
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	9.7	9.9	10.3
HCM LOS	A	A	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	60%	0%	100%	0%
Vol Thru, %	0%	48%	0%	100%
Vol Right, %	40%	52%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	204	214	128	138
LT Vol	122	0	128	0
Through Vol	0	103	0	138
RT Vol	82	111	0	0
Lane Flow Rate	222	233	139	150
Geometry Grp	2	5	7	7
Degree of Util (X)	0.309	0.3	0.225	0.221
Departure Headway (Hd)	5.018	4.649	5.815	5.311
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	712	768	614	672
Service Time	3.079	2.714	3.581	3.076
HCM Lane V/C Ratio	0.312	0.303	0.226	0.223
HCM Control Delay	10.3	9.7	10.3	9.6
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.3	1.3	0.9	0.8

HCM 6th Signalized Intersection Summary

2: Main St/Lake Park Dr & Ramona Expy

Existing PM
06/20/2019



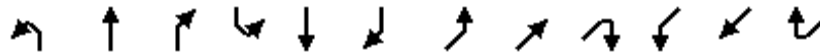
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	89	36	283	156	96	28	381	149	72	687	21
Future Volume (veh/h)	13	89	36	283	156	96	28	381	149	72	687	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	93	38	295	162	100	29	397	155	75	716	22
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	134	113	316	332	281	519	1328	512	102	1041	32
Arrive On Green	0.07	0.07	0.07	0.18	0.18	0.18	0.29	0.53	0.53	0.06	0.30	0.30
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	2507	967	1781	3520	108
Grp Volume(v), veh/h	14	93	38	295	162	100	29	280	272	75	361	377
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1696	1781	1777	1851
Q Serve(g_s), s	0.8	5.3	2.5	17.9	8.6	6.1	1.3	9.7	9.9	4.6	19.7	19.8
Cycle Q Clear(g_c), s	0.8	5.3	2.5	17.9	8.6	6.1	1.3	9.7	9.9	4.6	19.7	19.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.57	1.00		0.06
Lane Grp Cap(c), veh/h	127	134	113	316	332	281	519	941	899	102	526	548
V/C Ratio(X)	0.11	0.70	0.34	0.93	0.49	0.36	0.06	0.30	0.30	0.74	0.69	0.69
Avail Cap(c_a), veh/h	535	562	476	316	332	281	519	941	899	199	526	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	49.8	48.5	44.5	40.7	39.7	28.0	14.4	14.5	51.0	34.2	34.2
Incr Delay (d2), s/veh	0.4	6.3	1.7	33.6	1.1	0.8	0.2	0.8	0.9	9.8	7.2	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.7	1.0	10.8	4.0	2.4	0.6	4.0	3.9	2.3	9.5	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	56.2	50.2	78.1	41.8	40.4	28.3	15.2	15.3	60.8	41.4	41.1
LnGrp LOS	D	E	D	E	D	D	C	B	B	E	D	D
Approach Vol, veh/h		145			557			581			813	
Approach Delay, s/veh		53.8			60.8			15.9			43.0	
Approach LOS		D			E			B			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	62.7		12.4	36.5	37.0		24.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.3	52.2		33.0	32.0	32.5		19.5				
Max Q Clear Time (g_c+I), s	10.6	11.9		7.3	3.3	21.8		19.9				
Green Ext Time (p_c), s	0.1	3.9		0.6	0.0	3.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 3: Lake Park Dr & Soboba Rd

Existing PM
 06/20/2019



Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	356	114	0	0	98	174	69	0	288	0	0	0
Future Volume (veh/h)	356	114	0	0	98	174	69	0	288	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	379	121	0	0	104	185	73	0	306	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	444	1175	0	3	572	485	405	0	360	0	3	0
Arrive On Green	0.25	0.63	0.00	0.00	0.31	0.31	0.23	0.00	0.23	0.00	0.00	0.00
Sat Flow, veh/h	1781	1870	0	1781	1870	1585	1781	0	1585	0	1870	0
Grp Volume(v), veh/h	379	121	0	0	104	185	73	0	306	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	1870	1585	1781	0	1585	0	1870	0
Q Serve(g_s), s	12.6	1.6	0.0	0.0	2.5	5.7	2.1	0.0	11.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.6	1.6	0.0	0.0	2.5	5.7	2.1	0.0	11.5	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	444	1175	0	3	572	485	405	0	360	0	3	0
V/C Ratio(X)	0.85	0.10	0.00	0.00	0.18	0.38	0.18	0.00	0.85	0.00	0.00	0.00
Avail Cap(c_a), veh/h	731	1175	0	143	572	485	516	0	459	0	151	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	22.2	4.6	0.0	0.0	15.8	16.9	19.3	0.0	23.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.3	0.2	0.0	0.0	0.7	2.3	0.2	0.0	11.5	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	0.5	0.0	0.0	1.1	2.2	0.8	0.0	5.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	4.8	0.0	0.0	16.5	19.2	19.6	0.0	34.5	0.0	0.0	0.0
LnGrp LOS	C	A	A	A	B	B	B	A	C	A	A	A
Approach Vol, veh/h		500			289			379				0
Approach Delay, s/veh		22.0			18.2			31.6				0.0
Approach LOS		C			B			C				
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	43.5		18.6	20.0	23.5		0.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	39.0		18.0	25.5	18.5		5.0				
Max Q Clear Time (g_c+I), s	10.0	3.6		13.5	14.6	7.7		0.0				
Green Ext Time (p_c), s	0.0	0.7		0.6	0.9	0.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Intersection

Int Delay, s/veh 0

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	1	0	559	997	17
Future Vol, veh/h	0	1	0	559	997	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	608	1084	18

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	-	551	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	478	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	478	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s 12.5 0 0
HCM LOS B

Minor Lane/Major Mvmt NBT EBLn1 SBT SBR

Capacity (veh/h)	-	478	-	-
HCM Lane V/C Ratio	-	0.002	-	-
HCM Control Delay (s)	-	12.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗			↕↗	
Traffic Vol, veh/h	29	106	55	43	75	5	37	14	24	3	14	18
Future Vol, veh/h	29	106	55	43	75	5	37	14	24	3	14	18
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	115	60	47	82	5	40	15	26	3	15	20
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	8.4	8.6	8.6	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	9%
Vol Thru, %	0%	37%	0%	100%	39%	0%	100%	83%	40%
Vol Right, %	0%	63%	0%	0%	61%	0%	0%	17%	51%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	38	29	71	90	43	50	30	35
LT Vol	37	0	29	0	0	43	0	0	3
Through Vol	0	14	0	71	35	0	50	25	14
RT Vol	0	24	0	0	55	0	0	5	18
Lane Flow Rate	40	41	32	77	98	47	54	33	38
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.067	0.058	0.05	0.11	0.13	0.075	0.08	0.047	0.056
Departure Headway (Hd)	5.984	5.043	5.679	5.177	4.749	5.795	5.293	5.176	5.265
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	598	708	630	691	753	617	675	690	678
Service Time	3.73	2.789	3.417	2.915	2.487	3.54	3.038	2.921	3.017
HCM Lane V/C Ratio	0.067	0.058	0.051	0.111	0.13	0.076	0.08	0.048	0.056
HCM Control Delay	9.2	8.1	8.7	8.6	8.2	9	8.5	8.2	8.3
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.4	0.4	0.2	0.3	0.1	0.2

Intersection

Int Delay, s/veh 1.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	9	110	82	1	4	20
Future Vol, veh/h	9	110	82	1	4	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	120	89	1	4	22

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	90	0	-	0	230	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	140	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1505	-	-	-	758	968
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	887	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1505	-	-	-	753	968
Mov Cap-2 Maneuver	-	-	-	-	753	-
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	887	-

Approach EB WB SB

HCM Control Delay, s	0.6	0	9
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1505	-	-	-	924
HCM Lane V/C Ratio	0.007	-	-	-	0.028
HCM Control Delay (s)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th Signalized Intersection Summary
7: E 7th St & Ramona Expy

Existing PM
06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	2	67	3	1	4	34	498	2	11	940	54
Future Volume (veh/h)	47	2	67	3	1	4	34	498	2	11	940	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	2	74	3	1	4	38	553	2	12	1044	60
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	5	172	7	21	86	71	1975	7	27	1773	102
Arrive On Green	0.05	0.11	0.11	0.00	0.07	0.07	0.04	0.54	0.54	0.02	0.52	0.52
Sat Flow, veh/h	1781	42	1550	1781	327	1308	1781	3632	13	1781	3416	196
Grp Volume(v), veh/h	52	0	76	3	0	5	38	271	284	12	543	561
Grp Sat Flow(s),veh/h/ln	1781	0	1591	1781	0	1635	1781	1777	1868	1781	1777	1835
Q Serve(g_s), s	1.6	0.0	2.5	0.1	0.0	0.2	1.2	4.5	4.5	0.4	11.7	11.7
Cycle Q Clear(g_c), s	1.6	0.0	2.5	0.1	0.0	0.2	1.2	4.5	4.5	0.4	11.7	11.7
Prop In Lane	1.00		0.97	1.00		0.80	1.00		0.01	1.00		0.11
Lane Grp Cap(c), veh/h	89	0	177	7	0	107	71	966	1016	27	922	953
V/C Ratio(X)	0.59	0.00	0.43	0.41	0.00	0.05	0.53	0.28	0.28	0.44	0.59	0.59
Avail Cap(c_a), veh/h	164	0	521	164	0	535	164	966	1016	164	922	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	0.0	22.9	27.5	0.0	24.2	26.0	6.8	6.8	27.0	9.2	9.2
Incr Delay (d2), s/veh	6.0	0.0	1.6	33.5	0.0	0.2	6.1	0.7	0.7	10.9	2.8	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.9	0.1	0.0	0.1	0.6	1.5	1.6	0.2	4.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	0.0	24.6	61.0	0.0	24.4	32.1	7.5	7.5	37.9	12.0	11.9
LnGrp LOS	C	A	C	E	A	C	C	A	A	D	B	B
Approach Vol, veh/h		128			8			593			1116	
Approach Delay, s/veh		27.5			38.1			9.1			12.2	
Approach LOS		C			D			A			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.3	34.6	4.7	10.6	6.7	33.2	7.3	8.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	28.7	5.1	18.1	5.1	28.7	5.1	18.1				
Max Q Clear Time (g_c+I1), s	2.4	6.5	2.1	4.5	3.2	13.7	3.6	2.2				
Green Ext Time (p_c), s	0.0	3.4	0.0	0.3	0.0	6.5	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Appendix C: Existing With Project Synchro Worksheets

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	142	93	90	166	179	101
Future Vol, veh/h	142	93	90	166	179	101
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	101	98	180	195	110
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	10.9	10.5	12.2
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	64%	0%	100%	0%
Vol Thru, %	0%	60%	0%	100%
Vol Right, %	36%	40%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	280	235	90	166
LT Vol	179	0	90	0
Through Vol	0	142	0	166
RT Vol	101	93	0	0
Lane Flow Rate	304	255	98	180
Geometry Grp	2	5	7	7
Degree of Util (X)	0.433	0.359	0.168	0.285
Departure Headway (Hd)	5.226	5.065	6.2	5.694
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	694	715	581	635
Service Time	3.226	3.065	3.906	3.4
HCM Lane V/C Ratio	0.438	0.357	0.169	0.283
HCM Control Delay	12.2	10.9	10.2	10.7
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.2	1.6	0.6	1.2

HCM 6th Signalized Intersection Summary

2: Main St/Lake Park Dr & Ramona Expy

E+P AM
06/20/2019



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↑	↗	↖	↑	↗	↖	↕		↖	↗	
Traffic Volume (veh/h)	10	77	81	39	109	58	42	95	876	192	55	411	21
Future Volume (veh/h)	10	77	81	39	109	58	42	95	876	192	55	411	21
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No		No		No		No		No		No
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		79	84	40	112	60	43	98	903	198	57	424	22
Peak Hour Factor		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		127	133	113	154	161	137	572	1757	385	99	1172	61
Arrive On Green		0.07	0.07	0.07	0.09	0.09	0.09	0.32	0.61	0.61	0.06	0.34	0.34
Sat Flow, veh/h		1781	1870	1585	1781	1870	1585	1781	2898	635	1781	3437	178
Grp Volume(v), veh/h		79	84	40	112	60	43	98	553	548	57	219	227
Grp Sat Flow(s),veh/h/ln		1781	1870	1585	1781	1870	1585	1781	1777	1756	1781	1777	1838
Q Serve(g_s), s		4.3	4.4	2.4	6.1	3.0	2.5	3.9	17.8	17.8	3.1	9.2	9.3
Cycle Q Clear(g_c), s		4.3	4.4	2.4	6.1	3.0	2.5	3.9	17.8	17.8	3.1	9.2	9.3
Prop In Lane		1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.10
Lane Grp Cap(c), veh/h		127	133	113	154	161	137	572	1077	1065	99	606	627
V/C Ratio(X)		0.62	0.63	0.35	0.73	0.37	0.31	0.17	0.51	0.51	0.57	0.36	0.36
Avail Cap(c_a), veh/h		590	619	525	322	338	286	572	1077	1065	177	606	627
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		45.0	45.0	44.1	44.4	43.0	42.8	24.3	11.2	11.2	45.9	24.7	24.7
Incr Delay (d2), s/veh		4.9	4.8	1.9	6.5	1.4	1.3	0.7	1.8	1.8	5.1	1.7	1.6
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.1	2.2	1.0	3.0	1.5	1.0	1.8	7.0	6.9	1.5	4.1	4.3
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh		49.9	49.8	46.0	50.9	44.4	44.1	25.0	13.0	13.0	51.1	26.4	26.3
LnGrp LOS		D	D	D	D	D	D	C	B	B	D	C	C
Approach Vol, veh/h			203			215			1199			503	
Approach Delay, s/veh			49.1			47.7			14.0			29.1	
Approach LOS			D			D			B			C	
Timer - Assigned Phs	1	2	4	5	6	8							
Phs Duration (G+Y+Rc), s	10.1	64.9	11.6	36.5	38.5	13.1							
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5							
Max Green Setting (Gmax), s	56.1	56.1	33.0	32.0	34.0	18.0							
Max Q Clear Time (g_c+1/2), s	19.8	19.8	6.4	5.9	11.3	8.1							
Green Ext Time (p_c), s	0.0	9.4	0.8	0.2	2.6	0.5							

Intersection Summary

HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
 3: Lake Park Dr & Soboba Rd

E+P AM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↗	↖		↖	↕	↗
Traffic Volume (veh/h)	87	0	214	0	0	0	166	26	0	0	45	74
Future Volume (veh/h)	87	0	214	0	0	0	166	26	0	0	45	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	0	238	0	0	0	184	29	0	0	50	82
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	0	317	0	4	0	238	1146	0	4	721	611
Arrive On Green	0.20	0.00	0.20	0.00	0.00	0.00	0.13	0.61	0.00	0.00	0.39	0.39
Sat Flow, veh/h	1781	0	1585	0	84166	0	1781	1870	0	1781	1870	1585
Grp Volume(v), veh/h	97	0	238	0	0	0	184	29	0	0	50	82
Grp Sat Flow(s),veh/h/ln	1781	0	1585	0	1870	0	1781	1870	0	1781	1870	1585
Q Serve(g_s), s	2.2	0.0	6.8	0.0	0.0	0.0	4.8	0.3	0.0	0.0	0.8	1.6
Cycle Q Clear(g_c), s	2.2	0.0	6.8	0.0	0.0	0.0	4.8	0.3	0.0	0.0	0.8	1.6
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	356	0	317	0	4	0	238	1146	0	4	721	611
V/C Ratio(X)	0.27	0.00	0.75	0.00	0.00	0.00	0.77	0.03	0.00	0.00	0.07	0.13
Avail Cap(c_a), veh/h	668	0	594	0	701	0	464	1146	0	185	721	611
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	0.0	18.1	0.0	0.0	0.0	20.1	3.7	0.0	0.0	9.3	9.6
Incr Delay (d2), s/veh	0.4	0.0	3.6	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	2.5	0.0	0.0	0.0	2.1	0.1	0.0	0.0	0.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	0.0	21.7	0.0	0.0	0.0	25.4	3.7	0.0	0.0	9.5	10.0
LnGrp LOS	B	A	C	A	A	A	C	A	A	A	A	B
Approach Vol, veh/h		335			0			213			132	
Approach Delay, s/veh		20.2			0.0			22.4			9.8	
Approach LOS		C						C			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	33.9		14.1	10.9	23.0		0.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	26.0		18.0	12.5	18.5		18.0				
Max Q Clear Time (g_c+1), s	10.0	2.3		8.8	6.8	3.6		0.0				
Green Ext Time (p_c), s	0.0	0.1		0.9	0.2	0.4		0.0				

Intersection Summary

HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
4: Ramona Expy & Donna Way

Luiseno Village - Donna Signal
Existing Wlth Project AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↑↑	↓↓↓	↷
Traffic Volume (veh/h)	80	12	100	1084	493	44
Future Volume (veh/h)	80	12	100	1084	493	44
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	87	13	109	1178	536	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	117	110	134	2687	3142	975
Arrive On Green	0.07	0.07	0.08	0.80	0.65	0.65
Sat Flow, veh/h	1594	1502	1594	3455	4997	1502
Grp Volume(v), veh/h	87	13	109	1178	536	48
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1683	1612	1502
Q Serve(g_s), s	3.7	0.6	4.7	7.6	3.1	0.8
Cycle Q Clear(g_c), s	3.7	0.6	4.7	7.6	3.1	0.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	117	110	134	2687	3142	975
V/C Ratio(X)	0.74	0.12	0.81	0.44	0.17	0.05
Avail Cap(c_a), veh/h	729	686	148	2687	3142	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	30.3	31.5	2.2	4.8	4.4
Incr Delay (d2), s/veh	9.0	0.5	25.9	0.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.5	2.7	1.1	0.8	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.8	30.8	57.4	2.7	5.0	4.5
LnGrp LOS	D	C	E	A	A	A
Approach Vol, veh/h	100			1287	584	
Approach Delay, s/veh	39.5			7.3	4.9	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.4		9.6	10.4	50.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.0		32.0	6.5	18.0
Max Q Clear Time (g_c+I1), s		9.6		5.7	6.7	5.1
Green Ext Time (p_c), s		8.7		0.2	0.0	3.1
Intersection Summary						
HCM 6th Ctrl Delay			8.3			
HCM 6th LOS			A			

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗			↕↗	
Traffic Vol, veh/h	4	303	38	56	266	8	68	10	102	24	7	21
Future Vol, veh/h	4	303	38	56	266	8	68	10	102	24	7	21
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	329	41	61	289	9	74	11	111	26	8	23
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	12.2	11.5	10.9	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	46%
Vol Thru, %	0%	9%	0%	100%	73%	0%	100%	92%	13%
Vol Right, %	0%	91%	0%	0%	27%	0%	0%	8%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	112	4	202	139	56	177	97	52
LT Vol	68	0	4	0	0	56	0	0	24
Through Vol	0	10	0	202	101	0	177	89	7
RT Vol	0	102	0	0	38	0	0	8	21
Lane Flow Rate	74	122	4	220	151	61	193	105	57
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.151	0.209	0.008	0.386	0.258	0.116	0.341	0.184	0.112
Departure Headway (Hd)	7.334	6.193	6.842	6.336	6.142	6.868	6.362	6.303	7.133
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	488	577	522	566	583	520	563	567	500
Service Time	5.102	3.961	4.601	4.094	3.9	4.628	4.121	4.062	4.912
HCM Lane V/C Ratio	0.152	0.211	0.008	0.389	0.259	0.117	0.343	0.185	0.114
HCM Control Delay	11.4	10.6	9.7	13.1	11	10.5	12.4	10.5	10.8
HCM Lane LOS	B	B	A	B	B	B	B	B	B
HCM 95th-tile Q	0.5	0.8	0	1.8	1	0.4	1.5	0.7	0.4

Intersection

Int Delay, s/veh 3.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	100	106	134	26	34	51
Future Vol, veh/h	100	106	134	26	34	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	115	146	28	37	55

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	174	0	-	0	493	160
Stage 1	-	-	-	-	160	-
Stage 2	-	-	-	-	333	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1403	-	-	-	535	885
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	726	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1403	-	-	-	491	885
Mov Cap-2 Maneuver	-	-	-	-	491	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	726	-

Approach EB WB SB

HCM Control Delay, s 3.8 0 11.2
HCM LOS B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1403	-	-	-	670
HCM Lane V/C Ratio	0.077	-	-	-	0.138
HCM Control Delay (s)	7.8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5

HCM 6th Signalized Intersection Summary
7: E 7th St & Ramona Expy

E+P AM
06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	111	0	101	0	0	4	80	1063	1	5	415	82
Future Volume (veh/h)	111	0	101	0	0	4	80	1063	1	5	415	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	123	0	112	0	0	4	89	1181	1	6	461	91
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	158	0	396	3	0	122	122	1788	2	14	1274	250
Arrive On Green	0.09	0.00	0.25	0.00	0.00	0.08	0.07	0.49	0.49	0.01	0.43	0.43
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3644	3	1781	2962	581
Grp Volume(v), veh/h	123	0	112	0	0	4	89	576	606	6	275	277
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1870	1781	1777	1766
Q Serve(g_s), s	3.6	0.0	3.1	0.0	0.0	0.1	2.6	13.1	13.1	0.2	5.6	5.7
Cycle Q Clear(g_c), s	3.6	0.0	3.1	0.0	0.0	0.1	2.6	13.1	13.1	0.2	5.6	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.33
Lane Grp Cap(c), veh/h	158	0	396	3	0	122	122	872	917	14	764	759
V/C Ratio(X)	0.78	0.00	0.28	0.00	0.00	0.03	0.73	0.66	0.66	0.42	0.36	0.36
Avail Cap(c_a), veh/h	256	0	612	166	0	532	326	872	917	166	764	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	16.2	0.0	0.0	22.9	24.5	10.3	10.3	26.5	10.3	10.3
Incr Delay (d2), s/veh	7.9	0.0	0.4	0.0	0.0	0.1	8.1	3.9	3.7	18.7	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.0	0.0	0.0	0.0	1.3	5.0	5.2	0.1	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	0.0	16.6	0.0	0.0	23.0	32.5	14.2	14.0	45.2	11.6	11.7
LnGrp LOS	C	A	B	A	A	C	C	B	B	D	B	B
Approach Vol, veh/h		235			4			1271				558
Approach Delay, s/veh		24.6			23.0			15.4				12.0
Approach LOS		C			C			B				B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	30.8	0.0	17.9	8.2	27.6	9.3	8.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	26.3	5.0	20.7	9.8	21.5	7.7	18.0				
Max Q Clear Time (g_c+I1), s	2.2	15.1	0.0	5.1	4.6	7.7	5.6	2.1				
Green Ext Time (p_c), s	0.0	5.8	0.0	0.5	0.1	2.9	0.1	0.0				

Intersection Summary

HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B

Intersection

Int Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	122	66	0	195	0	86
Future Vol, veh/h	122	66	0	195	0	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	133	72	0	212	0	93

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	-	0	0
Stage 1	-	0	0
Stage 2	-	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	932	-	-	-
HCM Lane V/C Ratio	0.1	-	-	-
HCM Control Delay (s)	9.3	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	35	0	1230	503	64
Future Vol, veh/h	0	35	0	1230	503	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	38	0	1337	547	70

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	309	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	687	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	687	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 687	-	-
HCM Lane V/C Ratio	- 0.055	-	-
HCM Control Delay (s)	- 10.5	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.2	-	-

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	52	58	15	116	91	69
Future Vol, veh/h	52	58	15	116	91	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	63	16	126	99	75

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	142	0	-	0	256 79
Stage 1	-	-	-	-	79 -
Stage 2	-	-	-	-	177 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1441	-	-	-	733 981
Stage 1	-	-	-	-	944 -
Stage 2	-	-	-	-	854 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1441	-	-	-	703 981
Mov Cap-2 Maneuver	-	-	-	-	703 -
Stage 1	-	-	-	-	905 -
Stage 2	-	-	-	-	854 -

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1441	-	-	-	801
HCM Lane V/C Ratio	0.039	-	-	-	0.217
HCM Control Delay (s)	7.6	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	
Traffic Vol, veh/h	138	111	128	167	122	85
Future Vol, veh/h	138	111	128	167	122	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	150	121	139	182	133	92
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	10.5	10.3	10.7
HCM LOS	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	59%	0%	100%	0%
Vol Thru, %	0%	55%	0%	100%
Vol Right, %	41%	45%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	207	249	128	167
LT Vol	122	0	128	0
Through Vol	0	138	0	167
RT Vol	85	111	0	0
Lane Flow Rate	225	271	139	182
Geometry Grp	2	5	7	7
Degree of Util (X)	0.323	0.357	0.227	0.271
Departure Headway (Hd)	5.161	4.75	5.875	5.371
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	691	750	607	663
Service Time	3.236	2.827	3.656	3.151
HCM Lane V/C Ratio	0.326	0.361	0.229	0.275
HCM Control Delay	10.7	10.5	10.4	10.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.4	1.6	0.9	1.1

HCM 6th Signalized Intersection Summary

2: Main St/Lake Park Dr & Ramona Expy

E+P PM
06/20/2019



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↑	↗	↖	↑	↗	↔	↕		↖	↗	
Traffic Volume (veh/h)	11	47	103	35	334	121	96	70	365	164	72	711	21
Future Volume (veh/h)	11	47	103	35	334	121	96	70	365	164	72	711	21
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No		No		No		No		No		No
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		49	107	36	348	126	100	73	380	171	75	741	22
Peak Hour Factor		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		144	151	128	328	344	291	511	1239	549	101	1011	30
Arrive On Green		0.08	0.08	0.08	0.18	0.18	0.18	0.29	0.52	0.52	0.06	0.29	0.29
Sat Flow, veh/h		1781	1870	1585	1781	1870	1585	1781	2394	1062	1781	3524	105
Grp Volume(v), veh/h		49	107	36	348	126	100	73	281	270	75	374	389
Grp Sat Flow(s),veh/h/ln		1781	1870	1585	1781	1870	1585	1781	1777	1679	1781	1777	1852
Q Serve(g_s), s		2.9	6.2	2.4	20.5	6.6	6.1	3.4	10.1	10.3	4.6	21.2	21.2
Cycle Q Clear(g_c), s		2.9	6.2	2.4	20.5	6.6	6.1	3.4	10.1	10.3	4.6	21.2	21.2
Prop In Lane		1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.06
Lane Grp Cap(c), veh/h		144	151	128	328	344	291	511	919	869	101	510	531
V/C Ratio(X)		0.34	0.71	0.28	1.06	0.37	0.34	0.14	0.31	0.31	0.74	0.73	0.73
Avail Cap(c_a), veh/h		527	554	469	328	344	291	511	919	869	197	510	531
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		48.4	50.0	48.2	45.5	39.8	39.6	29.5	15.4	15.5	51.8	35.9	35.9
Incr Delay (d2), s/veh		1.4	6.0	1.2	67.2	0.7	0.7	0.6	0.9	0.9	10.3	9.0	8.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		1.3	3.2	1.0	15.1	3.1	2.4	1.5	4.2	4.1	2.3	10.3	10.7
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh		49.8	56.0	49.4	112.7	40.5	40.3	30.1	16.3	16.4	62.1	44.9	44.6
LnGrp LOS		D	E	D	F	D	D	C	B	B	E	D	D
Approach Vol, veh/h			192			574			624			838	
Approach Delay, s/veh			53.2			84.2			18.0			46.3	
Approach LOS			D			F			B			D	
Timer - Assigned Phs	1	2	4	5	6	8							
Phs Duration (G+Y+Rc), s	10.8	62.2	13.5	36.5	36.5	25.0							
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5							
Max Green Setting (Gmax), s	12.3	51.7	33.0	32.0	32.0	20.5							
Max Q Clear Time (g_c+1), s	10.6	12.3	8.2	5.4	23.2	22.5							
Green Ext Time (p_c), s	0.1	3.9	0.8	0.2	3.2	0.0							

Intersection Summary

HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
 3: Lake Park Dr & Soboba Rd

E+P PM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↗		↖	↕	↗
Traffic Volume (veh/h)	75	0	296	0	0	0	364	114	0	0	98	180
Future Volume (veh/h)	75	0	296	0	0	0	364	114	0	0	98	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	0	315	0	0	0	387	121	0	0	104	191
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	0	368	0	3	0	452	1167	0	3	558	473
Arrive On Green	0.23	0.00	0.23	0.00	0.00	0.00	0.25	0.62	0.00	0.00	0.30	0.30
Sat Flow, veh/h	1781	0	1585	0-84166	0	1781	1870	0	1781	1870	1585	
Grp Volume(v), veh/h	80	0	315	0	0	0	387	121	0	0	104	191
Grp Sat Flow(s),veh/h/ln	1781	0	1585	0	1870	0	1781	1870	0	1781	1870	1585
Q Serve(g_s), s	2.3	0.0	11.9	0.0	0.0	0.0	13.0	1.6	0.0	0.0	2.6	6.0
Cycle Q Clear(g_c), s	2.3	0.0	11.9	0.0	0.0	0.0	13.0	1.6	0.0	0.0	2.6	6.0
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	414	0	368	0	3	0	452	1167	0	3	558	473
V/C Ratio(X)	0.19	0.00	0.86	0.00	0.00	0.00	0.86	0.10	0.00	0.00	0.19	0.40
Avail Cap(c_a), veh/h	513	0	456	0	150	0	727	1167	0	142	558	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.3	0.0	23.0	0.0	0.0	0.0	22.2	4.7	0.0	0.0	16.3	17.5
Incr Delay (d2), s/veh	0.2	0.0	12.5	0.0	0.0	0.0	5.8	0.2	0.0	0.0	0.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	5.4	0.0	0.0	0.0	5.7	0.5	0.0	0.0	1.1	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.0	35.5	0.0	0.0	0.0	28.1	4.9	0.0	0.0	17.0	20.1
LnGrp LOS	B	A	D	A	A	A	C	A	A	A	B	C
Approach Vol, veh/h		395			0			508			295	
Approach Delay, s/veh		32.3			0.0			22.6			19.0	
Approach LOS		C						C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	43.5		19.0	20.4	23.1		0.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	39.0		18.0	25.5	18.5		5.0				
Max Q Clear Time (g_c+1), s	10.0	3.6		13.9	15.0	8.0		0.0				
Green Ext Time (p_c), s	0.0	0.7		0.6	0.9	0.9		0.0				

Intersection Summary

HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 4: Ramona Expy & Donna Way

Luiseno Village - Donna Signal
 Existing With Project PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	74	35	67	524	990	39
Future Volume (veh/h)	74	35	67	524	990	39
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1673	1772	1673	1772	1772	1772
Adj Flow Rate, veh/h	80	38	73	570	1076	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	117	111	89	2686	3277	1017
Arrive On Green	0.07	0.07	0.06	0.80	0.68	0.68
Sat Flow, veh/h	1594	1502	1594	3455	4997	1502
Grp Volume(v), veh/h	80	38	73	570	1076	42
Grp Sat Flow(s),veh/h/ln	1594	1502	1594	1683	1612	1502
Q Serve(g_s), s	3.4	1.7	3.2	2.9	6.5	0.6
Cycle Q Clear(g_c), s	3.4	1.7	3.2	2.9	6.5	0.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	117	111	89	2686	3277	1017
V/C Ratio(X)	0.68	0.34	0.82	0.21	0.33	0.04
Avail Cap(c_a), veh/h	729	686	125	2686	3277	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.6	30.8	32.7	1.7	4.7	3.7
Incr Delay (d2), s/veh	6.8	1.8	24.1	0.2	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.8	0.4	1.6	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.4	32.6	56.8	1.9	5.0	3.8
LnGrp LOS	D	C	E	A	A	A
Approach Vol, veh/h	118			643	1118	
Approach Delay, s/veh	36.5			8.1	4.9	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.3		9.7	8.4	51.9
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.0		32.0	5.5	19.0
Max Q Clear Time (g_c+I1), s		4.9		5.4	5.2	8.5
Green Ext Time (p_c), s		4.0		0.3	0.0	5.5
Intersection Summary						
HCM 6th Ctrl Delay			8.0			
HCM 6th LOS			A			

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↔		↵	↕↔		↵	↔			↕↔	
Traffic Vol, veh/h	29	138	55	51	114	5	37	14	32	3	14	18
Future Vol, veh/h	29	138	55	51	114	5	37	14	32	3	14	18
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	150	60	55	124	5	40	15	35	3	15	20
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	8.8	8.9	8.8	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	9%
Vol Thru, %	0%	30%	0%	100%	46%	0%	100%	88%	40%
Vol Right, %	0%	70%	0%	0%	54%	0%	0%	12%	51%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	46	29	92	101	51	76	43	35
LT Vol	37	0	29	0	0	51	0	0	3
Through Vol	0	14	0	92	46	0	76	38	14
RT Vol	0	32	0	0	55	0	0	5	18
Lane Flow Rate	40	50	32	100	110	55	83	47	38
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.069	0.072	0.051	0.148	0.15	0.091	0.124	0.069	0.058
Departure Headway (Hd)	6.203	5.217	5.818	5.315	4.932	5.901	5.398	5.316	5.504
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	575	682	614	672	723	605	661	670	646
Service Time	3.972	2.987	3.569	3.067	2.684	3.659	3.156	3.075	3.279
HCM Lane V/C Ratio	0.07	0.073	0.052	0.149	0.152	0.091	0.126	0.07	0.059
HCM Control Delay	9.4	8.4	8.9	9	8.6	9.3	8.9	8.5	8.6
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.5	0.5	0.3	0.4	0.2	0.2

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	56	102	82	17	51	56
Future Vol, veh/h	56	102	82	17	51	56
Conflicting Peds, #/hr	0	0	0	0	56	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	111	89	18	55	61

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	107	0	-	0	387 98
Stage 1	-	-	-	-	98 -
Stage 2	-	-	-	-	289 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1484	-	-	-	616 958
Stage 1	-	-	-	-	926 -
Stage 2	-	-	-	-	760 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1484	-	-	-	589 958
Mov Cap-2 Maneuver	-	-	-	-	589 -
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	760 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1484	-	-	-	738
HCM Lane V/C Ratio	0.041	-	-	-	0.158
HCM Control Delay (s)	7.5	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

HCM 6th Signalized Intersection Summary
 7: E 7th St & Ramona Expy

E+P PM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	43	2	110	3	1	4	34	530	2	11	936	69
Future Volume (veh/h)	43	2	110	3	1	4	34	530	2	11	936	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	2	122	3	1	4	38	589	2	12	1040	77
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	3	190	7	26	102	71	1943	7	27	1711	127
Arrive On Green	0.05	0.12	0.12	0.00	0.08	0.08	0.04	0.53	0.53	0.02	0.51	0.51
Sat Flow, veh/h	1781	26	1563	1781	327	1308	1781	3633	12	1781	3354	248
Grp Volume(v), veh/h	48	0	124	3	0	5	38	288	303	12	551	566
Grp Sat Flow(s),veh/h/ln	1781	0	1589	1781	0	1635	1781	1777	1868	1781	1777	1826
Q Serve(g_s), s	1.5	0.0	4.1	0.1	0.0	0.2	1.2	5.0	5.0	0.4	12.2	12.2
Cycle Q Clear(g_c), s	1.5	0.0	4.1	0.1	0.0	0.2	1.2	5.0	5.0	0.4	12.2	12.2
Prop In Lane	1.00		0.98	1.00		0.80	1.00		0.01	1.00		0.14
Lane Grp Cap(c), veh/h	84	0	193	7	0	128	71	950	999	27	906	931
V/C Ratio(X)	0.57	0.00	0.64	0.41	0.00	0.04	0.53	0.30	0.30	0.44	0.61	0.61
Avail Cap(c_a), veh/h	164	0	518	164	0	533	177	950	999	177	906	931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	0.0	23.2	27.6	0.0	23.6	26.1	7.2	7.2	27.1	9.6	9.6
Incr Delay (d2), s/veh	6.0	0.0	3.6	33.6	0.0	0.1	6.1	0.8	0.8	10.9	3.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.6	0.1	0.0	0.1	0.6	1.7	1.8	0.2	4.5	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.0	26.8	61.1	0.0	23.8	32.2	8.0	7.9	38.0	12.7	12.6
LnGrp LOS	C	A	C	E	A	C	C	A	A	D	B	B
Approach Vol, veh/h		172			8			629			1129	
Approach Delay, s/veh		28.2			37.8			9.4			12.9	
Approach LOS		C			D			A			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.3	34.2	4.7	11.2	6.7	32.8	7.1	8.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	28.3	5.1	18.1	5.5	28.3	5.1	18.1				
Max Q Clear Time (g_c+I1), s	2.4	7.0	2.1	6.1	3.2	14.2	3.5	2.2				
Green Ext Time (p_c), s	0.0	3.6	0.0	0.5	0.0	6.4	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	128	57	0	257	0	67
Future Vol, veh/h	128	57	0	257	0	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	139	62	0	279	0	73

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	101
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	935
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	935
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	935	-	-	-
HCM Lane V/C Ratio	0.078	-	-	-
HCM Control Delay (s)	9.2	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	44	0	632	985	104
Future Vol, veh/h	0	44	0	632	985	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	48	0	687	1071	113

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	592	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	449	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	449	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 449	-	-
HCM Lane V/C Ratio	- 0.107	-	-
HCM Control Delay (s)	- 14	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.4	-	-

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	47	10	24	87	94	83
Future Vol, veh/h	47	10	24	87	94	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	11	26	95	102	90

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	121	0	-	0	187
Stage 1	-	-	-	-	74
Stage 2	-	-	-	-	113
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1467	-	-	-	802
Stage 1	-	-	-	-	949
Stage 2	-	-	-	-	912
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1467	-	-	-	774
Mov Cap-2 Maneuver	-	-	-	-	774
Stage 1	-	-	-	-	916
Stage 2	-	-	-	-	912

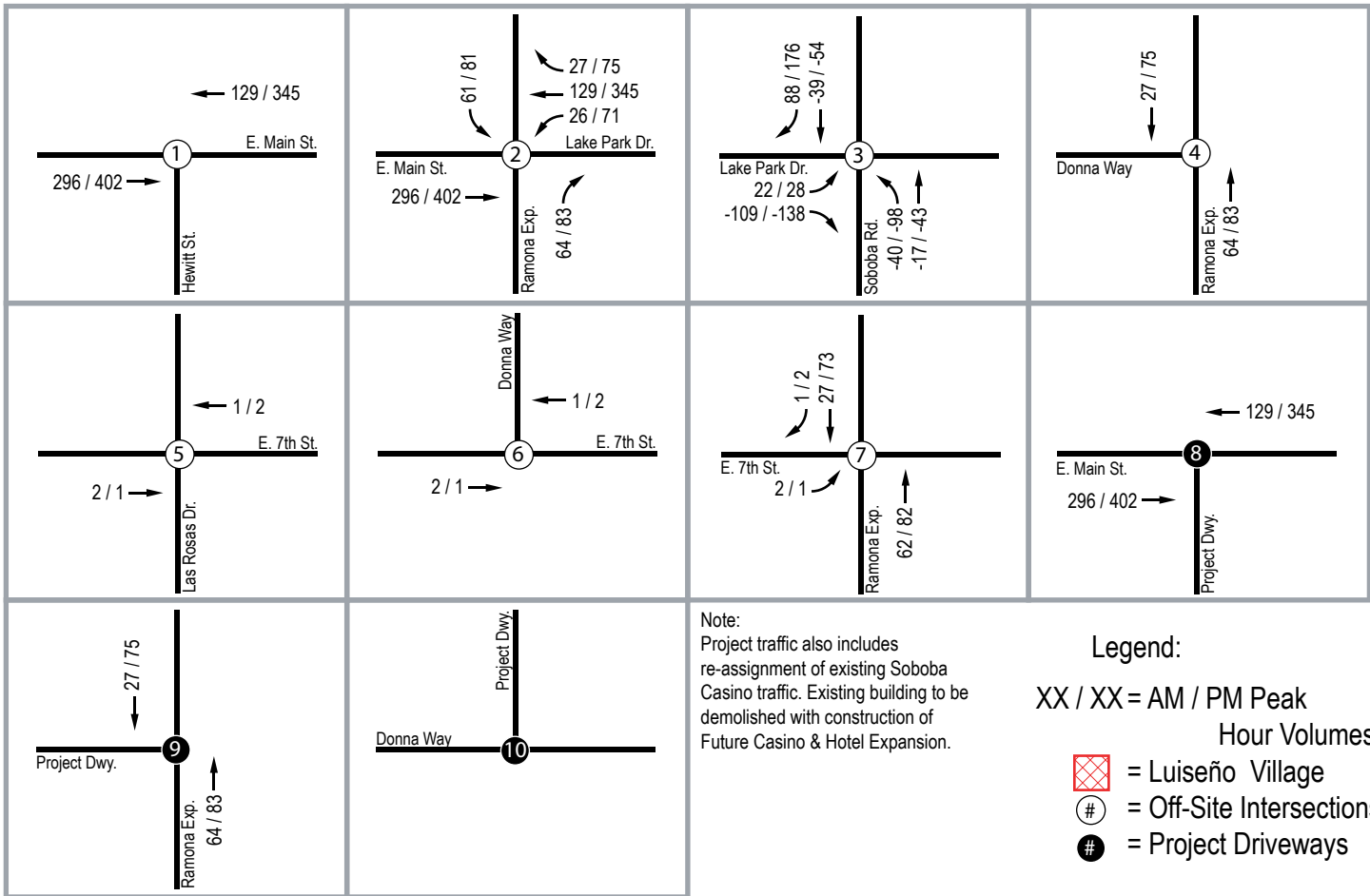
Approach	EB	WB	SB
HCM Control Delay, s	6.2	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1467	-	-	-	862
HCM Lane V/C Ratio	0.035	-	-	-	0.223
HCM Control Delay (s)	7.5	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

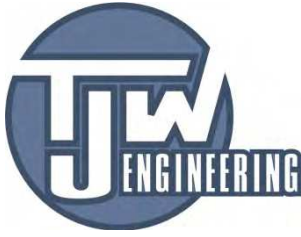
Appendix D: Cumulative Projects Information

Soboba Casino Trip Generation

Land Use	Intensity	ADT	AM Peak Hour Trips			PM Peak Hour Trips		
			Total	Inbound	Outbound	Total	Inbound	Outbound
<u>Existing</u>								
Casino	75 KSF	2,957	222	155	67	372	197	175
<u>Proposed</u>								
Casino	291.304 KSF	11,486	859	600	259	1,442	763	679
Banquet Room ¹ (38.2 KSF)	1,935 seats	3,406	19	13	6	136	97	39
Hotel (156,471 SF)	200 Room	412	30	18	12	30	16	14
Firestation	15 KSF	NOM	NOM			NOM		
Cultural/Office ²	15 KSF	507	31	20	11	41	20	21
Clinic ³	30 KSF	1,084	72	57	15	107	30	77
Maintenance Building	600 SF	NOM	NOM			NOM		
Subtotal		16,895	1,011	708	303	1,756	926	830
Internal Capture (10%)		-1,530	-91	-63	-28	-161	-88	-73
Subtotal Proposed		15,365	920	645	275	1,595	838	757
Proposed Net New Trips (Proposed - Existing)		12,408	698	490	208	1,223	641	582



Soboba Casino and Hotel Expansion Project Trip Assignment



**KPC Promenade
Traffic Impact Analysis
City of San Jacinto, California**

Prepared for:
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September 6, 2016

**Table 9
Trip Generation Rates for Proposed Project Land Uses**

Land Use (ITE Code)	Unit	AM Peak Hour			PM Peak Hour			Daily Trips
		In	Out	Total	In	Out	Total	
Senior Adult Housing-Attached (252)	DU	0.07	0.13	0.20	0.14	0.11	0.25	3.44
Hotel (310)	Rooms	0.31	0.22	0.53	0.31	0.29	0.60	8.17
Medical Office (720)	TSF	1.89	0.50	2.39	1.00	2.57	3.57	36.13
Shopping Center (820)	TSF	0.60	0.36	0.96	1.78	1.93	3.71	42.70
Shopping Center Pass-by		0%			34%			34% ¹
Quality Restaurant (931)	TSF	0.41	0.40	0.81	5.91	3.94	9.85	127.15
Quality Restaurant Pass-By		0%			44%			10% ²
Fast Food With Drive-Thru (934)	TSF	23.16	22.26	45.42	16.98	15.67	32.65	496.12
Fast Food With Drive-Thru Pass-By		50%			50%			50% ²
Gasoline Station With Convenience Market (945)	VFP	5.08	5.08	10.16	6.76	6.75	13.51	162.78
Gasoline Station with Convenience Market Pass-By		62%			56%			50% ²

Note: TSF = thousand square feet, DU = dwelling unit, VFP = vehicle fueling position

Source: ITE Trip Generation, 9th Edition (2012). ITE Trip Generation Handbook, 3rd Edition (2014) except for

1 = San Diego Land Development Code Trip Generation Manual (May 2003), which recommends a 50% daily pass-by, adjusted down to ITE's recommended PM pass-by rate

2 = LADOT Traffic Study Policies and Procedures (August 2014)

Table 10 shows the trip generation of the proposed project, at the project driveways, after accounting for internal trip capture but before accounting for pass-by discounts.

Table 10
Gross Trip Generation of Proposed Project

Land Use	Quantity	AM In	AM Out	AM Total	PM In	PM Out	PM Total	Daily Trips
Attached Senior Housing	114 DU	8	15	23	15	13	28	392
	Internal Trip Capture (See App A)	0	-3	-3	-5	-5	-10	-20
Hotel	120 Rooms	38	26	64	37	35	72	980
	Internal Trip Capture (See App A)	-2	-2	-4	-10	-8	-18	-49
Medical Office	9.6 TSF	12	4	16	7	17	24	298
	Internal Trip Capture (See App A)	-2	-3	-5	-3	-2	-5	-15
Retail	6.3 TSF	4	2	6	11	12	23	269
	Internal Trip Capture (See App A)	-1	0	-1	-8	-7	-15	-13
Quality Restaurant	5.0 TSF	2	2	4	25	12	37	450
	Internal Trip Capture (See App A)	0	0	0	-3	-2	-5	-23
Fast Food With Drive-Thru	7.8 TSF	181	173	354	132	123	255	3870
	Internal Trip Capture (See App A)	-7	-3	-10	-13	-17	-30	-194
Gas Station/Convenience Market	16 VFP	81	82	163	108	108	216	2604
	<i>Subtotal Before Internal Trip Capture</i>	<i>326</i>	<i>304</i>	<i>630</i>	<i>335</i>	<i>320</i>	<i>655</i>	<i>8863</i>
	<i>Subtotal Internal Trip Capture</i>	<i>-12</i>	<i>-11</i>	<i>-23</i>	<i>-42</i>	<i>-41</i>	<i>-83</i>	<i>-314</i>
	Net New Trips on Roadway Network	314	293	607	293	279	572	8,549

Note: TSF = thousand square feet, DU = dwelling units, VFP = vehicle fueling position

As shown in **Table 10**, before accounting for pass-by trip discounts, the proposed project is forecast to generate approximately 607 AM peak hour trips, 572 PM peak hour trips and 8,549 daily trips at the project driveways. Gross trip generation is reflected at the project driveways in this analysis.

Table 11 shows the net new trip generation of the proposed project on the roadway system after accounting for pass-by discounts. Net trip generation is distributed to the external roadways in the study area in this analysis.

Table 11
Net New Trip Generation of Proposed Project

Land Use	Quantity	AM In	AM Out	AM Total	PM In	PM Out	PM Total	Daily Trips
Attached Senior Housing	114 DU	8	15	23	15	13	28	392
	Internal Trip Capture (See App A)	<u>0</u>	<u>-3</u>	<u>-3</u>	<u>-5</u>	<u>-5</u>	<u>-10</u>	<u>-20</u>
	<i>Senior Housing Total</i>	8	12	20	10	8	18	372
Hotel	120 Rooms	38	26	64	37	35	72	980
	Internal Trip Capture (See App A)	<u>-2</u>	<u>-2</u>	<u>-4</u>	<u>-10</u>	<u>-8</u>	<u>-18</u>	<u>-49</u>
	<i>Hotel Total</i>	36	24	60	27	27	54	931
Medical Office	9.6 TSF	12	4	16	7	17	24	298
	Internal Trip Capture (See App A)	<u>-2</u>	<u>-3</u>	<u>-5</u>	<u>-3</u>	<u>-2</u>	<u>-5</u>	<u>-15</u>
	<i>Medical Office Total</i>	10	1	11	4	15	19	283
Retail	6.3 TSF	4	2	6	11	12	23	269
	Internal Trip Capture (See App A)	<u>-1</u>	<u>0</u>	<u>-1</u>	<u>-8</u>	<u>-7</u>	<u>-15</u>	<u>-13</u>
	Retail Subtotal	3	2	5	3	5	8	256
	Pass-by (34% PM & Daily)	<u>0</u>	<u>0</u>	<u>0</u>	<u>-1</u>	<u>-2</u>	<u>-3</u>	<u>-87</u>
	<i>Retail Total</i>	3	2	5	2	3	5	169
Quality Restaurant	5.0 TSF	2	2	4	25	12	37	450
	Internal Trip Capture (See App A)	<u>0</u>	<u>0</u>	<u>0</u>	<u>-3</u>	<u>-2</u>	<u>-5</u>	<u>-23</u>
	Quality Restaurant Subtotal	2	2	4	22	10	32	427
	Pass-by (44% PM, 10% Daily)	0	0	0	-10	-4	-14	-43
	<i>Quality Restaurant Total</i>	2	2	4	12	6	18	384
Fast Food With Drive-Thru	7.8 TSF	181	173	354	132	123	255	3870
	Internal Trip Capture (See App A)	<u>-7</u>	<u>-3</u>	<u>-10</u>	<u>-13</u>	<u>-17</u>	<u>-30</u>	<u>-194</u>
	Fast Food Restaurant Subtotal	174	170	344	119	106	225	3676
	Pass-by (50% AM, PM & Daily)	<u>-87</u>	<u>-85</u>	<u>-172</u>	<u>-59</u>	<u>-53</u>	<u>-113</u>	<u>-1838</u>
	<i>Fast Food Restaurant Total</i>	87	85	172	60	53	112	1838
Gas Station/Convenience Market	16 VFP	81	82	163	108	108	216	2604
	Pass-by (62% AM, 56% PM, 50% Daily)	<u>-50</u>	<u>-51</u>	<u>-101</u>	<u>-61</u>	<u>-60</u>	<u>-121</u>	<u>-1302</u>
	<i>Gas Station/Convenience Market Total</i>	31	31	62	47	48	95	1302
Net New Trips on Roadway Network		177	157	334	162	160	321	5,279

Note: TSF = Thousand Square Feet, DU = Dwelling Unit

As shown in **Table 11**, the proposed project is projected to generate approximately 334 net new AM peak hour trips, 321 net new PM peak hour trips and 5,279 net new daily trips on the surrounding roadway network.

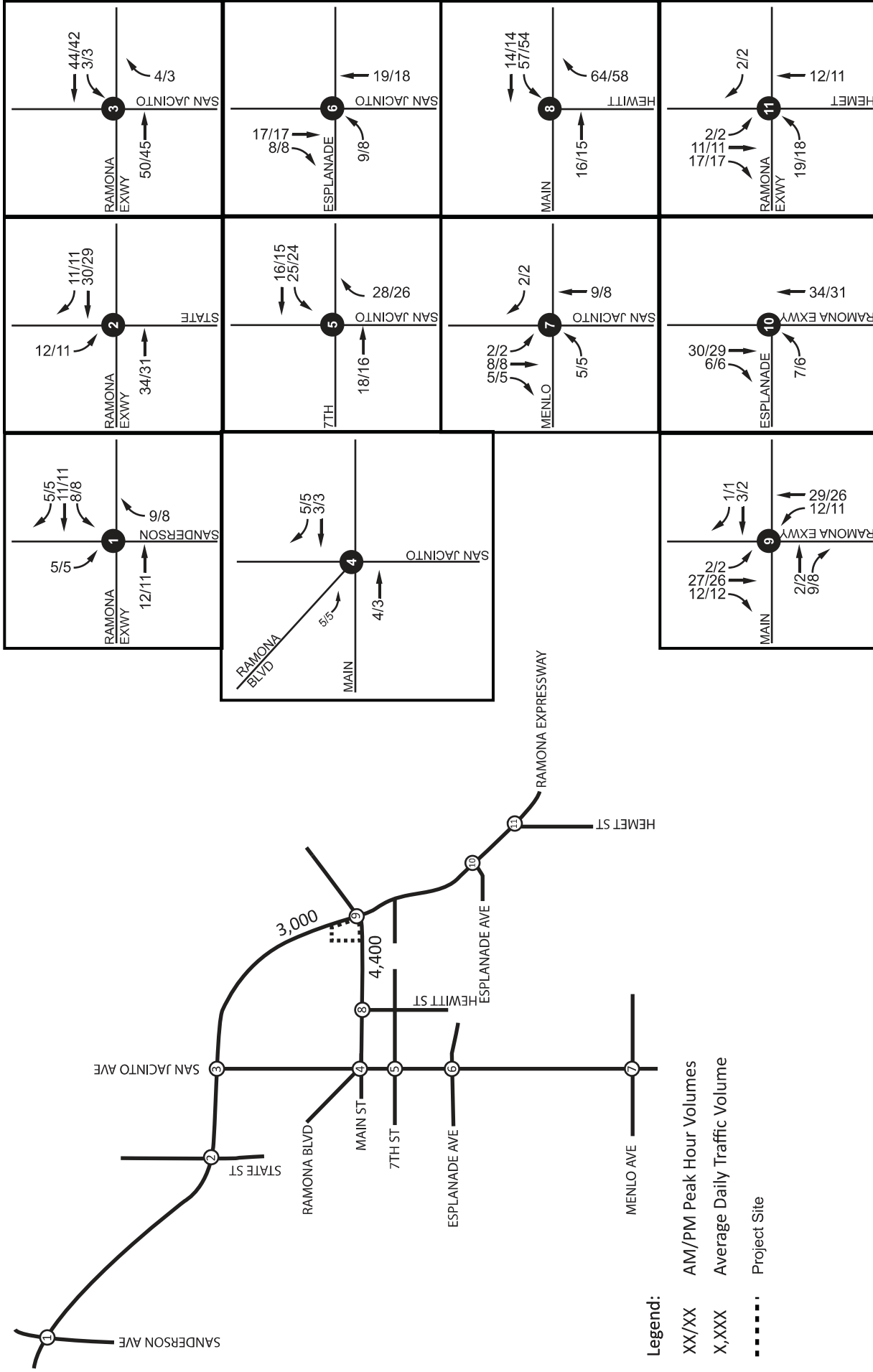


Exhibit 6: Proposed Project Trip Assignment

LMG-16-001 KPC Promenade Traffic Impact Analysis



Not to Scale

Appendix E: Existing Plus Cumulative Synchro Worksheets

Intersection	
Intersection Delay, s/veh	97.2
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	525	119	172	389	240	218
Future Vol, veh/h	525	119	172	389	240	218
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	571	129	187	423	261	237
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	182.4	36.2	52.1
HCM LOS	F	E	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	52%	0%	100%	0%
Vol Thru, %	0%	82%	0%	100%
Vol Right, %	48%	18%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	458	644	172	389
LT Vol	240	0	172	0
Through Vol	0	525	0	389
RT Vol	218	119	0	0
Lane Flow Rate	498	700	187	423
Geometry Grp	2	5	7	7
Degree of Util (X)	0.93	1.33	0.411	0.871
Departure Headway (Hd)	7.318	6.842	8.515	7.997
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	498	532	426	457
Service Time	5.318	4.913	6.215	5.697
HCM Lane V/C Ratio	1	1.316	0.439	0.926
HCM Control Delay	52.1	182.4	17	44.7
HCM Lane LOS	F	F	C	E
HCM 95th-tile Q	11.1	30.1	2	9

HCM 6th Signalized Intersection Summary
 2: Main St/Lake Park Dr & Ramona Expy

Cumulative AM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	421	87	142	256	101	98	1148	278	146	537	59
Future Volume (veh/h)	58	421	87	142	256	101	98	1148	278	146	537	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	434	90	146	264	104	101	1184	287	151	554	61
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	437	459	389	252	264	224	424	1197	287	203	1234	383
Arrive On Green	0.25	0.25	0.25	0.14	0.14	0.14	0.24	0.42	0.42	0.06	0.24	0.24
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	2843	682	3456	5106	1585
Grp Volume(v), veh/h	60	434	90	146	264	104	101	735	736	151	554	61
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1748	1728	1702	1585
Q Serve(g_s), s	3.5	30.7	6.1	10.3	19.0	8.1	6.2	55.0	56.6	5.8	12.4	4.1
Cycle Q Clear(g_c), s	3.5	30.7	6.1	10.3	19.0	8.1	6.2	55.0	56.6	5.8	12.4	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	437	459	389	252	264	224	424	748	736	203	1234	383
V/C Ratio(X)	0.14	0.95	0.23	0.58	1.00	0.46	0.24	0.98	1.00	0.74	0.45	0.16
Avail Cap(c_a), veh/h	444	466	395	252	264	224	424	748	736	296	1234	383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	49.9	40.6	54.0	57.7	53.1	41.4	38.5	38.9	62.3	43.4	40.2
Incr Delay (d2), s/veh	0.1	28.4	0.3	3.3	55.0	1.5	1.3	29.0	33.2	5.7	1.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	17.9	2.4	4.9	13.0	3.3	2.9	29.5	30.6	2.7	5.4	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	78.3	40.9	57.3	112.8	54.6	42.7	67.5	72.2	68.0	44.5	41.1
LnGrp LOS	D	E	D	E	F	D	D	E	F	E	D	D
Approach Vol, veh/h		584			514			1572			766	
Approach Delay, s/veh		68.6			85.2			68.1			48.9	
Approach LOS		E			F			E			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	61.1		37.5	36.5	37.0		23.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	1.5	53.0		33.5	32.0	32.5		19.0				
Max Q Clear Time (g_c+1), s	1.5	58.6		32.7	8.2	14.4		21.0				
Green Ext Time (p_c), s	0.1	0.0		0.3	0.2	3.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	66.5
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
 3: Lake Park Dr & Soboba Rd

Cumulative AM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	0	166	0	0	0	183	11	0	0	9	216
Future Volume (veh/h)	218	0	166	0	0	0	183	11	0	0	9	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	242	0	184	0	0	0	203	12	0	0	10	240
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	643	0	286	0	4	0	266	1209	0	4	768	651
Arrive On Green	0.18	0.00	0.18	0.00	0.00	0.00	0.15	0.65	0.00	0.00	0.41	0.41
Sat Flow, veh/h	3563	0	1585	0	748	14	1781	1870	0	1781	1870	1585
Grp Volume(v), veh/h	242	0	184	0	0	0	203	12	0	0	10	240
Grp Sat Flow(s),veh/h/ln	1781	0	1585	0	1870	0	1781	1870	0	1781	1870	1585
Q Serve(g_s), s	2.8	0.0	5.0	0.0	0.0	0.0	5.1	0.1	0.0	0.0	0.1	4.9
Cycle Q Clear(g_c), s	2.8	0.0	5.0	0.0	0.0	0.0	5.1	0.1	0.0	0.0	0.1	4.9
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	643	0	286	0	4	0	266	1209	0	4	768	651
V/C Ratio(X)	0.38	0.00	0.64	0.00	0.00	0.00	0.76	0.01	0.00	0.00	0.01	0.37
Avail Cap(c_a), veh/h	2040	0	908	0	222	0	693	1209	0	385	768	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	16.7	0.0	17.6	0.0	0.0	0.0	18.9	2.9	0.0	0.0	8.1	9.5
Incr Delay (d2), s/veh	0.4	0.0	2.4	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.8	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.1	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.0	0.0	20.0	0.0	0.0	0.0	23.4	2.9	0.0	0.0	8.1	11.1
LnGrp LOS	B	A	B	A	A	A	C	A	A	A	A	B
Approach Vol, veh/h	426			0			215			250		
Approach Delay, s/veh	18.3			0.0			22.2			11.0		
Approach LOS	B						C			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.0	33.9	12.4		10.9	23.0	0.0					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0					
Max Green Setting (Gmax), s	10.0	27.0	26.5		18.0	19.0	5.5					
Max Q Clear Time (g_c+I), s	10.0	2.1	7.0		7.1	6.9	0.0					
Green Ext Time (p_c), s	0.0	0.0	1.4		0.4	0.7	0.0					

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↑↑	↑↑↑	↗
Traffic Vol, veh/h	0	1	0	1526	738	30
Future Vol, veh/h	0	1	0	1526	738	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	0	1659	802	33

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1632	401	835	0	-	0
Stage 1	802	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Critical Hdwy	6.29	7.14	5.34	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	3.12	-	-	-
Pot Cap-1 Maneuver	116	512	470	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	378	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	116	512	470	-	-	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	327	-	-	-	-	-
Stage 2	378	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	470	-	-	512	-	-
HCM Lane V/C Ratio	-	-	-	0.002	-	-
HCM Control Delay (s)	0	-	0	12	-	-
HCM Lane LOS	A	-	A	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗			↕↗	
Traffic Vol, veh/h	4	289	40	52	244	8	72	11	100	25	7	22
Future Vol, veh/h	4	289	40	52	244	8	72	11	100	25	7	22
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	314	43	57	265	9	78	12	109	27	8	24
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	11.9	11.2	10.8	10.7
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	46%
Vol Thru, %	0%	10%	0%	100%	71%	0%	100%	91%	13%
Vol Right, %	0%	90%	0%	0%	29%	0%	0%	9%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	111	4	193	136	52	163	89	54
LT Vol	72	0	4	0	0	52	0	0	25
Through Vol	0	11	0	193	96	0	163	81	7
RT Vol	0	100	0	0	40	0	0	8	22
Lane Flow Rate	78	121	4	209	148	57	177	97	59
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.157	0.204	0.008	0.365	0.25	0.107	0.311	0.169	0.114
Departure Headway (Hd)	7.222	6.089	6.783	6.276	6.068	6.839	6.332	6.269	7.016
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	588	527	572	590	523	566	571	509
Service Time	4.984	3.85	4.538	4.031	3.823	4.595	4.089	4.025	4.789
HCM Lane V/C Ratio	0.158	0.206	0.008	0.365	0.251	0.109	0.313	0.17	0.116
HCM Control Delay	11.3	10.4	9.6	12.6	10.9	10.4	11.9	10.3	10.7
HCM Lane LOS	B	B	A	B	B	B	B	B	B
HCM 95th-tile Q	0.6	0.8	0	1.7	1	0.4	1.3	0.6	0.4

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	51	127	143	11	3	13
Future Vol, veh/h	51	127	143	11	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	138	155	12	3	14

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	167	0	-	0	409 161
Stage 1	-	-	-	-	161 -
Stage 2	-	-	-	-	248 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1411	-	-	-	599 884
Stage 1	-	-	-	-	868 -
Stage 2	-	-	-	-	793 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1411	-	-	-	574 884
Mov Cap-2 Maneuver	-	-	-	-	574 -
Stage 1	-	-	-	-	832 -
Stage 2	-	-	-	-	793 -

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1411	-	-	-	803
HCM Lane V/C Ratio	0.039	-	-	-	0.022
HCM Control Delay (s)	7.7	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM 6th Signalized Intersection Summary
7: E 7th St & Ramona Expy

Cumulative AM
06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	127	0	81	0	0	4	85	1396	1	5	660	72
Future Volume (veh/h)	127	0	81	0	0	4	85	1396	1	5	660	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	0	90	0	0	4	94	1551	1	6	733	80
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	0	394	3	0	109	123	1823	1	14	1420	155
Arrive On Green	0.10	0.00	0.25	0.00	0.00	0.07	0.07	0.50	0.50	0.01	0.44	0.44
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3644	2	1781	3231	352
Grp Volume(v), veh/h	141	0	90	0	0	4	94	756	796	6	403	410
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1870	1781	1777	1807
Q Serve(g_s), s	4.3	0.0	2.5	0.0	0.0	0.1	2.9	20.6	20.6	0.2	9.1	9.1
Cycle Q Clear(g_c), s	4.3	0.0	2.5	0.0	0.0	0.1	2.9	20.6	20.6	0.2	9.1	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.20
Lane Grp Cap(c), veh/h	176	0	394	3	0	109	123	889	935	14	781	794
V/C Ratio(X)	0.80	0.00	0.23	0.00	0.00	0.04	0.77	0.85	0.85	0.42	0.52	0.52
Avail Cap(c_a), veh/h	176	0	519	176	0	519	337	889	935	176	781	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	0.0	16.6	0.0	0.0	24.2	25.4	12.1	12.1	27.4	11.3	11.3
Incr Delay (d2), s/veh	22.4	0.0	0.3	0.0	0.0	0.1	9.5	10.0	9.6	18.8	2.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.9	0.0	0.0	0.1	1.5	8.8	9.2	0.1	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.9	0.0	16.9	0.0	0.0	24.3	34.9	22.1	21.7	46.2	13.7	13.7
LnGrp LOS	D	A	B	A	A	C	C	C	C	D	B	B
Approach Vol, veh/h		231			4			1646			819	
Approach Delay, s/veh		35.2			24.3			22.6			13.9	
Approach LOS		D			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	32.3	0.0	18.3	8.3	28.9	10.0	8.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	27.8	5.5	18.2	10.5	22.8	5.5	18.2				
Max Q Clear Time (g_c+I1), s	2.2	22.6	0.0	4.5	4.9	11.1	6.3	2.1				
Green Ext Time (p_c), s	0.0	4.0	0.0	0.3	0.1	4.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			21.1									
HCM 6th LOS			C									

Intersection	
Intersection Delay, s/veh	159.3
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	626	138	210	605	179	195
Future Vol, veh/h	626	138	210	605	179	195
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	680	150	228	658	195	212
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	254	129	32.1
HCM LOS	F	F	D

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	48%	0%	100%	0%
Vol Thru, %	0%	82%	0%	100%
Vol Right, %	52%	18%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	374	764	210	605
LT Vol	179	0	210	0
Through Vol	0	626	0	605
RT Vol	195	138	0	0
Lane Flow Rate	407	830	228	658
Geometry Grp	2	5	7	7
Degree of Util (X)	0.769	1.501	0.478	1.286
Departure Headway (Hd)	7.73	6.791	8.227	7.71
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	472	540	441	480
Service Time	5.73	4.791	5.927	5.41
HCM Lane V/C Ratio	0.862	1.537	0.517	1.371
HCM Control Delay	32.1	254	18.2	167.5
HCM Lane LOS	D	F	C	F
HCM 95th-tile Q	6.7	40.6	2.5	25.5

HCM 6th Signalized Intersection Summary
 2: Main St/Lake Park Dr & Ramona Expy

Cumulative PM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑	↗	↘	↑↑		↗	↑↑↑	↗
Traffic Volume (veh/h)	44	548	76	401	562	208	66	530	266	184	904	59
Future Volume (veh/h)	44	548	76	401	562	208	66	530	266	184	904	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	565	78	413	579	214	68	546	274	190	932	61
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	439	461	391	257	270	229	422	930	466	249	1229	382
Arrive On Green	0.25	0.25	0.25	0.14	0.14	0.14	0.24	0.41	0.41	0.07	0.24	0.24
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1781	2293	1148	3456	5106	1585
Grp Volume(v), veh/h	45	565	78	413	579	214	68	423	397	190	932	61
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1781	1777	1664	1728	1702	1585
Q Serve(g_s), s	2.6	33.3	5.3	19.5	19.5	18.0	4.1	25.1	25.2	7.3	22.9	4.1
Cycle Q Clear(g_c), s	2.6	33.3	5.3	19.5	19.5	18.0	4.1	25.1	25.2	7.3	22.9	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.69	1.00		1.00
Lane Grp Cap(c), veh/h	439	461	391	257	270	229	422	721	675	249	1229	382
V/C Ratio(X)	0.10	1.22	0.20	1.61	2.14	0.93	0.16	0.59	0.59	0.76	0.76	0.16
Avail Cap(c_a), veh/h	439	461	391	257	270	229	422	721	675	550	1229	382
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	50.8	40.3	57.8	57.7	57.1	40.9	31.3	31.3	61.5	47.6	40.5
Incr Delay (d2), s/veh	0.1	119.1	0.2	289.8	526.6	41.7	0.8	3.5	3.7	4.8	4.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	30.8	2.1	29.5	48.7	9.9	1.9	11.5	10.8	3.4	10.2	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	170.0	40.5	347.5	584.4	98.9	41.7	34.8	35.1	66.3	52.0	41.4
LnGrp LOS	D	F	D	F	F	F	D	C	D	E	D	D
Approach Vol, veh/h		688			1206			888			1183	
Approach Delay, s/veh		146.8			417.1			35.4			53.8	
Approach LOS		F			F			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.2	59.3		37.5	36.5	37.0		24.0				
Change Period (Y+Rc), s	4.5	4.5		* 4.2	4.5	4.5		4.5				
Max Green Setting (Gmax), s	21.5	43.0		* 33	32.0	32.5		19.5				
Max Q Clear Time (g_c+1), s	19.3	27.2		35.3	6.1	24.9		21.5				
Green Ext Time (p_c), s	0.5	4.9		0.0	0.1	3.8		0.0				

Intersection Summary

HCM 6th Ctrl Delay	176.3
HCM 6th LOS	F

Notes

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

HCM 6th Signalized Intersection Summary
 3: Lake Park Dr & Soboba Rd

Cumulative PM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	0	222	0	0	0	336	78	0	0	50	417
Future Volume (veh/h)	237	0	222	0	0	0	336	78	0	0	50	417
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	0	247	0	0	0	373	87	0	0	56	463
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	733	0	326	0	3	0	444	1222	0	3	625	530
Arrive On Green	0.21	0.00	0.21	0.00	0.00	0.00	0.25	0.65	0.00	0.00	0.33	0.33
Sat Flow, veh/h	3563	0	1585	0	1870	0	1781	1870	0	1781	1870	1585
Grp Volume(v), veh/h	263	0	247	0	0	0	373	87	0	0	56	463
Grp Sat Flow(s),veh/h/ln	1781	0	1585	0	1870	0	1781	1870	0	1781	1870	1585
Q Serve(g_s), s	3.6	0.0	8.3	0.0	0.0	0.0	11.3	1.0	0.0	0.0	1.2	15.6
Cycle Q Clear(g_c), s	3.6	0.0	8.3	0.0	0.0	0.0	11.3	1.0	0.0	0.0	1.2	15.6
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	733	0	326	0	3	0	444	1222	0	3	625	530
V/C Ratio(X)	0.36	0.00	0.76	0.00	0.00	0.00	0.84	0.07	0.00	0.00	0.09	0.87
Avail Cap(c_a), veh/h	1284	0	571	0	181	0	752	1222	0	251	625	530
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	21.2	0.0	0.0	0.0	20.3	3.6	0.0	0.0	13.0	17.8
Incr Delay (d2), s/veh	0.3	0.0	3.6	0.0	0.0	0.0	4.4	0.1	0.0	0.0	0.3	18.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4	0.0	3.2	0.0	0.0	0.0	4.8	0.3	0.0	0.0	0.5	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.7	0.0	24.8	0.0	0.0	0.0	24.6	3.7	0.0	0.0	13.3	35.8
LnGrp LOS	B	A	C	A	A	A	C	A	A	A	B	D
Approach Vol, veh/h	510			0			460			519		
Approach Delay, s/veh	22.2			0.0			20.7			33.3		
Approach LOS	C						C			C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.0	41.2	15.7		18.2	23.0	0.0					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0					
Max Green Setting (Gmax), s	35.0	35.0	20.5		24.0	19.0	5.5					
Max Q Clear Time (g_c+1), s	3.0	3.0	10.3		13.3	17.6	0.0					
Green Ext Time (p_c), s	0.0	0.4	1.4		0.9	0.3	0.0					

Intersection Summary

HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗		↑↑	↑↑↑	↗
Traffic Vol, veh/h	0	17	0	863	1376	18
Future Vol, veh/h	0	17	0	863	1376	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	0	938	1496	20

Major/Minor

	Minor2	Major1	Major2		
Conflicting Flow All	1965	748	-	0	-
Stage 1	1496	-	-	-	-
Stage 2	469	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	-
Critical Hdwy Stg 1	6.64	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	-
Pot Cap-1 Maneuver	73	305	0	-	-
Stage 1	121	-	0	-	-
Stage 2	577	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	73	305	-	-	-
Mov Cap-2 Maneuver	73	-	-	-	-
Stage 1	121	-	-	-	-
Stage 2	577	-	-	-	-

Approach

	EB	NB	SB
HCM Control Delay, s	17.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt

	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	-	-	305	-	-
HCM Lane V/C Ratio	-	-	0.061	-	-
HCM Control Delay (s)	-	0	17.6	-	-
HCM Lane LOS	-	A	C	-	-
HCM 95th %tile Q(veh)	-	-	0.2	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↔		↵	↕↔		↵	↔			↕↔	
Traffic Vol, veh/h	31	113	58	46	82	5	39	15	25	3	15	19
Future Vol, veh/h	31	113	58	46	82	5	39	15	25	3	15	19
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	123	63	50	89	5	42	16	27	3	16	21
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	8.5	8.7	8.7	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	8%
Vol Thru, %	0%	38%	0%	100%	39%	0%	100%	85%	41%
Vol Right, %	0%	62%	0%	0%	61%	0%	0%	15%	51%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	40	31	75	96	46	55	32	37
LT Vol	39	0	31	0	0	46	0	0	3
Through Vol	0	15	0	75	38	0	55	27	15
RT Vol	0	25	0	0	58	0	0	5	19
Lane Flow Rate	42	43	34	82	104	50	59	35	40
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.071	0.062	0.054	0.119	0.139	0.081	0.088	0.051	0.06
Departure Headway (Hd)	6.049	5.113	5.725	5.223	4.797	5.845	5.343	5.234	5.336
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	697	625	685	746	612	668	682	668
Service Time	3.805	2.868	3.468	2.966	2.539	3.596	3.093	2.985	3.095
HCM Lane V/C Ratio	0.071	0.062	0.054	0.12	0.139	0.082	0.088	0.051	0.06
HCM Control Delay	9.3	8.2	8.8	8.7	8.3	9.1	8.6	8.3	8.4
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.4	0.5	0.3	0.3	0.2	0.2

Intersection

Int Delay, s/veh 1.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	10	118	89	1	4	21
Future Vol, veh/h	10	118	89	1	4	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	128	97	1	4	23

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	98	0	-	0	248	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1495	-	-	-	740	958
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	734	958
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	878	-

Approach EB WB SB

HCM Control Delay, s	0.6	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1495	-	-	-	913
HCM Lane V/C Ratio	0.007	-	-	-	0.03
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th Signalized Intersection Summary
 7: E 7th St & Ramona Expy

Cumulative PM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (veh/h)	51	2	71	3	1	4	36	797	2	12	1313	59
Future Volume (veh/h)	51	2	71	3	1	4	36	797	2	12	1313	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	2	79	3	1	4	40	886	2	13	1459	66
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	5	180	7	22	88	74	1966	4	29	1785	81
Arrive On Green	0.05	0.12	0.12	0.00	0.07	0.07	0.04	0.54	0.54	0.02	0.52	0.52
Sat Flow, veh/h	1781	39	1552	1781	327	1308	1781	3638	8	1781	3463	156
Grp Volume(v), veh/h	57	0	81	3	0	5	40	433	455	13	747	778
Grp Sat Flow(s),veh/h/ln	1781	0	1591	1781	0	1635	1781	1777	1869	1781	1777	1842
Q Serve(g_s), s	1.7	0.0	2.6	0.1	0.0	0.2	1.2	8.2	8.2	0.4	19.6	19.7
Cycle Q Clear(g_c), s	1.7	0.0	2.6	0.1	0.0	0.2	1.2	8.2	8.2	0.4	19.6	19.7
Prop In Lane	1.00		0.98	1.00		0.80	1.00		0.00	1.00		0.08
Lane Grp Cap(c), veh/h	94	0	184	7	0	110	74	961	1010	29	916	950
V/C Ratio(X)	0.61	0.00	0.44	0.41	0.00	0.05	0.54	0.45	0.45	0.45	0.82	0.82
Avail Cap(c_a), veh/h	163	0	517	163	0	532	163	961	1010	163	916	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	0.0	22.9	27.7	0.0	24.3	26.2	7.8	7.8	27.1	11.3	11.3
Incr Delay (d2), s/veh	6.2	0.0	1.7	33.6	0.0	0.2	6.1	1.5	1.5	10.3	7.9	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.0	0.1	0.0	0.1	0.6	2.8	2.9	0.2	7.9	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	0.0	24.6	61.2	0.0	24.5	32.2	9.3	9.2	37.5	19.2	19.2
LnGrp LOS	C	A	C	E	A	C	C	A	A	D	B	B
Approach Vol, veh/h		138			8			928			1538	
Approach Delay, s/veh		27.7			38.2			10.2			19.3	
Approach LOS		C			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.4	34.6	4.7	10.9	6.8	33.2	7.4	8.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.1	28.7	5.1	18.1	5.1	28.7	5.1	18.1				
Max Q Clear Time (g_c+I1), s	2.4	10.2	2.1	4.6	3.2	21.7	3.7	2.2				
Green Ext Time (p_c), s	0.0	5.5	0.0	0.3	0.0	5.1	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

**Appendix F:
Existing Plus Cumulative
With Project
Synchro Worksheets**

Intersection	
Intersection Delay, s/veh	116.8
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	560	119	172	417	240	221
Future Vol, veh/h	560	119	172	417	240	221
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	609	129	187	453	261	240
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	220.3	45.5	55.4
HCM LOS	F	E	F

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	52%	0%	100%	0%
Vol Thru, %	0%	82%	0%	100%
Vol Right, %	48%	18%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	461	679	172	417
LT Vol	240	0	172	0
Through Vol	0	560	0	417
RT Vol	221	119	0	0
Lane Flow Rate	501	738	187	453
Geometry Grp	2	5	7	7
Degree of Util (X)	0.943	1.42	0.413	0.938
Departure Headway (Hd)	7.477	6.924	8.665	8.146
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	491	524	419	449
Service Time	5.477	4.999	6.365	5.846
HCM Lane V/C Ratio	1.02	1.408	0.446	1.009
HCM Control Delay	55.4	220.3	17.3	57.2
HCM Lane LOS	F	F	C	F
HCM 95th-tile Q	11.4	34.9	2	10.9

HCM 6th Signalized Intersection Summary
 2: Main St/Lake Park Dr & Ramona Expy



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↑	↗	↖	↑	↗	↔	↑↑		↖↗	↑↑↑	↗
Traffic Volume (veh/h)	10	109	433	81	170	244	101	135	1110	292	146	561	59
Future Volume (veh/h)	10	109	433	81	170	244	101	135	1110	292	146	561	59
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No		No		No		No		No		No
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		112	446	84	175	252	104	139	1144	301	151	578	61
Peak Hour Factor		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		457	479	406	247	260	220	625	1175	306	222	686	213
Arrive On Green		0.26	0.26	0.26	0.14	0.14	0.14	0.35	0.42	0.42	0.06	0.13	0.13
Sat Flow, veh/h		1781	1870	1585	1781	1870	1585	1781	2790	726	3456	5106	1585
Grp Volume(v), veh/h		112	446	84	175	252	104	139	724	721	151	578	61
Grp Sat Flow(s),veh/h/ln		1781	1870	1585	1781	1870	1585	1781	1777	1740	1728	1702	1585
Q Serve(g_s), s		6.7	31.2	5.6	12.6	18.0	8.1	7.4	53.3	54.8	5.7	14.8	4.6
Cycle Q Clear(g_c), s		6.7	31.2	5.6	12.6	18.0	8.1	7.4	53.3	54.8	5.7	14.8	4.6
Prop In Lane		1.00		1.00	1.00		1.00	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h		457	479	406	247	260	220	625	748	733	222	686	213
V/C Ratio(X)		0.25	0.93	0.21	0.71	0.97	0.47	0.22	0.97	0.98	0.68	0.84	0.29
Avail Cap(c_a), veh/h		471	494	419	247	260	220	625	748	733	619	686	213
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		39.5	48.6	39.1	55.1	57.4	53.1	30.6	37.9	38.4	61.3	56.6	52.2
Incr Delay (d2), s/veh		0.3	24.1	0.2	8.9	47.4	1.6	0.8	25.9	29.5	3.7	12.0	3.4
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		3.0	17.7	2.2	6.3	11.9	3.3	3.3	28.2	29.0	2.6	7.1	2.1
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh		39.8	72.7	39.4	64.0	104.8	54.7	31.4	63.7	67.9	65.0	68.6	55.5
LnGrp LOS		D	E	D	E	F	D	C	E	E	E	E	E
Approach Vol, veh/h			642			531			1584			790	
Approach Delay, s/veh			62.6			81.5			62.8			66.9	
Approach LOS			E			F			E			E	
Timer - Assigned Phs	1	2	4	5	6	8							
Phs Duration (G+Y+Rc), s	12.6	60.4	38.3	51.0	22.0	22.6							
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5							
Max Green Setting (Gmax), s	23.5	40.5	34.9	46.5	17.5	18.1							
Max Q Clear Time (g_c+17), s	17.5	56.8	33.2	9.4	16.8	20.0							
Green Ext Time (p_c), s	0.4	0.0	0.6	0.4	0.3	0.0							

Intersection Summary

HCM 6th Ctrl Delay	66.5
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
 User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
 3: Lake Park Dr & Soboba Rd

Cumulative Plus Project AM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	0	173	0	0	0	191	11	0	0	9	222
Future Volume (veh/h)	224	0	173	0	0	0	191	11	0	0	9	222
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	249	0	192	0	0	0	212	12	0	0	10	247
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	620	0	276	0	3	0	272	1270	0	3	848	718
Arrive On Green	0.17	0.00	0.17	0.00	0.00	0.00	0.15	0.68	0.00	0.00	0.45	0.45
Sat Flow, veh/h	3563	0	1585	0-74814	0	1781	1870	0	1781	1870	1585	
Grp Volume(v), veh/h	249	0	192	0	0	0	212	12	0	0	10	247
Grp Sat Flow(s),veh/h/ln	1781	0	1585	0	1870	0	1781	1870	0	1781	1870	1585
Q Serve(g_s), s	3.4	0.0	6.2	0.0	0.0	0.0	6.2	0.1	0.0	0.0	0.2	5.5
Cycle Q Clear(g_c), s	3.4	0.0	6.2	0.0	0.0	0.0	6.2	0.1	0.0	0.0	0.2	5.5
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	620	0	276	0	3	0	272	1270	0	3	848	718
V/C Ratio(X)	0.40	0.00	0.70	0.00	0.00	0.00	0.78	0.01	0.00	0.00	0.01	0.34
Avail Cap(c_a), veh/h	1373	0	611	0	189	0	621	1270	0	180	848	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	21.1	0.0	0.0	0.0	22.2	2.8	0.0	0.0	8.2	9.6
Incr Delay (d2), s/veh	0.4	0.0	3.2	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3	0.0	2.3	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	0.0	24.3	0.0	0.0	0.0	27.0	2.8	0.0	0.0	8.2	11.0
LnGrp LOS	C	A	C	A	A	A	C	A	A	A	A	B
Approach Vol, veh/h	441			0			224			257		
Approach Delay, s/veh	22.1			0.0			25.7			10.9		
Approach LOS	C						C			B		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.0	41.0	13.5		12.3	28.7	0.0					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0					
Max Green Setting (Gmax), s	5.5	37.0	21.0		19.0	23.5	5.5					
Max Q Clear Time (g_c+1), s	10.0	2.1	8.2		8.2	7.5	0.0					
Green Ext Time (p_c), s	0.0	0.0	1.3		0.4	0.8	0.0					

Intersection Summary

HCM 6th Ctrl Delay	19.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 4: Ramona Expy & Donna Way

Luiseno Village - Donna Signal
 Existing + Cumulative With Project AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↑↑	↓↓↓	↷
Traffic Volume (veh/h)	80	12	100	1458	745	46
Future Volume (veh/h)	80	12	100	1458	745	46
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	87	13	109	1585	810	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	119	112	137	2845	3346	1000
Arrive On Green	0.07	0.07	0.08	0.80	0.66	0.66
Sat Flow, veh/h	1688	1585	1688	3647	5274	1526
Grp Volume(v), veh/h	87	13	109	1585	810	50
Grp Sat Flow(s),veh/h/ln	1688	1585	1688	1777	1702	1526
Q Serve(g_s), s	3.5	0.5	4.4	11.2	4.5	0.8
Cycle Q Clear(g_c), s	3.5	0.5	4.4	11.2	4.5	0.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	119	112	137	2845	3346	1000
V/C Ratio(X)	0.73	0.12	0.80	0.56	0.24	0.05
Avail Cap(c_a), veh/h	771	725	147	2845	3346	1000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	30.5	31.6	2.5	4.9	4.3
Incr Delay (d2), s/veh	8.2	0.5	24.3	0.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.5	2.7	1.7	1.3	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.0	30.9	55.9	3.3	5.1	4.4
LnGrp LOS	D	C	E	A	A	A
Approach Vol, veh/h	100			1694	860	
Approach Delay, s/veh	38.8			6.7	5.1	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.5		9.5	10.2	50.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.0		32.0	6.1	18.4
Max Q Clear Time (g_c+I1), s		13.2		5.5	6.4	6.5
Green Ext Time (p_c), s		10.5		0.2	0.0	4.5
Intersection Summary						
HCM 6th Ctrl Delay			7.4			
HCM 6th LOS			A			

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗			↕↗	
Traffic Vol, veh/h	4	321	40	59	281	8	72	11	108	25	7	22
Future Vol, veh/h	4	321	40	59	281	8	72	11	108	25	7	22
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	349	43	64	305	9	78	12	117	27	8	24
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	12.8	12	11.3	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	46%
Vol Thru, %	0%	9%	0%	100%	73%	0%	100%	92%	13%
Vol Right, %	0%	91%	0%	0%	27%	0%	0%	8%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	119	4	214	147	59	187	102	54
LT Vol	72	0	4	0	0	59	0	0	25
Through Vol	0	11	0	214	107	0	187	94	7
RT Vol	0	108	0	0	40	0	0	8	22
Lane Flow Rate	78	129	4	233	160	64	204	111	59
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.163	0.228	0.008	0.417	0.278	0.125	0.367	0.198	0.119
Departure Headway (Hd)	7.478	6.338	6.965	6.458	6.265	6.998	6.491	6.435	7.308
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	477	563	512	556	570	510	552	555	487
Service Time	5.258	4.118	4.737	4.23	4.036	4.768	4.261	4.205	5.103
HCM Lane V/C Ratio	0.164	0.229	0.008	0.419	0.281	0.125	0.37	0.2	0.121
HCM Control Delay	11.7	11	9.8	13.8	11.5	10.8	13	10.8	11.1
HCM Lane LOS	B	B	A	B	B	B	B	B	B
HCM 95th-tile Q	0.6	0.9	0	2	1.1	0.4	1.7	0.7	0.4

Intersection						
Int Delay, s/veh	3.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	103	115	143	27	34	52
Future Vol, veh/h	103	115	143	27	34	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	112	125	155	29	37	57

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	184	0	-	0	519 170
Stage 1	-	-	-	-	170 -
Stage 2	-	-	-	-	349 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1391	-	-	-	517 874
Stage 1	-	-	-	-	860 -
Stage 2	-	-	-	-	714 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1391	-	-	-	472 874
Mov Cap-2 Maneuver	-	-	-	-	472 -
Stage 1	-	-	-	-	785 -
Stage 2	-	-	-	-	714 -

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1391	-	-	-	654
HCM Lane V/C Ratio	0.08	-	-	-	0.143
HCM Control Delay (s)	7.8	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5

HCM 6th Signalized Intersection Summary
7: E 7th St & Ramona Expy

Cumulative Plus Project AM
06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	0	106	0	0	4	85	1428	1	5	663	87
Future Volume (veh/h)	120	0	106	0	0	4	85	1428	1	5	663	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	0	118	0	0	4	94	1587	1	6	737	97
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	0	406	3	0	123	124	1774	1	14	1342	176
Arrive On Green	0.10	0.00	0.26	0.00	0.00	0.08	0.07	0.49	0.49	0.01	0.42	0.42
Sat Flow, veh/h	1781	0	1585	1781	0	1585	1781	3644	2	1781	3157	415
Grp Volume(v), veh/h	133	0	118	0	0	4	94	774	814	6	415	419
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	0	1585	1781	1777	1870	1781	1777	1796
Q Serve(g_s), s	4.0	0.0	3.2	0.0	0.0	0.1	2.8	21.5	21.5	0.2	9.5	9.5
Cycle Q Clear(g_c), s	4.0	0.0	3.2	0.0	0.0	0.1	2.8	21.5	21.5	0.2	9.5	9.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.23
Lane Grp Cap(c), veh/h	171	0	406	3	0	123	124	865	910	14	755	763
V/C Ratio(X)	0.78	0.00	0.29	0.00	0.00	0.03	0.76	0.89	0.89	0.42	0.55	0.55
Avail Cap(c_a), veh/h	250	0	602	164	0	526	348	865	910	164	755	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	0.0	16.2	0.0	0.0	23.1	24.8	12.6	12.7	26.8	11.7	11.7
Incr Delay (d2), s/veh	9.1	0.0	0.4	0.0	0.0	0.1	8.9	13.7	13.1	18.7	2.9	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	1.1	0.0	0.0	0.0	1.4	9.9	10.3	0.1	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	16.6	0.0	0.0	23.2	33.7	26.3	25.8	45.5	14.6	14.5
LnGrp LOS	C	A	B	A	A	C	C	C	C	D	B	B
Approach Vol, veh/h		251			4			1682				840
Approach Delay, s/veh		25.3			23.2			26.5				14.8
Approach LOS		C			C			C				B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.9	30.9	0.0	18.4	8.3	27.5	9.7	8.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	26.4	5.0	20.6	10.6	20.8	7.6	18.0				
Max Q Clear Time (g_c+I1), s	2.2	23.5	0.0	5.2	4.8	11.5	6.0	2.1				
Green Ext Time (p_c), s	0.0	2.4	0.0	0.5	0.1	3.6	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			22.8									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	547	66	0	460	0	86
Future Vol, veh/h	547	66	0	460	0	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	595	72	0	500	0	93

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 334
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.93
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.319
Pot Cap-1 Maneuver	-	- 0	- 0 663
Stage 1	-	- 0	- 0 -
Stage 2	-	- 0	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 663
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	663	-	-	-
HCM Lane V/C Ratio	0.141	-	-	-
HCM Control Delay (s)	11.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.5	-	-	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	35	0	1604	757	64
Future Vol, veh/h	0	35	0	1604	757	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	38	0	1743	823	70

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	447	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	559	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	559	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	- 559	-	-
HCM Lane V/C Ratio	- 0.068	-	-
HCM Control Delay (s)	- 11.9	-	-
HCM Lane LOS	- B	-	-
HCM 95th %tile Q(veh)	- 0.2	-	-

Intersection						
Int Delay, s/veh	5.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	52	61	16	116	91	69
Future Vol, veh/h	52	61	16	116	91	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	66	17	126	99	75

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	143	0	-	0	260 80
Stage 1	-	-	-	-	80 -
Stage 2	-	-	-	-	180 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1440	-	-	-	729 980
Stage 1	-	-	-	-	943 -
Stage 2	-	-	-	-	851 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1440	-	-	-	699 980
Mov Cap-2 Maneuver	-	-	-	-	699 -
Stage 1	-	-	-	-	904 -
Stage 2	-	-	-	-	851 -

Approach	EB	WB	SB
HCM Control Delay, s	3.5	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1440	-	-	-	798
HCM Lane V/C Ratio	0.039	-	-	-	0.218
HCM Control Delay (s)	7.6	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Intersection	
Intersection Delay, s/veh	182
Intersection LOS	F

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	
Traffic Vol, veh/h	661	138	210	634	179	198
Future Vol, veh/h	661	138	210	634	179	198
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	718	150	228	689	195	215
Number of Lanes	1	0	1	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	2
HCM Control Delay	285.7	150.5	33
HCM LOS	F	F	D

Lane	NBLn1	EBLn1	WBLn1	WBLn2
Vol Left, %	47%	0%	100%	0%
Vol Thru, %	0%	83%	0%	100%
Vol Right, %	53%	17%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	377	799	210	634
LT Vol	179	0	210	0
Through Vol	0	661	0	634
RT Vol	198	138	0	0
Lane Flow Rate	410	868	228	689
Geometry Grp	2	5	7	7
Degree of Util (X)	0.775	1.574	0.479	1.351
Departure Headway (Hd)	7.845	6.85	8.326	7.809
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	463	538	436	469
Service Time	5.845	4.85	6.026	5.509
HCM Lane V/C Ratio	0.886	1.613	0.523	1.469
HCM Control Delay	33	285.7	18.4	194.3
HCM Lane LOS	D	F	C	F
HCM 95th-tile Q	6.8	44.7	2.5	28.4

HCM 6th Signalized Intersection Summary
 2: Main St/Lake Park Dr & Ramona Expy

Cumulative Plus Project PM
 06/20/2019



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↑	↗	↖	↑	↗	↔	↑↑		↖↗	↑↑↑	↗
Traffic Volume (veh/h)	11	78	562	75	452	527	208	108	514	281	184	928	59
Future Volume (veh/h)	11	78	562	75	452	527	208	108	514	281	184	928	59
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach			No		No		No		No		No		No
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		80	579	77	466	543	214	111	530	290	190	957	61
Peak Hour Factor		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		435	457	387	257	270	229	422	900	491	249	1229	382
Arrive On Green		0.24	0.24	0.24	0.14	0.14	0.14	0.24	0.41	0.41	0.07	0.24	0.24
Sat Flow, veh/h		1781	1870	1585	1781	1870	1585	1781	2218	1211	3456	5106	1585
Grp Volume(v), veh/h		80	579	77	466	543	214	111	424	396	190	957	61
Grp Sat Flow(s),veh/h/ln		1781	1870	1585	1781	1870	1585	1781	1777	1652	1728	1702	1585
Q Serve(g_s), s		4.8	33.0	5.2	19.5	19.5	18.0	6.8	25.2	25.3	7.3	23.6	4.1
Cycle Q Clear(g_c), s		4.8	33.0	5.2	19.5	19.5	18.0	6.8	25.2	25.3	7.3	23.6	4.1
Prop In Lane		1.00		1.00	1.00		1.00	1.00		0.73	1.00		1.00
Lane Grp Cap(c), veh/h		435	457	387	257	270	229	422	721	670	249	1229	382
V/C Ratio(X)		0.18	1.27	0.20	1.81	2.01	0.93	0.26	0.59	0.59	0.76	0.78	0.16
Avail Cap(c_a), veh/h		435	457	387	257	270	229	422	721	670	550	1229	382
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		40.3	51.0	40.5	57.8	57.7	57.1	41.9	31.3	31.4	61.5	47.9	40.5
Incr Delay (d2), s/veh		0.2	136.3	0.2	380.0	467.3	41.7	1.5	3.5	3.8	4.8	4.9	0.9
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.2	32.7	2.1	35.9	44.3	9.9	3.2	11.5	10.8	3.4	10.6	1.7
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh		40.5	187.3	40.7	437.8	525.1	98.9	43.4	34.8	35.2	66.3	52.8	41.4
LnGrp LOS		D	F	D	F	F	F	D	C	D	E	D	D
Approach Vol, veh/h			736			1223			931			1208	
Approach Delay, s/veh			156.0			417.2			36.0			54.3	
Approach LOS			F			F			D			D	
Timer - Assigned Phs	1	2		4	5	6		8					
Phs Duration (G+Y+Rc), s	14.2	59.3		37.5	36.5	37.0		24.0					
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5					
Max Green Setting (Gmax), s	21.5	43.0		33.0	32.0	32.5		19.5					
Max Q Clear Time (g_c+1), s	19.3	27.3		35.0	8.8	25.6		21.5					
Green Ext Time (p_c), s	0.5	4.9		0.0	0.3	3.6		0.0					

Intersection Summary

HCM 6th Ctrl Delay	176.7
HCM 6th LOS	F

Notes

User approved ignoring U-Turning movement.

HCM 6th Signalized Intersection Summary
 3: Lake Park Dr & Soboba Rd

Cumulative Plus Project PM
 06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	243	0	230	0	0	0	344	78	0	0	50	423
Future Volume (veh/h)	243	0	230	0	0	0	344	78	0	0	50	423
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	270	0	256	0	0	0	382	87	0	0	56	470
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	729	0	324	0	3	0	448	1245	0	3	653	554
Arrive On Green	0.20	0.00	0.20	0.00	0.00	0.00	0.25	0.67	0.00	0.00	0.35	0.35
Sat Flow, veh/h	3563	0	1585	0-748	14	0	1781	1870	0	1781	1870	1585
Grp Volume(v), veh/h	270	0	256	0	0	0	382	87	0	0	56	470
Grp Sat Flow(s),veh/h/ln	1781	0	1585	0	1870	0	1781	1870	0	1781	1870	1585
Q Serve(g_s), s	4.0	0.0	9.4	0.0	0.0	0.0	12.6	1.0	0.0	0.0	1.2	16.9
Cycle Q Clear(g_c), s	4.0	0.0	9.4	0.0	0.0	0.0	12.6	1.0	0.0	0.0	1.2	16.9
Prop In Lane	1.00		1.00	0.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	729	0	324	0	3	0	448	1245	0	3	653	554
V/C Ratio(X)	0.37	0.00	0.79	0.00	0.00	0.00	0.85	0.07	0.00	0.00	0.09	0.85
Avail Cap(c_a), veh/h	1070	0	476	0	121	0	723	1245	0	159	653	554
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	23.2	0.0	0.0	0.0	22.0	3.6	0.0	0.0	13.4	18.5
Incr Delay (d2), s/veh	0.3	0.0	5.4	0.0	0.0	0.0	5.6	0.1	0.0	0.0	0.3	15.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	3.8	0.0	0.0	0.0	5.5	0.3	0.0	0.0	0.5	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	0.0	28.7	0.0	0.0	0.0	27.6	3.7	0.0	0.0	13.7	33.5
LnGrp LOS	C	A	C	A	A	A	C	A	A	A	B	C
Approach Vol, veh/h	526			0			469			526		
Approach Delay, s/veh	24.9			0.0			23.2			31.4		
Approach LOS	C						C			C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.0	45.0	16.6		19.5	25.5	0.0					
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0					
Max Green Setting (Gmax), s	5.5	41.0	18.5		25.0	21.5	4.0					
Max Q Clear Time (g_c+I), s	10.0	3.0	11.4		14.6	18.9	0.0					
Green Ext Time (p_c), s	0.0	0.5	1.2		0.9	0.6	0.0					

Intersection Summary

HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 4: Ramona Expy & Donna Way

Luiseno Village - Donna Signal
 Existing+Cumulative With Project PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	74	36	67	828	1369	40
Future Volume (veh/h)	74	36	67	828	1369	40
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1772	1870	1772	1870	1870	1870
Adj Flow Rate, veh/h	80	39	73	900	1488	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	121	113	91	2843	3480	1080
Arrive On Green	0.07	0.07	0.05	0.80	0.68	0.68
Sat Flow, veh/h	1688	1585	1688	3647	5274	1585
Grp Volume(v), veh/h	80	39	73	900	1488	43
Grp Sat Flow(s),veh/h/ln	1688	1585	1688	1777	1702	1585
Q Serve(g_s), s	3.2	1.6	3.0	4.7	9.2	0.6
Cycle Q Clear(g_c), s	3.2	1.6	3.0	4.7	9.2	0.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	121	113	91	2843	3480	1080
V/C Ratio(X)	0.66	0.34	0.80	0.32	0.43	0.04
Avail Cap(c_a), veh/h	771	725	121	2843	3480	1080
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	30.9	32.7	1.9	5.0	3.6
Incr Delay (d2), s/veh	6.1	1.8	23.7	0.3	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.5	1.8	0.7	2.4	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.8	32.7	56.4	2.2	5.4	3.7
LnGrp LOS	D	C	E	A	A	A
Approach Vol, veh/h	119			973	1531	
Approach Delay, s/veh	36.1			6.2	5.3	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		60.5		9.5	8.3	52.2
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.0		32.0	5.0	19.5
Max Q Clear Time (g_c+I1), s		6.7		5.2	5.0	11.2
Green Ext Time (p_c), s		6.7		0.3	0.0	5.9
Intersection Summary						
HCM 6th Ctrl Delay			7.1			
HCM 6th LOS			A			

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕↗		↵	↕↗		↵	↗			↕↗	
Traffic Vol, veh/h	31	145	58	54	121	5	39	15	33	3	15	19
Future Vol, veh/h	31	145	58	54	121	5	39	15	33	3	15	19
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	158	63	59	132	5	42	16	36	3	16	21
Number of Lanes	1	2	0	1	2	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	3	3
HCM Control Delay	8.9	9.1	9	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	8%
Vol Thru, %	0%	31%	0%	100%	45%	0%	100%	89%	41%
Vol Right, %	0%	69%	0%	0%	55%	0%	0%	11%	51%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	48	31	97	106	54	81	45	37
LT Vol	39	0	31	0	0	54	0	0	3
Through Vol	0	15	0	97	48	0	81	40	15
RT Vol	0	33	0	0	58	0	0	5	19
Lane Flow Rate	42	52	34	105	116	59	88	49	40
Geometry Grp	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.074	0.077	0.055	0.157	0.16	0.097	0.133	0.074	0.062
Departure Headway (Hd)	6.274	5.294	5.866	5.363	4.98	5.953	5.45	5.372	5.578
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	568	671	608	665	717	599	654	663	636
Service Time	4.05	3.069	3.626	3.124	2.74	3.72	3.217	3.139	3.363
HCM Lane V/C Ratio	0.074	0.077	0.056	0.158	0.162	0.098	0.135	0.074	0.063
HCM Control Delay	9.6	8.5	9	9.1	8.7	9.4	9.1	8.6	8.7
HCM Lane LOS	A	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.6	0.6	0.3	0.5	0.2	0.2

Intersection

Int Delay, s/veh 4.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	57	110	89	17	51	57
Future Vol, veh/h	57	110	89	17	51	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	120	97	18	55	62

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	115	0	-	0	350	106
Stage 1	-	-	-	-	106	-
Stage 2	-	-	-	-	244	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1474	-	-	-	647	948
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1474	-	-	-	618	948
Mov Cap-2 Maneuver	-	-	-	-	618	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	797	-

Approach EB WB SB

HCM Control Delay, s	2.6	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1474	-	-	-	757
HCM Lane V/C Ratio	0.042	-	-	-	0.155
HCM Control Delay (s)	7.5	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

HCM 6th Signalized Intersection Summary
7: E 7th St & Ramona Expy

Cumulative Plus Project PM
06/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	2	114	3	1	4	36	829	2	12	1309	74
Future Volume (veh/h)	47	2	114	3	1	4	36	829	2	12	1309	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	2	127	3	1	4	40	921	2	13	1454	82
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	3	194	7	26	103	74	1940	4	29	1738	98
Arrive On Green	0.05	0.12	0.12	0.00	0.08	0.08	0.04	0.53	0.53	0.02	0.51	0.51
Sat Flow, veh/h	1781	25	1564	1781	327	1308	1781	3638	8	1781	3420	192
Grp Volume(v), veh/h	52	0	129	3	0	5	40	450	473	13	753	783
Grp Sat Flow(s),veh/h/ln	1781	0	1589	1781	0	1635	1781	1777	1869	1781	1777	1836
Q Serve(g_s), s	1.6	0.0	4.3	0.1	0.0	0.2	1.2	8.8	8.8	0.4	20.2	20.4
Cycle Q Clear(g_c), s	1.6	0.0	4.3	0.1	0.0	0.2	1.2	8.8	8.8	0.4	20.2	20.4
Prop In Lane	1.00		0.98	1.00		0.80	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	88	0	197	7	0	129	74	947	997	29	903	933
V/C Ratio(X)	0.59	0.00	0.65	0.41	0.00	0.04	0.54	0.47	0.47	0.45	0.83	0.84
Avail Cap(c_a), veh/h	169	0	520	159	0	527	169	947	997	175	903	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	23.3	27.8	0.0	23.8	26.3	8.2	8.2	27.2	11.7	11.8
Incr Delay (d2), s/veh	6.1	0.0	3.6	33.6	0.0	0.1	6.1	1.7	1.6	10.3	8.9	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.7	0.1	0.0	0.1	0.6	3.1	3.2	0.2	8.4	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	0.0	26.9	61.3	0.0	23.9	32.3	9.9	9.8	37.6	20.7	20.7
LnGrp LOS	C	A	C	E	A	C	C	A	A	D	C	C
Approach Vol, veh/h		181			8			963			1549	
Approach Delay, s/veh		28.4			37.9			10.8			20.9	
Approach LOS		C			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.4	34.3	4.7	11.4	6.8	32.9	7.3	8.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	28.2	5.0	18.3	5.3	28.4	5.3	18.0				
Max Q Clear Time (g_c+I1), s	2.4	10.8	2.1	6.3	3.2	22.4	3.6	2.2				
Green Ext Time (p_c), s	0.0	5.7	0.0	0.5	0.0	4.5	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑		↑
Traffic Vol, veh/h	658	57	0	739	0	67
Future Vol, veh/h	658	57	0	739	0	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	715	62	0	803	0	73

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	-	-	-	389
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.319
Pot Cap-1 Maneuver	-	-	0	-	0	610
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	610
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	610	-	-	-
HCM Lane V/C Ratio	0.119	-	-	-
HCM Control Delay (s)	11.7	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	44	0	935	1365	104
Future Vol, veh/h	0	44	0	935	1365	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	48	0	1016	1484	113

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	799	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	328	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	328	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	328	-	-
HCM Lane V/C Ratio	-	0.146	-	-
HCM Control Delay (s)	-	17.8	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	47	11	25	87	94	83
Future Vol, veh/h	47	11	25	87	94	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	12	27	95	102	90

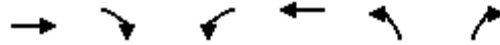
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	122	0	-	0	189 75
Stage 1	-	-	-	-	75 -
Stage 2	-	-	-	-	114 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1465	-	-	-	800 986
Stage 1	-	-	-	-	948 -
Stage 2	-	-	-	-	911 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1465	-	-	-	772 986
Mov Cap-2 Maneuver	-	-	-	-	772 -
Stage 1	-	-	-	-	915 -
Stage 2	-	-	-	-	911 -

Approach	EB	WB	SB
HCM Control Delay, s	6.1	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1465	-	-	-	859
HCM Lane V/C Ratio	0.035	-	-	-	0.224
HCM Control Delay (s)	7.5	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

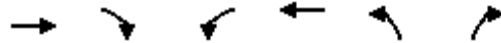
**Appendix G:
Mitigated Existing Plus
Cumulative With Project
Synchro Worksheets;
CA MUTCD Signal Warrant
Analysis; & Fair Share
Calculations**

HCM 6th Signalized Intersection Summary
 1: Hewitt St. & Main St./Main St



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩		↩	↩	↩	↩
Traffic Volume (veh/h)	560	119	172	417	240	221
Future Volume (veh/h)	560	119	172	417	240	221
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	609	129	187	453	261	240
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	788	167	266	985	282	259
Arrive On Green	0.53	0.53	0.53	0.53	0.32	0.32
Sat Flow, veh/h	1496	317	720	1870	874	804
Grp Volume(v), veh/h	0	738	187	453	502	0
Grp Sat Flow(s),veh/h/ln	0	1813	720	1870	1682	0
Q Serve(g_s), s	0.0	19.4	12.1	9.0	17.2	0.0
Cycle Q Clear(g_c), s	0.0	19.4	31.5	9.0	17.2	0.0
Prop In Lane		0.17	1.00		0.52	0.48
Lane Grp Cap(c), veh/h	0	955	266	985	543	0
V/C Ratio(X)	0.00	0.77	0.70	0.46	0.92	0.00
Avail Cap(c_a), veh/h	0	955	266	985	548	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	11.3	25.2	8.8	19.6	0.0
Incr Delay (d2), s/veh	0.0	4.0	8.1	0.3	21.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.2	3.2	3.1	9.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	15.3	33.3	9.2	41.2	0.0
LnGrp LOS	A	B	C	A	D	A
Approach Vol, veh/h	738			640	502	
Approach Delay, s/veh	15.3			16.2	41.2	
Approach LOS	B			B	D	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		23.8		36.0		36.0
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		31.5		31.5
Max Q Clear Time (g_c+I1), s		19.2		21.4		33.5
Green Ext Time (p_c), s		0.1		3.8		0.0
Intersection Summary						
HCM 6th Ctrl Delay			22.5			
HCM 6th LOS			C			

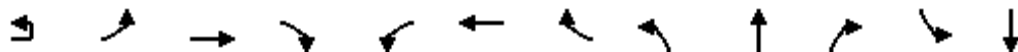
HCM 6th Signalized Intersection Summary
 1: Hewitt St. & Main St./Main St



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩		↩	↩	↩	↩
Traffic Volume (veh/h)	661	138	210	634	179	198
Future Volume (veh/h)	661	138	210	634	179	198
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1900	1900
Adj Flow Rate, veh/h	718	150	228	689	195	215
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	0	0
Cap, veh/h	850	178	233	1060	220	243
Arrive On Green	0.57	0.57	0.57	0.57	0.28	0.28
Sat Flow, veh/h	1500	313	638	1870	794	875
Grp Volume(v), veh/h	0	868	228	689	411	0
Grp Sat Flow(s),veh/h/ln	0	1814	638	1870	1673	0
Q Serve(g_s), s	0.0	22.9	9.8	14.6	13.6	0.0
Cycle Q Clear(g_c), s	0.0	22.9	32.7	14.6	13.6	0.0
Prop In Lane		0.17	1.00		0.47	0.52
Lane Grp Cap(c), veh/h	0	1028	233	1060	464	0
V/C Ratio(X)	0.00	0.84	0.98	0.65	0.89	0.00
Avail Cap(c_a), veh/h	0	1028	233	1060	531	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	10.4	26.5	8.6	20.0	0.0
Incr Delay (d2), s/veh	0.0	6.6	53.2	1.4	15.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.7	6.4	4.9	6.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	17.0	79.7	10.0	35.0	0.0
LnGrp LOS	A	B	E	A	D	A
Approach Vol, veh/h	868			917	411	
Approach Delay, s/veh	17.0			27.3	35.0	
Approach LOS	B			C	D	
Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		20.5		37.2		37.2
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.3		32.7		32.7
Max Q Clear Time (g_c+I1), s		15.6		24.9		34.7
Green Ext Time (p_c), s		0.4		3.8		0.0
Intersection Summary						
HCM 6th Ctrl Delay			24.7			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
2: Main St/Lake Park Dr & Ramona Expy

Cumulative Plus Project PM-Mitigated
06/25/2019



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations		↔	↕		↕	↕	↕	↔	↕		↕	↕
Traffic Volume (veh/h)	11	78	562	75	452	527	208	108	514	281	184	928
Future Volume (veh/h)	11	78	562	75	452	527	208	108	514	281	184	928
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No				No
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		80	579	77	466	543	214	111	530	290	190	957
Peak Hour Factor		0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %		2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h		387	696	92	547	574	487	144	609	332	233	1409
Arrive On Green		0.22	0.22	0.22	0.31	0.31	0.31	0.08	0.27	0.27	0.07	0.26
Sat Flow, veh/h		1781	3202	425	1781	1870	1585	1781	2252	1230	3491	5499
Grp Volume(v), veh/h		80	331	325	466	543	214	111	431	389	190	957
Grp Sat Flow(s),veh/h/ln		1781	1833	1794	1781	1870	1585	1781	1833	1649	1746	1833
Q Serve(g_s), s		4.5	20.9	21.0	29.8	34.4	13.1	7.4	27.2	27.3	6.5	19.0
Cycle Q Clear(g_c), s		4.5	20.9	21.0	29.8	34.4	13.1	7.4	27.2	27.3	6.5	19.0
Prop In Lane		1.00		0.24	1.00		1.00	1.00		0.75	1.00	
Lane Grp Cap(c), veh/h		387	398	390	547	574	487	144	495	446	233	1409
V/C Ratio(X)		0.21	0.83	0.83	0.85	0.95	0.44	0.77	0.87	0.87	0.82	0.68
Avail Cap(c_a), veh/h		506	521	510	555	583	494	144	495	446	233	1409
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		38.9	45.3	45.4	39.4	41.0	33.7	54.7	42.2	42.3	55.9	40.6
Incr Delay (d2), s/veh		0.3	8.5	8.9	12.0	24.3	0.6	32.2	18.5	20.4	19.6	2.7
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		2.0	10.4	10.3	14.7	19.5	5.1	4.6	14.8	13.6	3.5	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh		39.2	53.8	54.3	51.5	65.4	34.3	86.9	60.7	62.7	75.5	43.3
LnGrp LOS		D	D	D	D	E	C	F	E	E	E	D
Approach Vol, veh/h			736			1223			931			1208
Approach Delay, s/veh			52.5			54.6			64.7			48.0
Approach LOS			D			D			E			D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	37.0		30.6	14.0	35.3		41.5				
Change Period (Y+Rc), s	* 4.2	* 4.2		* 4.2	* 4.2	* 4.2		4.2				
Max Green Setting (Gmax), s	* 8.1	* 33		* 35	* 9.8	* 31		37.8				
Max Q Clear Time (g_c+I1), s	8.5	29.3		23.0	9.4	21.0		36.4				
Green Ext Time (p_c), s	0.0	1.7		3.4	0.0	4.8		0.9				

Intersection Summary

HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- User approved ignoring U-Turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	SBR
▲▲▲ Configurations	▲
Traffic Volume (veh/h)	59
Future Volume (veh/h)	59
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	61
Peak Hour Factor	0.97
Percent Heavy Veh, %	2
Cap, veh/h	406
Arrive On Green	0.26
Sat Flow, veh/h	1585
Grp Volume(v), veh/h	61
Grp Sat Flow(s),veh/h/ln	1585
Q Serve(g_s), s	3.6
Cycle Q Clear(g_c), s	3.6
Prop In Lane	1.00
Lane Grp Cap(c), veh/h	406
V/C Ratio(X)	0.15
Avail Cap(c_a), veh/h	406
HCM Platoon Ratio	1.00
Upstream Filter(l)	1.00
Uniform Delay (d), s/veh	34.9
Incr Delay (d2), s/veh	0.8
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	1.5
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	35.7
LnGrp LOS	D
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

EXISTING PLUS CUMULATIVE WITH PROJECT CONDITIONS PEAK HOUR VOLUME WARRANT URBAN CONDITIONS

Peak Hour: **PM**

Major Street: **E. Main Street**

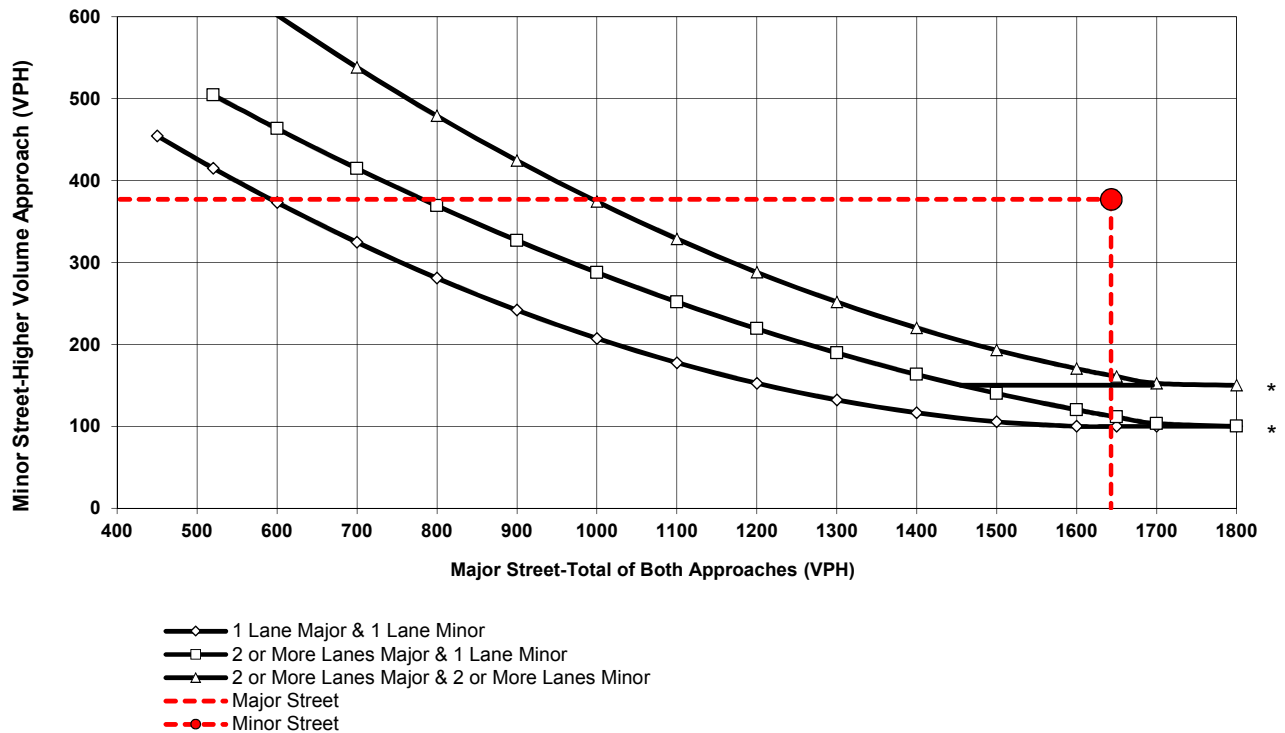
Minor Street: **Hewitt Street**

Total of Both Approaches (VPH): **1643**
Number of Approach Lanes: **1**

Higher Volume Approach (VPH): **377**
Number of Approach Lanes: **1**

SIGNAL WARRANT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* 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 MUTCD 2014 Revision 1

**Existing Plus Cumulative With Project Conditions
Peak Hour Volume Warrant
East Main Street / Hewitt Street**

Luseño Village Retail Center Fair Share Calculations

Int. 1 - Hewitt St. / E. Main St.

Existing Plus Cumulative

PM Peak Hour

Movement	Existing	Existing Plus Cumulative Without Project	Existing Plus Cumulative With Project
NBL	122	179	179
NBT			
NBR	82	195	198
SBL			
SBT			
SBR			
EBL			
EBT	103	626	661
EBR	111	138	138
WBL	128	210	210
WBT	138	605	634
WBR			
Total	684	1953	2020

Project Trips (With Project - No Project) >>	67
Intersection Volume Increase (Existing Plus Cumulative - Existing) >>	1,336
Fair Share % (Project Trips / Total Existing to Cumulative Volume Increase) >>	5.0%

Int. 2 - Ramona Expressway / E. Main St.

Existing Plus Cumulative

PM Peak Hour

Movement	Existing	Existing Plus Cumulative Without Project	Existing Plus Cumulative With Project
NBL	28	66	108
NBT	381	530	514
NBR	149	266	281
SBL	72	184	184
SBT	687	904	928
SBR	21	59	59
EBL	13	44	89
EBT	89	548	562
EBR	36	76	75
WBL	283	401	452
WBT	156	562	527
WBR	96	208	208
Total	2011	3848	3987

Project Trips (With Project - No Project) >>	139
Intersection Volume Increase (Existing Plus Cumulative - Existing) >>	1,976
Fair Share % (Project Trips / Total Existing to Cumulative Volume Increase) >>	7.0%

**Appendix H:
Ramona Expressway /
Main St. – Lake Park Dr.
Proposed Striping
Improvements**

LEGEND

- [E] EXISTING TO REMAIN
- [R3] REMOVE AND SALVAGE SIGN AND POST (IF APPLICABLE) AS NOTED
- [IS] FURNISH AND INSTALL SIGN AND POST (IF APPLICABLE)
- [RL] RELOCATE EXISTING SIGN TO NEW POST (IF APPLICABLE) AS NOTED
- [RP] REMOVE ALL EXISTING CONFLICTING TRAFFIC STRIPING, MARKINGS OR ARROWS AS NOTED, INCLUDING RAISED PAVEMENT MARKERS (EXCEPT WHERE INDICATED). GROUND OUT AREAS TO BE SLURRY SEALED.
- [#] INSTALL THERMOPLASTIC CALTRANS STRIPING DETAIL PER NUMBER NOTED. INCLUDING INSTALLATION OF RAISED PAVEMENT MARKERS.
- [PM] INSTALL THERMOPLASTIC PAVEMENT MARKERS OR ARROW AS NOTED. LEGENDS SHALL HAVE 50' SPACE TO NEXT LEGEND UNLESS NOTED OTHERWISE.
- [TS] SIGNALIZED INTERSECTION
- [P] PROPOSED SIGN
- [E] EXISTING SIGN
- [R] REMOVE SIGN

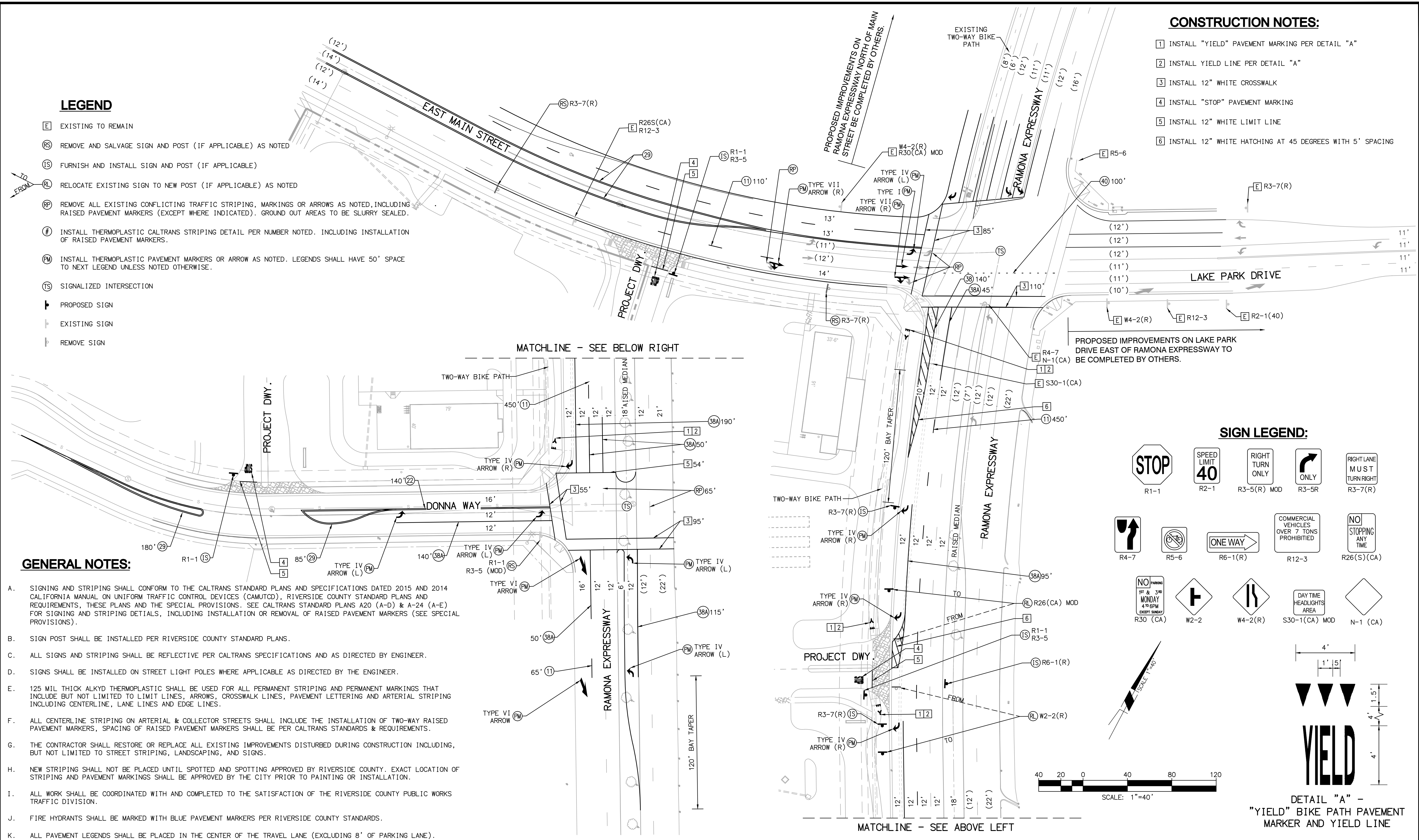
GENERAL NOTES:

- A. SIGNING AND STRIPING SHALL CONFORM TO THE CALTRANS STANDARD PLANS AND SPECIFICATIONS DATED 2015 AND 2014 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CAMUTCD), RIVERSIDE COUNTY STANDARD PLANS AND REQUIREMENTS, THESE PLANS AND THE SPECIAL PROVISIONS. SEE CALTRANS STANDARD PLANS A20 (A-D) & A-24 (A-E) FOR SIGNING AND STRIPING DETAILS, INCLUDING INSTALLATION OR REMOVAL OF RAISED PAVEMENT MARKERS (SEE SPECIAL PROVISIONS).
- B. SIGN POST SHALL BE INSTALLED PER RIVERSIDE COUNTY STANDARD PLANS.
- C. ALL SIGNS AND STRIPING SHALL BE REFLECTIVE PER CALTRANS SPECIFICATIONS AND AS DIRECTED BY ENGINEER.
- D. SIGNS SHALL BE INSTALLED ON STREET LIGHT POLES WHERE APPLICABLE AS DIRECTED BY THE ENGINEER.
- E. 125 MIL THICK ALKYD THERMOPLASTIC SHALL BE USED FOR ALL PERMANENT STRIPING AND PERMANENT MARKINGS THAT INCLUDE BUT NOT LIMITED TO LIMIT LINES, ARROWS, CROSSWALK LINES, PAVEMENT LETTERING AND ARTERIAL STRIPING INCLUDING CENTERLINE, LANE LINES AND EDGE LINES.
- F. ALL CENTERLINE STRIPING ON ARTERIAL & COLLECTOR STREETS SHALL INCLUDE THE INSTALLATION OF TWO-WAY RAISED PAVEMENT MARKERS, SPACING OF RAISED PAVEMENT MARKERS SHALL BE PER CALTRANS STANDARDS & REQUIREMENTS.
- G. THE CONTRACTOR SHALL RESTORE OR REPLACE ALL EXISTING IMPROVEMENTS DISTURBED DURING CONSTRUCTION INCLUDING, BUT NOT LIMITED TO STREET STRIPING, LANDSCAPING, AND SIGNS.
- H. NEW STRIPING SHALL NOT BE PLACED UNTIL SPOTTED AND SPOTTING APPROVED BY RIVERSIDE COUNTY. EXACT LOCATION OF STRIPING AND PAVEMENT MARKINGS SHALL BE APPROVED BY THE CITY PRIOR TO PAINTING OR INSTALLATION.
- I. ALL WORK SHALL BE COORDINATED WITH AND COMPLETED TO THE SATISFACTION OF THE RIVERSIDE COUNTY PUBLIC WORKS TRAFFIC DIVISION.
- J. FIRE HYDRANTS SHALL BE MARKED WITH BLUE PAVEMENT MARKERS PER RIVERSIDE COUNTY STANDARDS.
- K. ALL PAVEMENT LEGENDS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE (EXCLUDING 8' OF PARKING LANE).

CONSTRUCTION NOTES:

- 1 INSTALL "YIELD" PAVEMENT MARKING PER DETAIL "A"
- 2 INSTALL YIELD LINE PER DETAIL "A"
- 3 INSTALL 12" WHITE CROSSWALK
- 4 INSTALL "STOP" PAVEMENT MARKING
- 5 INSTALL 12" WHITE LIMIT LINE
- 6 INSTALL 12" WHITE HATCHING AT 45 DEGREES WITH 5' SPACING

SIGN LEGEND:



DIG ALERT
DIAL TOLL FREE
1-800-227-2600
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

DATE	BY	MARK	REVISIONS	APPR. DATE
	ENGINEER			CITY
DESIGNED BY:	DRAWN BY:	CHECKED BY:		

SEAL

APPROVED BY: _____ DATE _____
CITY ENGINEER
R.C.E. NO. _____ EXP. DATE _____
PREPARED BY: _____ DATE _____
R.C.E. NO. _____ EXP. DATE _____

Michael Baker INTERNATIONAL
5050 Avenida Encinas, Ste 200
Carlsbad, CA 92008
Phone: (760) 476-9193 - MBAKERINTL.COM

SCALE: _____ BENCHMARK: _____
DATE: MAY 2019

CITY OF SAN JACINTO
EAST MAIN ST. / LAKE PARK DR.
CONCEPTUAL SIGNING & STRIPING PLANS
NOT FOR CONSTRUCTION
FOR SOBOBA BAND OF LUISENO INDIANS

SHEET NO. _____
OF SHEETS _____
FILE NO. _____